showed a decreasing tendency following the introduction of organized screening programme.

**PCN91**

**A PREVALENCE-BASED ECONOMIC ANALYSIS OF THE GROWTH IN CANCER TREATMENT SPENDING IN THE UNITED STATES**

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OBJECTIVE: The cost of illness due to cancer is substantial in terms of both human suffering and economic resources. The growth in cancer treatment spending in the United States is due in large part to increases in survival and cancer prevalence. The objective of this study is to analyze the growth in spending on direct medical costs for cancer treatment using a prevalence-based cost-of-illness approach. Direct costs include personal health care expenditures for hospital and nursing home care, physician and other professional services, drugs, and home care. METHODS: Estimates for cancer prevalence counts in the year 2004 were derived by applying U.S. Census population data to National Cancer Institute Surveillance Epidemiology and End Results (SEER 9) and historical Connecticut Limited Duration Prevalence proportions. Cancer treatment cost estimates were based on Centers for Medicare & Medicaid Services projections for total 2005 health expenditures by type of direct costs, and the National Center for Health Statistics’s methodology for calculating direct costs for major diagnostic groups. Cancer treatment spending and national health care expenditure values were adjusted to year 2005 dollars using the Consumer Price Index—All Urban Consumers. RESULTS: From 1985 to 2004, inflation adjusted per-capita national health care expenditures increased 70%, while inflation adjusted cancer treatment spending per prevalent case increased 16%. In 2004, cancer spending per prevalent case ($6862) was on par with per-capita total health care spending ($6492). CONCLUSION: Per-capita health care spending has increased significantly over the past two decades in comparison to cancer spending per prevalent case. Prevalence-based costing acknowledges that the direct costs of cancer care in any given year are attributable to new and previously diagnosed cancer patients. Our analysis underscores the importance of evaluating spending on cancer care in the context of overall health care spending, cancer survival rates, and disease prevalence.

**PCN92**

**THE WAR ON CANCER: AN ECONOMIC EVALUATION OF RECENT GAINS IN CANCER SURVIVAL**

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OBJECTIVE: Cancer continues to be a leading cause of death, but the last few decades have seen many changes in the diagnosis and treatment of the disease. In this study, we estimate the economic value of gains in cancer survival over the last 20 years, separate these gains into the portions due to improvements in treatment and detection, and determine the extent to which the economic value of gains in cancer survival have been divided between patients and firms. METHODS: Using methodology developed by Philipson and Jena (2003), we estimated the economic value of gains in cancer survival between 1990 and 2000. We then used estimates from the literature to calculate expenditures on cancer treatment, thereby allowing us to determine how the social value of gains in cancer treatment has been divided between patients and firms. RESULTS: The value of survival gains for all cancers combined was worth roughly $28,000–$30,000 per cancer patient, and most (78–88%) of this gain has been driven by improvements in treatment. For all cancers combined, improvements in cancer survival between 1990 and 2000 had a social value of roughly $1.6–$1.9 trillion, and health care providers were able to appropriate 6–19% of this total, with the rest accruing to patients. CONCLUSION: The social value of recent gains in cancer survival is very large. Most of this gain has been driven by improvements in cancer treatment, and has been appropriated by patients, not health care providers.

**PCN93**

**THREE SCIENTIFIC PARADIGMS IN HEALTH TECHNOLOGY ASSESSMENT: EXPERIENCES OF THE COMMITTEE TO EVALUATE DRUGS IN ONTARIO, CANADA**

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OBJECTIVE: To describe how decision making in the Cancer Subcommittee of the Ontario Committee to Evaluate Drugs (responsible for deciding which novel and costly cancer drugs will be funded in Ontario) is evolving along three scientific paradigms. METHODS: We describe how these paradigms shape both criteria and process of decision making. We also systematically reviewed meeting transcripts to analyze decisions made in 2006. RESULTS: Evidence Based Medicine (I) is part of decision making through rigorous evidence reviews and the implicit rule that drugs must pass the threshold of effectiveness to be funded. Although drugs must pass one evidence threshold to be licenced in Canada, higher standards are required for reimbursement (e.g. phase III controlled trial data, peer reviewed publication). Health economic criteria (II) are assuming greater weight in decision making, as the review process is standardized, committee members become more economically literate, and a cancer pharmacoeconomics unit is established. The process of decision making (versus decision criteria) is evolving using the ethical foundations of Accountability for Reasonablenes (III), important tenets of which are transparency, accountability, and stakeholder involvement in the decision process. Review of the 2006 decisions showed that 16 of 37 drugs were funded (43%). Among negative funding decisions 86% were characterized by inadequate evidence (main reason in 43%), 71% were characterized by cost effectiveness concerns (main reason in 15%), and 5% by ethical concerns (main reason in 5%). Forty-eight percent of decisions were multifactorial. CONCLUSION: Each paradigm used to make cancer drug funding decisions comes from a distinct intellectual tradition. Most decisions in 2006 were based on more than one paradigm. We believe that optimal decision making for cancer drugs involves integrating concepts from all traditions, involving both distinct decision criteria and decision processes. Integration requires judicious tradeoffs between both efficiency and equity, and evidence quality and efficiency/equity.

**PCN94**

**PREDICTORS OF TREATMENT CHOICE IN HIGH RISK AND METASTATIC MELANOMA: EVIDENCE FROM LINKED ELECTRONIC MEDICAL RECORDS AND ADMINISTRATIVE CLAIMS DATA**

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OBJECTIVE: Evaluate predictors of four major therapeutic choices (surgery, radiation, chemotherapy, immunotherapy) in
high-risk (stage IIIC, III) and metastatic (stage IV) melanoma.

METHODS: Data were acquired from Convergence CT, a company that links longitudinal electronic medical records and claims data from large physician practices, clinics, ambulatory centers, and hospitals in the US. Subjects with ≥1 diagnosis of malignant melanoma (ICD-9 code 172.xx, 173.xx, V10.82) from July 1, 2003 November 30, 2006 and pathology-confirmed disease stage of IIIB/C, III, or IV were selected. Additional stage IV patients were identified based on evidence of a subsequent ICD-9 code (197.xx, 198.xx) for secondary metastases. Post-diagnosis prevalence of the key treatments was analyzed descriptively. Logistic regression was used to assess predictors of therapeutic choice. RESULTS: A total of 268 subjects were identified. Stage distribution was: IIIB/C (18%), III (21%); IV (61%). 58% were ≥65 years of age and 62% were male. Surgery was the predominant treatment in stage IIIB/C and III (received by >80% of subjects), but was seen in only 38% of stage IV patients. Across all stages, radiation, chemotherapy, and immunotherapy were less common (23%, 27%, and 10%, respectively). Being elderly [odds ratio = 2.19; 95% CI = (1.10–4.35)] and having stage IV disease [7.31 (2.38–22.39)] was associated with a significantly increased likelihood of receiving no active treatment. Older age (65+), higher comorbidity burden, and having stage IV disease were associated with a decreased probability of surgery [0.55 (0.30–0.99), 0.92 (0.86–0.99), 0.08 (0.03–0.22), respectively]. Receiving radiation was reduced by older age, but increased by having stage IV disease [2.38 (0.91–6.22)]. Significant predictors of chemotherapy were stage IV disease [2.65 (1.01–6.93)] and higher co-morbidity burden [1.08 (1.01–1.17)]. Finally, increasing age substantially reduced the likelihood of receiving immunotherapy [0.24 (0.10–0.60)]. CONCLUSION: Factors influencing practice patterns and treatment choice in a population with high risk or metastatic melanoma. Across therapeutic choices, age and disease stage were the significant predictors.

**PCN96**

REAL WORLD TREATMENT PATTERNS IN HIGH RISK OR METASTATIC MELANOMA: EVIDENCE FROM THE SEER-MEDICARE LINKED DATABASE

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OBJECTIVE: To document real-world treatment patterns in elderly patients with high-risk (stage IIIBC, IIIB/B, IIIC) or metastatic (stage IV) melanoma. METHODS: Data was taken from the Surveillance, Epidemiology, and End Results (SEER)-Medicare linked database combining clinical information on incident cancer cases in the US between 1991 and 2002 with longitudinal (1991–2005) Medicare claims. Subjects ≥65 years with ≥1 stage IIIB or higher melanoma diagnosis and ≥6 months of subsequent benefits coverage were selected. We documented utilization patterns of four major therapies (surgery, radiation, chemotherapy, immunotherapy) following the diagnosis. RESULTS: A total of 6470 subjects met all criteria. Stage distribution was: IIIBC (38%); IIIB/B (46%); IIIC (1%); IV (15%). Median follow-up was 36, 39, 16, and 6 months, respectively. Surgery (primarily tumor excision) was the predominant 1st line treatment, received by >85% of subjects with stage IIIBC, IIIB/B, or IIIC melanoma and 60% of stage IV cases, but was a rare 2nd line approach. Radiation was 1st line treatment in only 2%, 5%, and 15% of stage IIIBC, IIIB/B, and IIIC cases, respectively, but was more common as a 2nd line approach in these subjects (15%, 24%, and 41%, respectively). Radiation was equally prevalent (~30% of cases) as 1st or 2nd line treatment in stage IV. Chemotherapy was uncommon as 1st line treatment (<4% of all cases), but prevalent as 2nd line therapy (by respective stage, 14%, 20%, 41%, and 22% of cases). Immunotherapy was rare, except as 2nd line treatment in stage IIIC (26% of cases). CONCLUSION: Beyond surgery as a 1st line approach, relatively few patients received other types of treatment as either 1st or 2nd line therapy. These findings demonstrate an unmet need in high risk and metastatic melanoma. Additional analyses of administrative data characterizing real-world treatment patterns in melanoma are needed to help inform the direction of future clinical trials.

**GASTROINTESTINAL DISORDERS—Clinical Outcomes Studies**

HETEROGENEITY ACROSS RANDOMIZED CONTROLLED TRIALS OF PROTON-PUMP INHIBITORS IN NIGHTTIME GERD: A SYSTEMATIC REVIEW

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OBJECTIVE: Numerous randomized controlled trials (RCTs) have evaluated efficacy of proton-pump inhibitors (PPIs) in controlling nighttime symptoms of gastroesophageal reflux disease (GERD). Quantitative synthesis of the effect of PPIs on nighttime symptoms is lacking, thus the validity of performing a meta-analysis was assessed. METHODS: MEDLINE and EMBASE