

Relationship Between the Number of Approved Cancer Treatments and Unmet Need in Europe

Code: EPH72



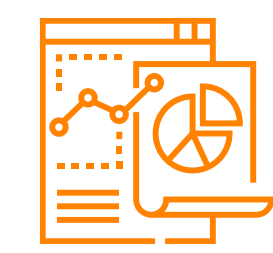
AUTHORS

- > [Oscar Dumoulin^{1,2}](#)
- > [Gilberto Bento¹](#)
- > [Matthew Rheinert¹](#)
- > [Giuseppe Gulotta¹](#)
- > 1. Global Market Access, AliraHealth, Basel, Switzerland
- > 2. Contact: oscar.dumoulin@alirahealth.com



OBJECTIVES

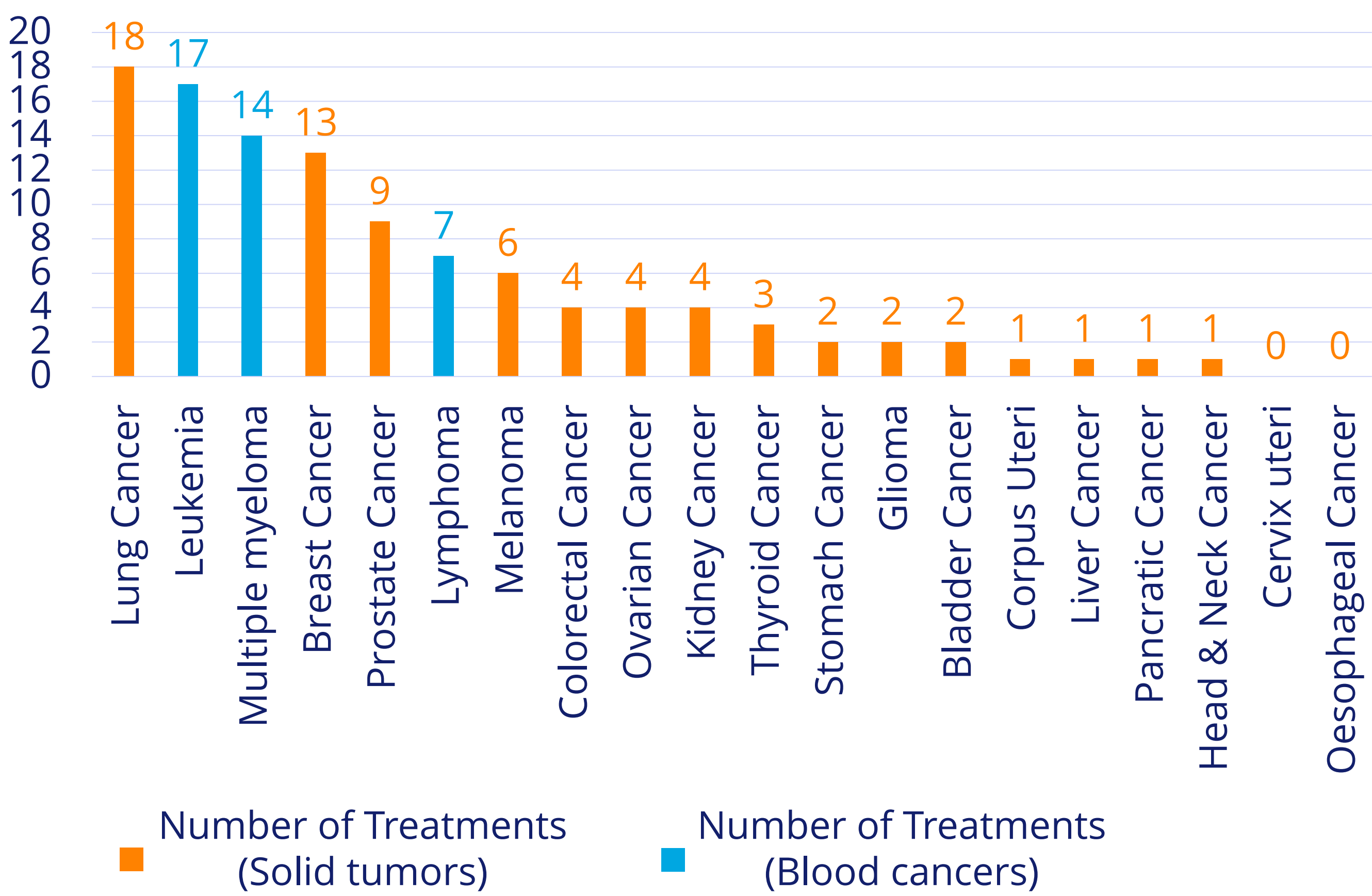
- > The number of approved cancer treatments in Europe has steadily increased in the past decade, yet it is unclear if all cancer patients, especially those with the highest level of unmet need, benefited from treatment innovation. This study attempts to understand if innovation in cancer treatments is commensurate with the level of unmet need across different cancer types in Europe.



RESULTS

- > A total of 143 unique branded medicines were approved between 1995 and June 2022 across the 20 cancers with the highest incidence in Europe. Most treatments (109) have been approved in a single cancer indication, while 34 treatments have been approved in several cancer indications. Lung cancer has the highest number of treatments approved with a single indication (18), while cervix, uteri, and oesophageal cancer have no treatments approved with a single indication in these cancers (figure 1.).
- > When looking at the total number of approved treatments by cancer type, blood cancers (multiple myeloma, leukemia and lymphoma) have, on average, a higher number of approved treatments (21) in comparison with solid tumors.

Figure 1. Approved Treatments with a Single Indication by Cancer Type

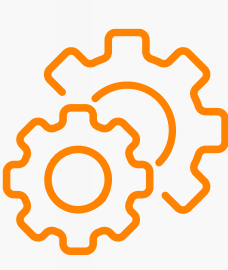


- > Breast cancer had the highest age standardized incidence rate in 2020 in Europe with 531,086 new cases, followed by colorectal cancer (519,820 new cases). Multiple myeloma was the 20th most incident cancer (50,918 new cases in 2020) in Europe. The number of approved treatments by cancer type against incidence is plotted in figure 2.
- > When performing simple regression analysis, there was a significant association between the number of approvals and cancer incidence ($b=8,970$; 95%CI: 395.2-17,544; $p=0.0413$ for $H_0:b=0$) (figure 2.).



REFERENCES

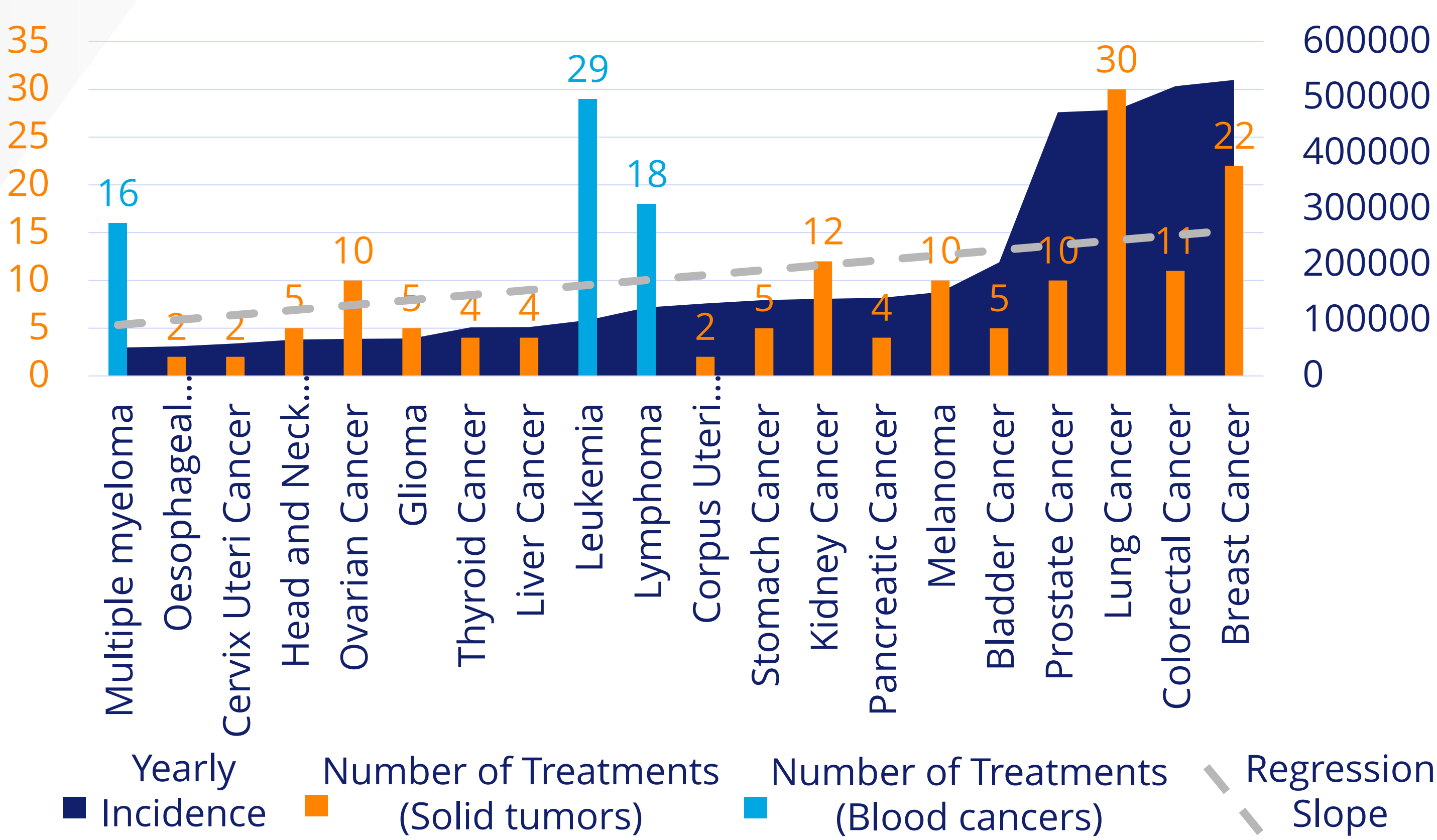
- 1 EMA (2022). Accessible from <https://www.ema.europa.eu/en/medicines/download-medicine-data>.
2. GLOBOCAN. (2020). Accessible from <https://gco.iarc.fr/today/home>
3. NORDCAN (2019). Accessible from <https://nordcan.iarc.fr/en>



METHODOLOGY

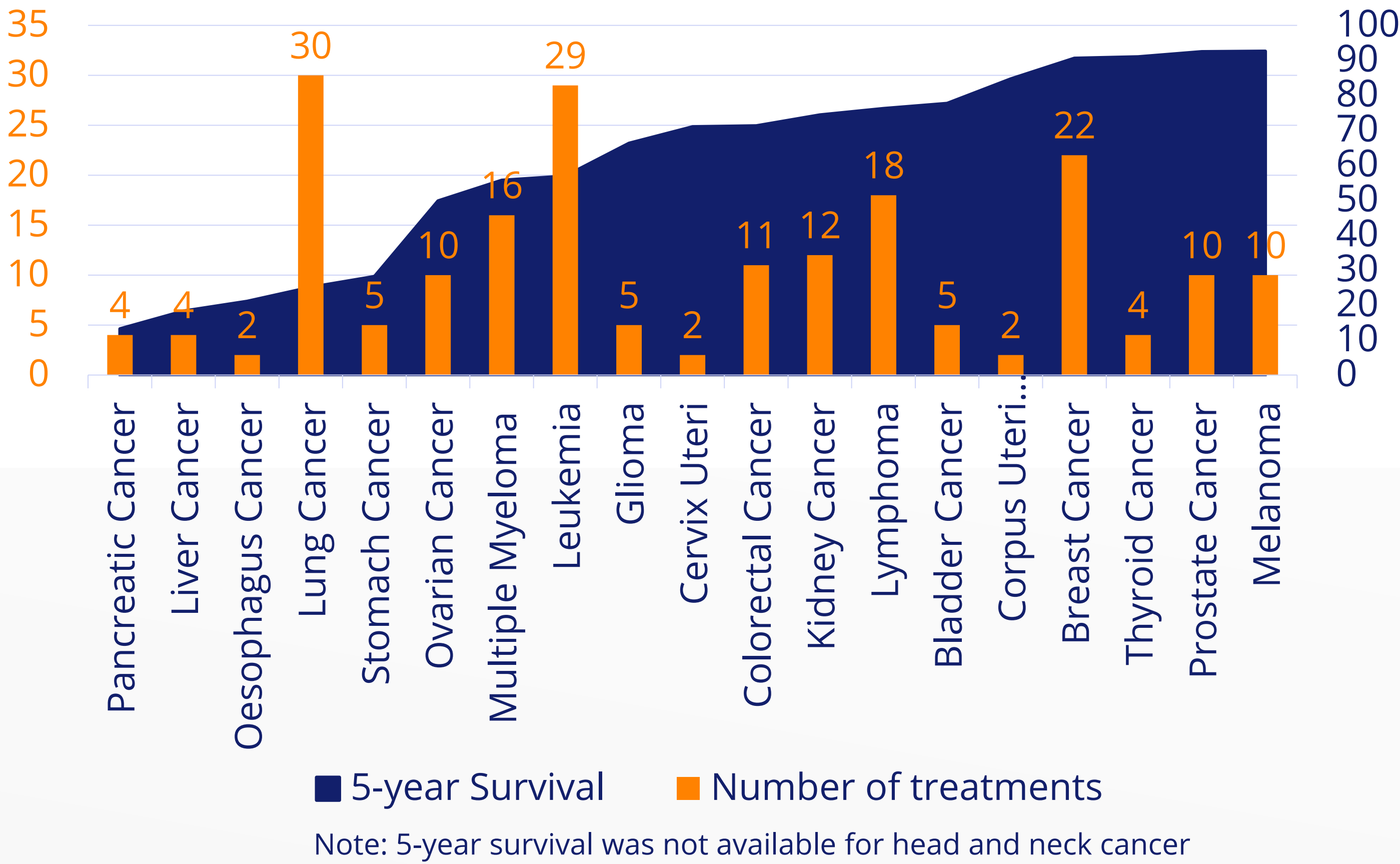
- > Branded medicines (authorized, non-generic, non-biosimilar) approved for a cancer by the EMA until June 2022, were extracted from the online list of European public assessment reports¹. Incidence data from 2020 GLOBOCAN² and the average 5-year survival rates from 2019 NORDCAN³ for the 20 most incident cancers, were used as proxies for the unmet need. Descriptive and univariate analyses were performed between the number of approved treatments and the epidemiological data for each cancer.

Figure 2. Approved Treatments and Yearly Incidence by Cancer Type



- > The number of approved treatments by cancer type against the 5-year survival is plotted in figure 3. The cancer with the lowest 5-year survival rate was pancreatic cancer (13.2%).
- > When performing simple regression analysis, there was no association between number of approved treatments and 5-year overall survival (figure 3.).

Figure 3. Approved Treatments and 5-year Survival Rate by Cancer Type



Note: 5-year survival was not available for head and neck cancer

Study limitations include the following:

- > EMA indications and GLOBOCAN categorization of cancers were not always equivalent, where some treatments were indicated to specific subgroups with high unmet need not reflected in the GLOBOCAN cancer categorization. In those instances, treatments were categorized to the closest matching GLOBOCAN cancer, regardless of the subgroup targeted.
- > More than half of the treatments were approved in the past 5 years and therefore, their effect on the 5-year survival rate of the different cancers might not be reflected in the data yet.



CONCLUSION

- > This study suggests that the number of EMA approvals of innovative cancer drugs is partly driven by incidence but independent of 5-year survival rate.