

# The costs of liver cancer

## Factsheet

This factsheet provides a broad picture of the economic burden of liver cancer and is based on the Swedish Institute for Health Economics' (IHE) study on the **Costs of Cancers of the Digestive System** commissioned in 2020 by **Digestive Cancers Europe**.

### Introduction

In 2020

**87.630**  
new cases  
across  
Europe



**78.415**  
deaths



7th  
most frequent cancer-related  
cause of death in Europe



**4%**  
of all cancer  
deaths in  
Europe

All data are from 2020 from the [European Cancer Information System \(ECIS\)](#).

### The costs of liver cancer

**Liver cancer is the fifth most frequent and the fifth most costly digestive cancer: liver cancer today costs €4 billion in Europe.**

**Direct healthcare costs:** these constitute the sum of the consumption of all health-related costs which include hospital beds, cancer drugs, surgery, medical experts, medical equipment and even psychosocial care and rehabilitation (in modern cancer care). Both public resources (tax money and social security) and private spending (out-of-pocket payments for medical visits and health insurance) are part of direct costs.

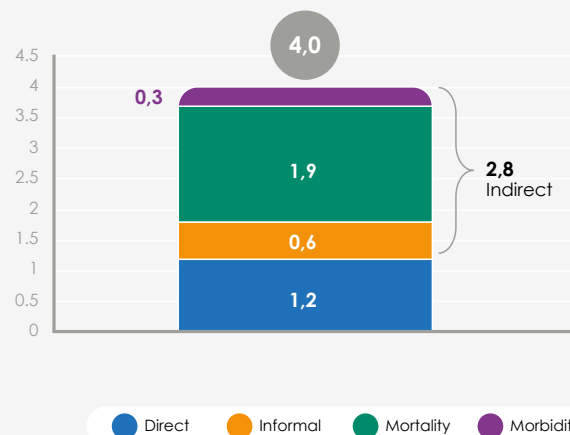
**Informal care costs:** these constitute the many hours of unpaid care spent by family and relatives, creating an opportunity cost of their time. These costs were calculated based on both average wages or minimum wages, depending on the type of caregiver.<sup>1</sup>

**Indirect costs caused by premature mortality:** these constitute the future lost earnings of patients who have died due to their disease, creating productivity loss. These are based on potential years of working life lost (PYWLL) combined with average wages and employment rates per country. These costs were calculated using the Human-Capital Method (HCM).<sup>2</sup>

**Indirect costs caused by morbidity:** these constitute the patient's inability to work due to sickness or incapacity, creating productivity loss for a period of time. Calculations were also based on the Human-Capital Method (HCM).<sup>3</sup>

**Figure 1: The costs of liver cancer in billion € in Europe (2018 data)**

*For clarity, all numbers have been rounded to one decimal point*



<sup>1</sup> Volunteers involved in patient organisations invest a vast amount of their personal time. However, in this current report this type of informal care has not been accounted for. Digestive Cancers Europe plans to perform a separate study on the time volunteers from patient organisations spend to help patients and the cost savings this informal care translates to for our societies.

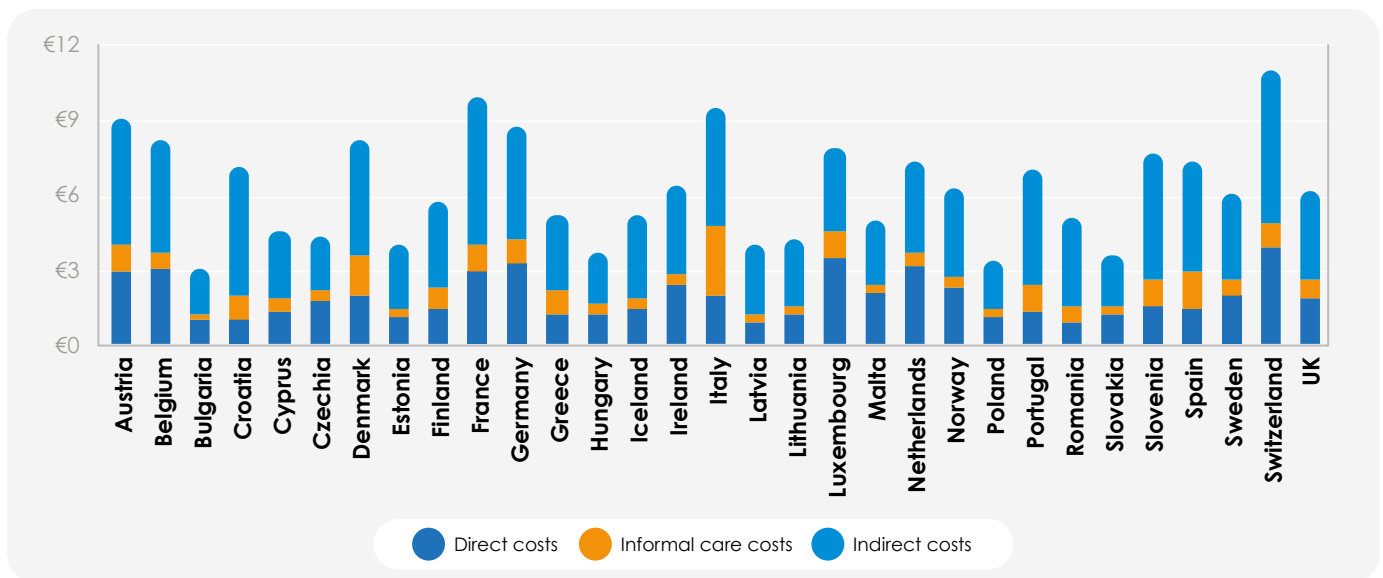
<sup>2</sup> Different methods exist to value productivity. The HCM takes the patient's perspective and counts any hour not worked as an hour lost.

<sup>3</sup> There are other types of indirect costs which have not been calculated in this study. These include costs related to disease comorbidities (such as such as hypertension, osteoarthritis, diabetes mellitus, poor mental health, sleep problems, etc.), treatment-related toxicities or other out-of-pocket expenses such as childcare, legal services or home health.

- **Cancer-specific pharmaceutical treatment** costs for liver cancer amount to **10% of all direct costs**.
- In liver cancer, the sum of all **indirect costs is substantially more to that of direct costs**. This shows that non-healthcare costs form a major part of the total costs.
- The 5-year survival rate for liver cancer is 15%, which translates to **high indirect costs due to premature mortality**: mortality-caused indirect costs are **€1,9 billion**, accounting for ~50% of all costs.

## Differences in costs across European countries

There are important differences in costs from one country to another. The graphs below show the breakdown of costs per country per capita, PPP-adjusted:<sup>4</sup>



### Why are there differences?

- **Incidence rates differ.** Some countries have a relatively high number of patients affected by a type of cancer, impacting the total costs of each cancer.
- **Cancer care is not standardised across Europe.** Most countries do not have specific cancer programmes by cancer type. The approach to prevention, screening, diagnostics and treatment varies enormously from one country to another.
- **Survival rates differ** from one country to another, which in turn influences the total costs of each cancer. Higher survival means that indirect costs due to premature mortality are lower but potentially indirect costs due to morbidity are increased. Higher survival also means that patients who live longer receive more treatments, which might increase direct costs.
- **Countries have varying investment policies.**

<sup>4</sup> Purchasing power parity (PPP): this is a measurement of prices which considers the price of specific goods in different countries when comparing the absolute purchasing power of the countries' currencies. It, therefore, takes into consideration the differences in cost of living and, in this case, the costs of healthcare services.

## Conclusion and recommendations

Based on this data, Digestive Cancers Europe has developed top-line recommendations on how to **optimise the pathway of patients with liver cancer** and ultimately reduce costs and improve patient outcomes and survival rates.



Invest in **primary prevention and awareness programmes** to educate citizens on lifestyle choices and the risk factors for developing liver cancer.



Implement **prevention practices** across Europe, including **universal vaccination against Hepatitis B virus (HBV)** and **universal treatment of Hepatitis C** for all HCV-infected patients.



Promote the **application of harmonised guidelines**, which define risk groups and prioritise screening among high-risk groups, to help significantly reduce the high burden and mortality of liver cancer.



Ensure the **systematic referral of liver cancer patients to multidisciplinary, high-volume medical expert centres** for surgery, treatments and follow-up to help reduce disease co-morbidities, improve patient outcomes and survival rates.

