

**Mahir A. Rahman**  
Undergraduate  
Brown University, Providence, Rhode Island

Dr. Tung Sung Tseng and Dr. Hui-Yi Lin:  
Louisiana State University Health Sciences Center School of Public Health

### **“Identifying an Association Between Health Insurance Type and Quality of Life among Cancer Survivors”**

**Background:** An estimated 30 million Americans lack access to health insurance today. The prevalence of cancer has been increasing in the United States, with the number of cancer cases approaching nearly two million in 2023. A clear link between insurance type and cancer outcomes like diagnosis and survival rates has not yet been established, although there is evidence to support that cancer patients who have private insurance have better health outcomes. At the same time, evidence supports an association between poor quality of life (QOL) and cancer patients. The objective of this study is to examine the association between health insurance type and health-related quality of life (HRQOL) among cancer survivors.

**Methods:** This study utilized data from the National Health and Examination Survey (NHANES) from 2009-2012. The eligibility criteria for the study was cancer survivors who were at least 20 years old, had health insurance information, and had at least one of four quality of life variables, for a sample size of 974. The outcome was quality of life (HRQOL-4: general health status, physical health, mental health, and inactivity due to physical/mental health), and the primary predictor variable was health insurance type. Chi-square tests and logistic regression models were utilized.

**Results:** The mean age of cancer survivors in the study was 65.19 years. 52.2% of the survivors were female, and 68.9% were non-Hispanic Whites. Results showed that the association between general health condition and race and family income are statistically significant ( $p < 0.0001$ ). For health insurance, 58.2% of cancer survivors were covered by Medicare, 23.9% were covered by private insurance, and only 6.4% had no health insurance. For general health status, 28.1% reported having not good health (fair/poor health). Based on bivariate analyses, health insurance type is significantly associated with general health condition ( $p = 0.0003$ ), physical health ( $p < 0.0001$ ), mental health ( $p < 0.0001$ ), and inactivity due to physical/mental health ( $p = 0.0009$ ). Compared to private insurance, people with Medicaid/other public insurance had a higher chance of having ‘not good health’ (OR=2.7,  $p = 0.0001$ ), having poorer physical health (OR=4.3,  $p < 0.0001$ ), having poorer mental health (OR=3.6,  $p < 0.0001$ ), and being more inactive due to physical/mental health (OR=4.5,  $p < 0.0001$ ) based on univariate logistic models.

**Conclusions:** Health insurance type was found to be associated with all four quality of life measures for cancer survivors without adjusting for other factors. Further evaluation will be conducted to check whether there are potential confounding factors for these associations.