**Title: A nationwide study of health care services provided to cancer patients in the ambulatory care setting**

**Authors: Knowlton, H.1 Agarwal, P.2**

**Author affiliation:**

1 Icahn School of Medicine at Mount Sinai

2 Tisch Cancer Institute, Institute for Healthcare Delivery Science and Department of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai

**Abstract (Max 2500 characters)**

**Background/Rationale:** Due to the often long and costly nature of treatment, cancer patients are especially vulnerable to obstacles in accessing care. Additionally, while substantial progress has been made in describing disparities in the health care of these patients, work on healthcare services provided to cancer patients in ambulatory care settings is limited.Therefore, it seems necessary to examine what, if any, role access to services plays in the disparities we observe in this population.

**Hypothesis/research question:** The objective of this study was to examine the association between a diagnosis of cancer and a broad range of health care services that were provided or ordered in the outpatient setting. We also assessed if insurance status affects provision of services among those with cancer and whether any age-related disparities existed.

**Study design/methods:** This was a retrospective cross-sectional study that used the 2016-2018 National Ambulatory Medical Care Survey (NAMCS), an annual national sample of ambulatory visits made to physician practices. primary Descriptive statistics were used to assess baseline characteristics and service provision stratified by the presence of cancer and primary insurance in those with cancer. Bivariate and multivariable analysis was conducted to examine the association between the presence of cancer and health care services provided. All analyses accounted for survey weights, strata and PSUs.

**Results:** Overall, 7% of approximately 1.74 billion ambulatory care visits were by patients with cancer. As compared to those without cancer, those with cancer were significantly older (mean age: 66 vs. 46, p<0.001), non-Hispanic Whites (81% vs 69%, p<0.001), more likely to be on Medicare insurance (52% vs 24%, p<0.001) and had higher mean number of comorbidities (2.7 vs 1, p<0.001). A higher proportion of visits by cancer patients were to medical specialists (45% vs 24%, p<0.001) for routine chronic problems (42% vs 31%, p<0.001). In the bivariate analysis, cancer patients were significantly more likely to receive cryosurgery/destruction of tissue, wound care, domestic violence screening, and a skin exam and less likely to receive diet/nutrition counselling. Among cancer patients, a significantly higher proportion of those who were not charged or received charity care were provided with exercise counselling or a skin exam as compared to those on public or private insurance. In the multivariable analysis, cancer patients had higher odds of receiving wound care (OR 3.98), skin exams (OR 2.02), cryosurgery (OR 1.97), and breast exams (OR 1.91).

**Conclusions:** Cancer patients receive a wide variety of services in ambulatory care settings and in this nationwide sample there were not significant disparities in the provision of services by insurance status. More analyses are being done to examine age-related differences in provision of services**.**