

The Economic Burden of Cancer in Germany

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Research for a Life without Cancer

Background

Cancer is the second leading cause of mortality in Germany and believed to be associated with high health care costs.

Objective

To compare direct health care and total societal cost with the burden of disease attributable to malignancies and other diseases.

Methods

Review of the peer-reviewed literature on cancer cost, data from the WHO Global Burden of Disease database and official health care cost data from the German Federal Statistical Office¹.

Three categories of costs are considered:

1) Direct costs

Represent the value of all types of resource use involved in the provision of an intervention. Normally, divided into:

- Direct medical (or health care) costs: e.g. diagnostic tests
- Direct non-medical costs: e.g. cost of transportation to and from a medical facility, value of informal home care provided by relatives

2) Indirect costs

- Economic productivity losses due to:
 - premature death (mortality costs)
 - losses associated with lost or impaired ability to work (morbidity costs)

3) Intangible costs (burden of disease)

- Costs caused by pain, suffering, and grief
- Generally captured using quality of life measures

Health economic cost analyses can be done from different perspectives:

Perspective refers to the point of view considered by the researcher when costs are estimated and determines which type of costs are included:

- For traditional cost benefit analyses, which are grounded in economic welfare theory, a "societal perspective" is the preferred one
- Alternative viewpoints adopted:
 - Third-party payers, physicians, hospitals, patients, or citizens in their roles as tax payers or members of health insurance schemes

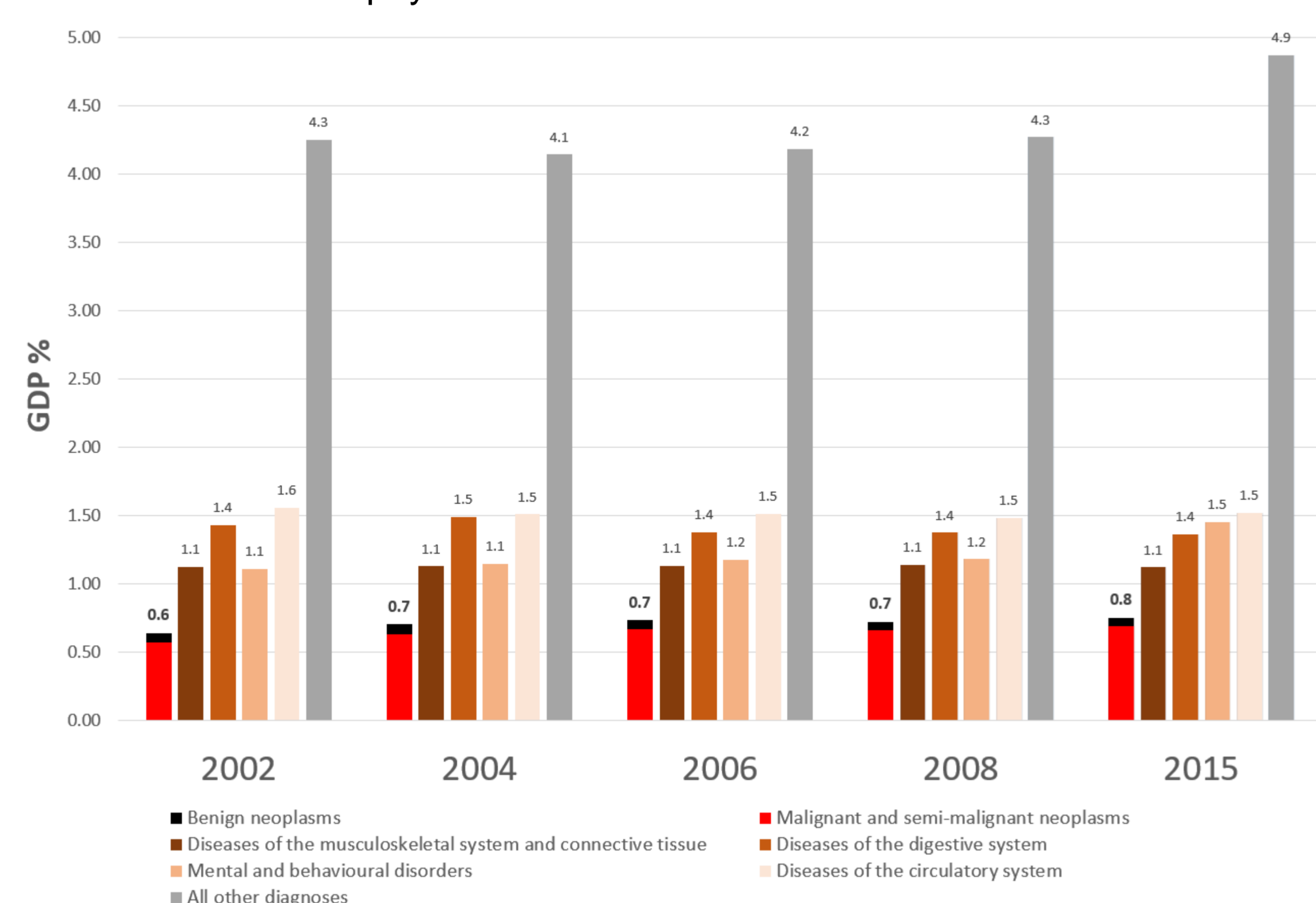


Fig. 1 Direct medical cost for Germany (GDP %). Based on data from the Federal Statistical Office

Conclusions

- Results do not support the hypothesis of recently escalating health care costs due to cancer care.
- Burden of cancer exceeds by far the share of health care costs; this is mirrored by a pattern that has been described in other European countries and the USA.
- Despite anecdotal evidence, there is a lack of robust data on the financial and broader socioeconomic burden imposed on patients by cancer.
- Future research should focus on the potential quality gains in highly specialized comprehensive cancer care centers, the value for money conferred by rising of cancer drug costs, and the socioeconomic impact of cancer on patients and their relatives.

Results

Direct medical costs

- Health care expenditure related to neoplasms was equal to 23 billion Euros in 2015 (Figure 1)
 - Malignant neoplasms account for 19.9 billion Euros or about 6% of total German health care expenditure (343 billion Euros in 2015)¹
- Spending dedicated to cancer as a share of total health care expenditures has remained largely stable since 2004

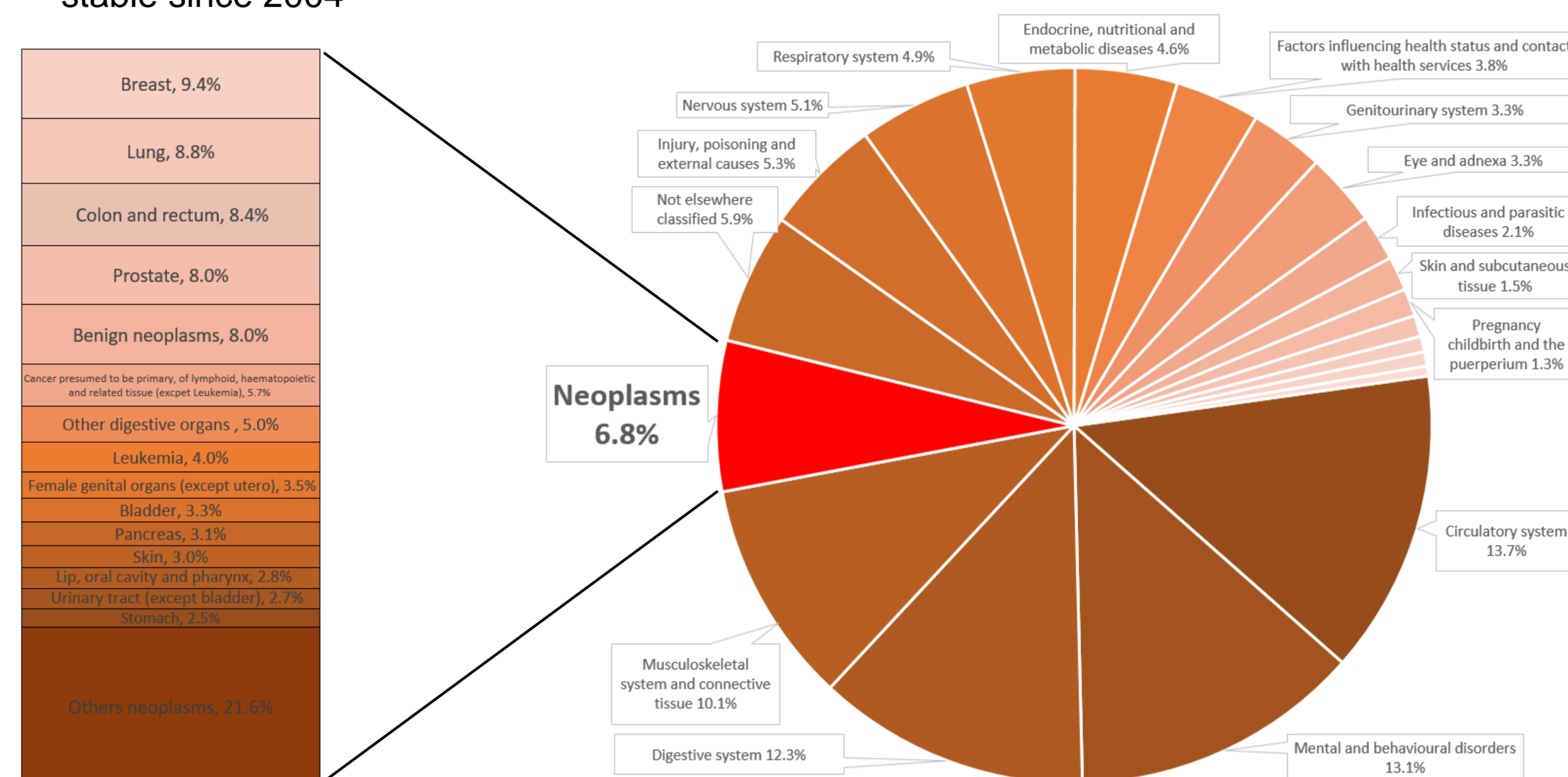


Fig. 2 Proportionate direct medical cost for Germany – 2015. Based on data from the Federal Statistical Office

Burden of disease

- Health economic analyses indicate that cancer accounts for almost one fifth of the total burden of disease in Germany
- This implies extremely high intangible costs due to cancer:
 - Cancer is the number one cause of morbidity and premature mortality in Germany

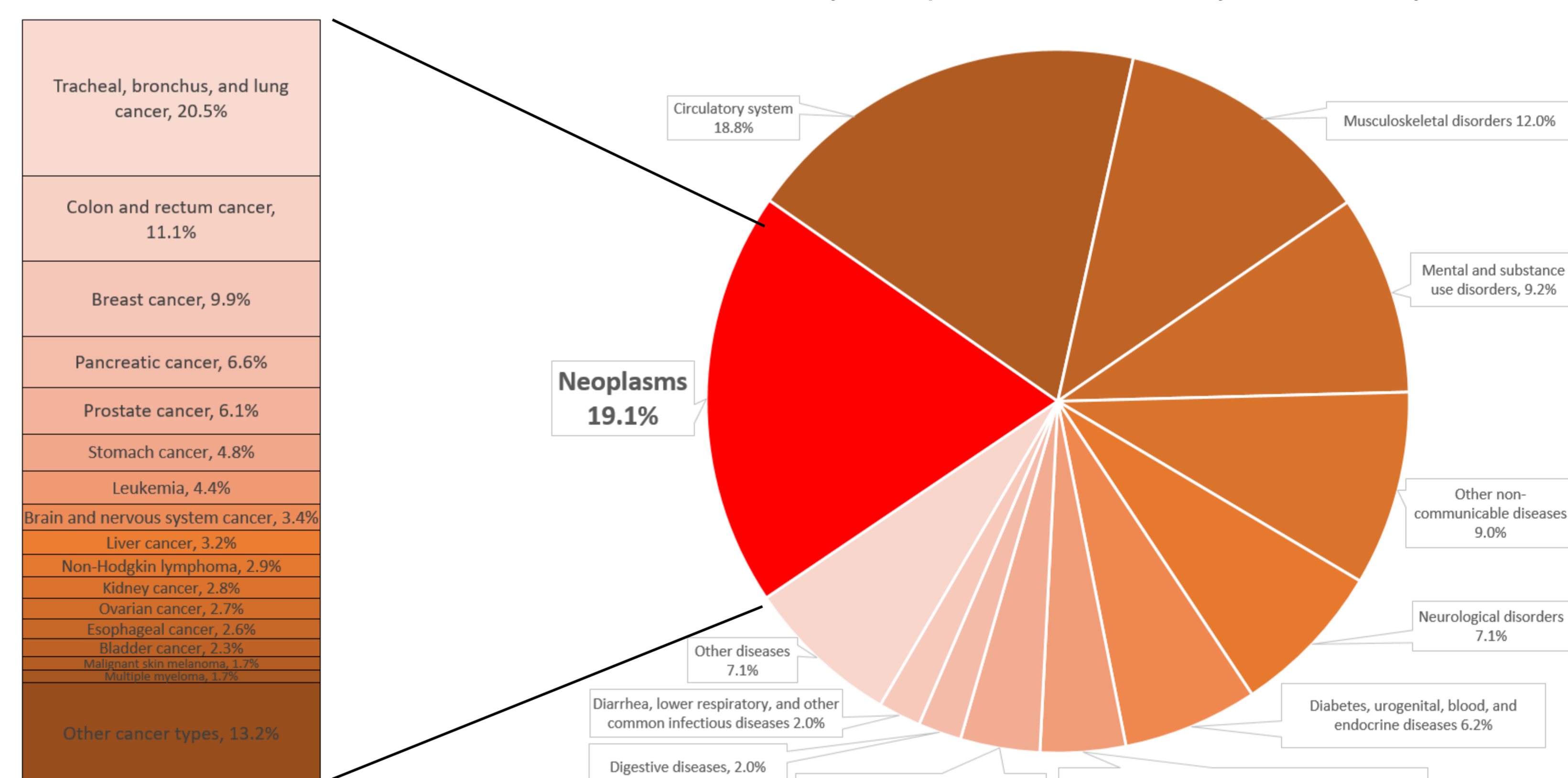


Fig. 3 Proportionate burden of disease for Germany- 2015: Years of life loss adjusted by quality of life and measured in "disability-adjusted life years" (DALYs). Based on data from the Global Burden of Disease study

Indirect costs

- The productivity loss attributable to cancer in Germany amounts to around 18.5 billion Euros (2015)^{2,3}, a dimension which is comparable to the direct cost attributable to cancer
- Available data on indirect costs relate to three categories:
 - Losses resulting from premature death (mortality): Estimated at 12.6 billion Euros
 - Sickness-related absenteeism (morbidity): Estimated to be around 2.4 billion Euros
 - Losses related to unpaid work (e.g. care of relatives): Estimated to exceed 3.5 billion Euros

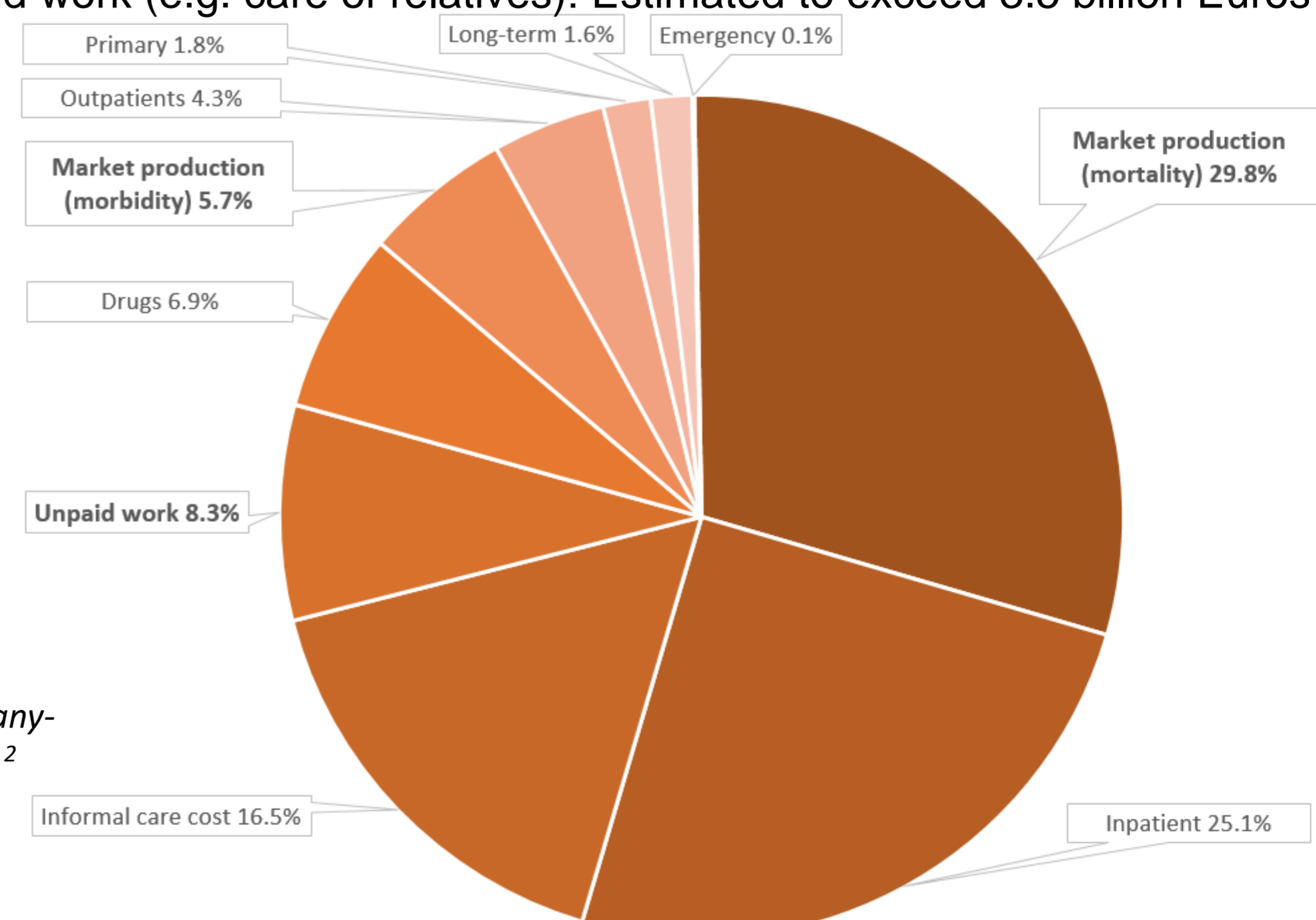


Fig. 4 Total (public and private) direct and indirect costs of cancer for Germany- 2015. Based on analysis by Cole et al. ²

References:

- GBE. 2018. Total Cost of Illness in Millions of Euro for Germany.
- Cole et al. 2016. Improving efficiency and resource allocation in future cancer care.
- Luengo-Fernandez R, Leal J, Gray A, Sullivan R. 2013. Economic burden of cancer across the European Union: A population-based cost analysis.