# Outpatient oncological care by SHI-accredited physicians and psychotherapists in Germany — Trends over time 2010 to 2019

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### **Abstract**

# **Background**

According to recent estimations, over 4 million people are living in Germany with a diagnosis of cancer. A further increase of cancer prevalence is expected due to an aging population and improved survival of affected individuals. Patients with cancer represent a growing subpopulation of patients with increased needs of outpatient care. The study aims to show the development of different cancer types' prevalence and to examine the utilization of outpatient health care providers by newly diagnosed cancer patients.

## **Methods**

Using the nationwide outpatient claims data collected according to §295 of the Social Code Book V comprising the years 2010 to 2019 we calculated the crude and age-standardized administrative prevalence of different cancer entities and entity groups (ICD-10 codes C00–C95 without C44 and C77–C79), respectively. The study population consisted of all statutory health insurees (SHI) who were at least 15 years old in respective years (N = 61,533,884 in 2019). Additionally, for the four most common cancer types in women and men we determined the crude and age-standardized cumulative incidence in 2017. For this subpopulation, we examined the cancer-associated utilization of SHI-accredited health care providers in the period between the year of diagnosis (2017) and two years thereafter. We analyzed the range of medical and psychotherapeutic specialties of the consulted health care providers as well.

#### Results

In 2019, 3.3 million insurees had a documented cancer diagnosis of which about 3 million cancer diagnoses were solid tumors (91%). Between 2010 and 2019, the entity-specific prevalence of cancer increased on federal level as well as on the level of the 17 Associations of Statutory Health Insurance Physicians (ASHIP) and district level. Throughout Germany, the crude prevalence of overall cancer rose from 4.1% in 2010 to 5.4% in 2019. The crude prevalence of solid and hematological tumors increased from 3.7% to 4.9% and from 0.4% to 0.6%, respectively. Age-standardized results unveil that men were more affected by most cancer types than women, except for thyroid cancer. There were regional differences in cancer prevalence. In 2019, the lowest age-standardized prevalence for solid tumors was observed in Saarland (4.5%), whereas Lower Saxony (5.1%) displayed the highest age-standardized prevalence. Saarland (0.5%) also showed the lowest age-standardized prevalence for hematological tumors, while Mecklenburg-Western Pomerania (0.6%) had the highest value.

Overall, 176,911 patients were newly diagnosed with either breast, prostate, colorectal or lung cancer in 2017. These patients had more contacts with their SHI-accredited health care providers in the follow-up years than in the year of diagnosis. The majority of cancer patients consulted at least

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two different physician groups. Particularly depending on cancer type and to a smaller degree on year of treatment, the percentage varied between 65% for patients with colorectal cancer and 87% for breast cancer patients. For all 4 cancer types, a large proportion of patients consulted general practitioners (GP). For breast cancer patients the amount of GPs was exceeded only by gynecologists and for prostate cancer patients by urologists. Diseased persons with colorectal or lung cancer were treated by internists at the second most. Physicians from the fields of radiology, nuclear medicine and radiotherapy ranked in the third position for all 4 cancer types. Differences were seen when stratifying for sex, age and year of treatment.

#### Conclusion

Cancer accounts for a large part of documented morbidity in the population of Statutory Health Insurance. There are regional differences in the entity-specific prevalence. Incident cancer patients consult health care providers of several specialties more frequently depending on year of treatment.

# Keywords

bladder, bowel, breast, cancer, cervical, claims data, colorectal, endometrial, gastric, health care utilization, incidence, intestinal, kidney, leukemia, lip, lung, malignant melanoma, mouth, NHL, non-Hodgkin lymphoma, oncology, oral cavity, outpatient, ovarian, pancreatic, pharynx, prevalence, prostate, renal, skin cancer, stomach, testicular thyroid, uterus

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