

PCN170 DESPITE INCREASES IN RATE OF HOSPITALIZATION, IN-HOSPITAL MORTALITY AND ADMISSION COSTS ASSOCIATED WITH MELANOMA OF THE SKIN HAVE REMAINED STABLE FROM 2012-2016

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Objectives: Melanoma of the skin represents 5.5% of all new cancer cases in the United States (US). While incidence continues to increase, overall mortality rates have been steadily declining. We investigated the hospitalization and in-hospital mortality trends of melanoma skin cancer in the US over the most recent period of available data. **Methods:** Using 2012-2016 data from the National Inpatient Sample, admissions with a diagnosis of melanoma of the skin were identified. Descriptive measures including demographics, length of stay (LOS), discharge disposition, and total cost (adjusted for inflation using medical care component), stratified by year. Discharge-level weights applied to represent national estimates, and domain analysis used for subpopulation estimates. Annual percentage change calculated to characterize the trend in hospitalization rates over time. **Results:** In 2016, there were 142,050 admissions of patients with a diagnosis of melanoma skin cancer. Mean (95% confidence interval) age was 70.2 (69.6-70.5) years. Patients were predominantly White (90.8% [89.5%-92.0%]) and covered by Medicare (68.3% [67.4%-69.3%]). Mean age increased each year from 68.9 (68.4-69.3) in 2012 ($p < 0.001$). Hospitalization rates increased from 37 per 100,000 people in 2012 to 44 per 100,000 people in 2016, with an average annual increase of 5.0% (3.2%-6.9%; $p = 0.003$). Mean LOS remained relatively consistent each year from 4.6 (4.5-4.7) in 2012 to 4.6 (4.6-4.7) in 2016 ($p = 0.053$). In-hospital mortality occurred in 2.6% (2.4%-2.8%) of admissions in 2012 and 2.7% (2.6%-2.9%) in 2016 ($p = 0.856$). The mean cost of admission remained consistent with only a slight decrease from 2012 (\$14,473 [\$13,975-\$14,972]) to 2016 (\$14,041 [\$13,613-\$14,469]) ($p = 0.782$). **Conclusions:** While the admission rates of melanomas of the skin increased significantly from 2012-2016, hospital mortality rates and costs remained stable in the US. Melanoma skin cancer mortality dropped 2.5% per year over a similar period, suggesting earlier diagnosis and detection, and improved treatment in the outpatient setting.



PCN171 COST BURDEN AND WORK OUTCOMES AMONG SINGAPOREAN ADOLESCENT AND YOUNG ADULT CANCER SURVIVORS

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Objectives: To quantify direct medical costs, indirect costs and work outcomes among Singaporean adolescent and young adult (AYA) cancer survivors. **Methods:** This was a cross-sectional study conducted between July 2016 and October 2018 at the National Cancer Centre Singapore. Cancer patients between 16-39 years old who had completed antineoplastic treatment were eligible. Siblings of participants were recruited as non-cancer controls. Direct medical costs were extracted from the hospital financial database and converted to 2017 US dollars while indirect costs were estimated from employment status, income levels and absenteeism self-reported by participants. Mixed-effects logistic regression was used to compare employment status between cancer survivors and sibling controls. **Results:** Thirty-seven cancer survivors consented to the study with a mean (\pm SD) age of 27.4 (\pm 5.8) years. The most common cancer diagnosis was lymphoma (48.6%), followed by germ cell tumors (37.8%) and sarcomas (10.8%). Demographic characteristics were similar between cancer survivors and sibling controls. The median direct medical costs incurred within 6 months post treatment completion was USD 5022, with out-of-pocket expenditure ranging from 14.3% to 100%. 40.5% of survivors were employed at the time of survey, while 10.8% were unemployed yet actively seeking employment. The odds of employment were not significantly different (OR:0.52, 95% CI:0.14-6.28) between cancer survivors and sibling controls. However, in the past 3 months preceding study recruitment, employed cancer survivors reported a median of 1 day missed at work due to health issues (range: 0-90 days), with estimated indirect costs of USD 41 (range: USD 0-2895). In comparison, sibling controls did not report missing work due to significant health issues. **Conclusions:** Despite treatment completion, Singaporean AYA cancer survivors still experience substantial medical expenditure and inferior employment outcomes. Further work is necessary to describe financial and work-related outcomes in this group of patients who are in a critical point of their careers.



PCN172 ANALYSIS OF LUNG CANCER DRUG THERAPY STRUCTURE AND COST OF ILLNESS EVALUATION IN MOSCOW REGION

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Objective: According to experts from the Ministry of Health of the Moscow region Lung cancer (LC) is one of the most costly oncological diseases. Aim of the study was to assess the annual costs of drug therapy in Moscow region of patients with LC. **Methods:** The analytical model was constructed to estimate costs of different types of drug therapy in Moscow for patients with ICD C34. The data sources were database of reimbursed drug prescriptions of Ministry of Health of the Moscow region. **Results:** We have estimated that among patients with LC that the most prescribed type of drug therapy (not including concomitant treatment) is chemotherapy (51,21% of total amount of drug prescriptions), then targeted therapy (40,23%), immune therapy (5,17%) and hormone therapy (3,38%). We have calculated that the cost of these types of drug therapy of LC are 5,64% for chemotherapy (of total budget cost of C34 treatment), 79,4% for targeted therapy, 14,2% for immune therapy and 0,75% for hormone therapy. Among the chemotherapy drugs the most costly is paclitaxel (37,6% of chemotherapy cost), for targeted therapy - afatinib (27,49% of targeted therapy cost), for immune therapy - pembrolizumab (80,2% of immune therapy cost) and for hormone therapy - abirateron (66,5% of hormone therapy cost). **Conclusions:** The cost structure for drug therapy of patients with LC in Moscow region shows that the most expensive is targeted therapy (79,4% of all costs for drug therapy of LC excluding concomitant treatment).

PCN173 HEALTHCARE COSTS OF BREAST CANCER BY MAMMOGRAPHY SCREENING BEHAVIOR AMONG COMMERCIALY INSURED WOMEN AGED 40-64

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Objectives: Mammography screening saves lives, but the appropriate screening interval for younger women remains controversial. Little is known about the financial burden borne by health plan payers and women with breast cancer. The objective of this study was to estimate the per patient healthcare costs in the initial treatment phase of incident breast cancer associated with different mammography screening intervals, from a large U.S. commercial insurance claims database. **Methods:** From the perspective of insurers and patients, our study provides dollar estimates of healthcare costs from patients with different screening behavior (annual, biennial and none) identified 33 months before cancer diagnosis based on the MarketScan commercial claims database in the years 1999-2014. A generalized linear model was used to adjust for potential confounders. **Results:** The first-year healthcare costs from insurance payer's perspective for no screening, annual screening and biennial screening were \$168,786, \$165,814, and \$157,950, respectively. And the out-of-pocket costs paid by patients were \$7,101, \$6,687, and \$6,178. For health plan payers, there are cost savings associated with regular and more frequent screening. For patients, regular screening reduces out-of-pocket costs but the difference under different screening intervals is minimal. **Conclusions:** While regular mammography screening substantially reduces healthcare costs, the decision of annual versus biennial screening should be based on individual weighing of the benefits and harms.



PCN175 COST-EFFECTIVENESS ANALYSIS OF PEMBROLIZUMAB VERSUS CHEMOTHERAPY AS FIRST-LINE TREATMENT FOR METASTATIC NON-SMALL CELL LUNG CANCER WITH DIFFERENT PD-L1 EXPRESSION LEVELS IN CHINA USING BOTH PARTITION SURVIVAL AND MARKOV MODELS

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Objectives: To evaluate the cost-effectiveness of pembrolizumab versus chemotherapy as the first-line treatment for metastatic non-small cell lung cancer (NSCLC) with different tumor proportion scores (TPS), from perspective of payers in China. **Methods:** Both partition survival (PS) and Markov models, comprised of three health states were constructed to estimate the life-time incremental cost-effectiveness ratio (ICER). Subgroup analyses were performed in three PD-L1 TPS populations ($\geq 50\%$, $\geq 20\%$ and $\geq 1\%$). Reconstructed individual patient data were derived from published Kaplan-Meier curves in pivotal trial KEYNOTE-042. Utilities came from the value of the Chinese population in the published literature. Cost were collected from official websites. Sensitivity analyses were conducted to verify the robustness of the results. The scenario analysis of the patient assistance project (PAP) price was also carried out. **Results:** The result of PS model was more favorable to the population with a disease progression advantage (TPS $\geq 50\%$) CNY 228,254.12/ QALY compared with markov result CNY 279,649.16/ QALY. Patients with TPS $\geq 20\%$ and TPS $\geq 1\%$ were the markov model results had smaller ICER, CNY 340,402.80/ QALY and CNY 244,495.54/ QALY. ICERs yield by pembrolizumab monotherapy among different TPS populations were beyond the local threshold of 3 times GDP per capita in 2018 (CNY 193,932.00).

