FIRST-LINE TREATMENT AND LIFETIME MEDICAL-CARE COSTS AMONG ELDERLY STAGE IIIIB/IV NON-SMALL CELL LUNG CANCER (NSCLC) PATIENTS TREATED WITH COMMONLY USED DOUBLETHERAPIES
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OBJECTIVES: Evidence concerning medical-care costs among advanced-staged NSCLC patients is lacking. The purpose of this analysis was to identify costs associated with first-line chemotherapy treatment and total lifetime medical-care costs among elderly Stage IIIIB/IV NSCLC patients treated with commonly used two-drug chemotherapy (“doublet”) regimens.

METHODS: Study patients included those aged 65 years and older who were diagnosed with Stage IIIIB/IV NSCLC in a SEER cancer registry between 1997 and 2002 and who received first-line treatment with a commonly used doublet regimen. Study patients were followed in the SEER-Medicare database to evaluate costs while on first-line chemotherapy treatment as well as lifetime medical-care costs. Pairwise comparisons of costs estimated using non-parametric bootstrap methods were generated.

RESULTS: Lifetime medical-care costs totaled approximately $70,000 among study patients, with almost half incurred while on first-line treatment. These costs were dominated by hospitalization and physician costs. Lifetime costs among patients treated with cisplatin or carboplatin and taxane (C/CT) were significantly higher than those for patients treated with cisplatin or carboplatin and gemcitabine (C/CG) (difference: $4781 [$1558–$8039]), and those for patients treated with other doublet therapy (difference: $5961 [$2333–$9614]). Comparing costs while on first-line therapy, costs among patients treated with C/CT were significantly higher than those among patients treated with C/CG ($5825 [$3872–$7770]), C/C and other (C/CG $5399–$7975), or other doublet therapy ($3663 [$1620–$7470]).

CONCLUSION: Lifetime medical-care costs and costs while on first-line chemotherapy among treated Stage IIIIB/IV NSCLC patients are substantial, with the highest costs among patients treated with doublet platinum and taxane regimens.

IDENTIFICATION OF PATIENTS WITH SMALL CELL LUNG CANCER (SCLC) AND COST ASSESSMENT OF INTRAVENOUS (IV) CHEMOTHERAPY IN CLAIMS DATA
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OBJECTIVES: SCLC is estimated to represent 10–20% of lung cancer cases, however, the lack of specific ICD-9 diagnosis codes to differentiate SCLC and NSCLC poses challenges in claims data research. This study aims to (1) develop a definitional algorithm to identify SCLC in a large claims database, and to (2) assess payer costs associated with IV chemotherapy in SCLC.

METHODS: Using medical claims data from 5.5 million beneficiaries between 01/01/1998 and 01/31/2006, we identified 8605 patients with lung cancer (ICD-9 codes 162.3–162.9, 176.4, or 197.0) receiving IV chemotherapies. We then identified SCLC by the following chemotherapies principally used for SCLC: cisplatin/etoposide, cisplatin/irinotecan, carboplatin/etoposide (aged 60 and over), or topotecan. We further limited this subset to exclude patients receiving treatments or procedures often associated with NSCLC: PET scan imaging, lung removal or resection surgery, and the regimen of carboplatin/paclitaxel. We computed average total costs paid per day of IV chemotherapy as well as the separate costs for IV chemotherapy drugs, IV chemotherapy administration procedures, and other drugs and services received on those days.

RESULTS: A total of 1254 (14.6%) of patients with lung cancer had received a SCLC chemotherapy regimen, and the subset decreased to 942 (10.9%) when applying all exclusion criteria. Among the identified subset, average total cost per day was $815, with $423 (52%) attributable to IV chemotherapy drugs, $89 (11%) to IV chemotherapy administration procedures, and $303 (37%) to other drugs and services.

CONCLUSION: The proposed algorithm identified about 11% of all patients with lung cancer as SCLC from claims data, a proportion comparable to published estimates. IV chemotherapy administration procedures and other visit-related drugs and services accounted for 48% of total costs per IV visit in these patients. The increased availability and use of oral chemotherapies in SCLC could provide savings to payers by offsetting some of these costs.

CHARACTERIZING RESOURCE USE AND TREATMENT COSTS FOR CHRONIC MYELOGENOUS LEUKEMIA (CML) IN THE UNITED STATES (US)
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OBJECTIVES: CML has a worldwide incidence between 1 and 2 per 100,000 and accounts for 15% of all leukemia patients. In the US, the total 2004 hospitalization costs for CML patients was estimated at $69 million. However, beyond that figure, little information is available on costs of other resources for treating CML patients or how the costs vary with severity of illness. The objective was to estimate the costs of treating CML and the unintended effects of treatment according to disease phase, response type to treatment, and time since diagnosis (0 to 3, 4 to 12 and >12 months).

METHODS: Using a questionnaire based on current treatment guidelines, we elicited the expert opinion of five oncologists and the frequency of resource use in outpatient visits, laboratory tests and other interventions. Costs were obtained from publicly available sources and are presented in 2006 USD.

RESULTS: In the first three months of each phase, a patient responding to treatment was estimated to cost: $744 (low: $325, high: $2654) in chronic phase, $983 ($420, $4119) in accelerated phase, and $5979 ($442, $21,047) in blast phase. A patient not responding to treatment was estimated to cost: $1002 ($478, $3407) in chronic phase, $1427 ($773, $6617) in accelerated phase, and $10,496 ($876, $34,471) in blast phase. Costs were higher for patients not responding to treatment, increased as patients progressed through the disease phases of CML and decreased with longer time in the phase.

CONCLUSION: Higher costs were associated with patients not responding to treatment in each phase of CML. Although choice of treatment is determined according to patients’ responses, disease progression and time since diagnosis, published cost-effectiveness models do not necessarily incorporate all these parameters. The estimates collected in the current study will serve as reproducibly measured inputs in future models.