

# THE ECONOMIC BURDEN OF DIGESTIVE CANCERS IN EUROPE

Total health economic costs demonstrate need for more effectiveness and efficiency

A White Paper

## Introduction – A Unique Analysis

In 2020, Digestive Cancers Europe commissioned a study on *the Costs of Cancers of the Digestive System*<sup>1</sup> in Europe from The Swedish Institute for Health Economics (IHE).

The objective of this study was to provide a broad picture of the economic burden that digestive cancers impose on society, looking at the total costs of the disease, which include the direct costs such as treatment costs, the indirect costs related to the impact on labour productivity as well as the costs of informal care. It offers a broader perspective in future decision-making on the allocation of healthcare resources.

This document provides an overview of the study's main findings and key recommendations on the way to optimise the pathway of patients with digestive cancers and ultimately reduce the burden of the disease on society and healthcare systems as a whole. This analysis and the recommendations are made by Digestive Cancers Europe based on the data obtained from the study.

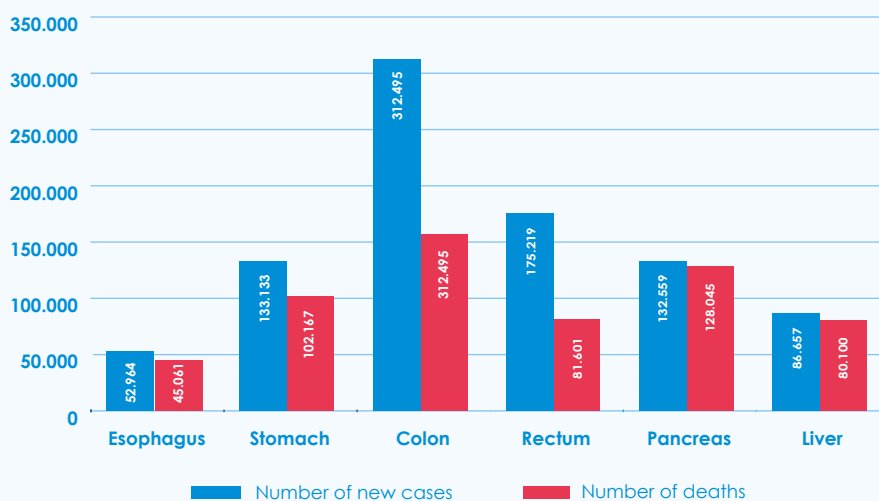
## The Burden of Digestive Cancers in Europe

### WHAT ARE 'DIGESTIVE CANCERS' AND WHAT IS THEIR PREVALENCE?

There are six main types of digestive cancers: oesophageal cancer, gastric cancer, colon cancer, rectal cancer, liver cancer and pancreatic cancer.<sup>2</sup>

In the whole of Europe, digestive cancers constitute a heavy burden on healthcare systems, accounting for one-quarter of the newly diagnosed cancers per year<sup>3</sup> and for one-third of the yearly cancer deaths.

Figure 1: Number of New Cases per Year & Number of Deaths per Year in Europe by Type of Digestive Cancer



Source: European Cancer Information System (ECIS), 2018

<sup>1</sup> Hofmarcher T, Lindgren P. (2020) The Cost of Cancers of the Digestive System in Europe. IHE Report 2020:6. IHE: Lund, Sweden, [available here](#).

<sup>2</sup> There are also some rare types of digestive cancers which have not been included in this study because of limited statistical data across Europe.

<sup>3</sup> 2018 figures The Cost of Cancers of the Digestive System in Europe, IHE report 2020

## HOW WAS THE IHE STUDY UNDERTAKEN?

### Countries and timeframe

IHE carried out this study across 31 countries, the EU-27 member states, Iceland, Norway, Switzerland and the UK for the year 2018.

### Methodology

The report builds on a prevalence-based cost-of-illness approach looking at all types of costs related to these six cancer types, notably:

- **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>4</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>5</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>6</sup>

### Assumptions & projections

Most countries lack disease-specific health data per cancer type which are necessary to calculate cancer costs. To fill these data gaps, IHE looked at overall health expenditure on cancer care and cancers of the digestive systems from various publicly available national and global resources. Such sources were unavailable for 11 of the 31 countries analysed. For these countries, assumptions and projections were made based on geographical proximity and similarity in GDP per capita.

The report provides a solid indication of the burden of digestive cancers at national level. Essentially due to differences in the organisation of healthcare systems, healthcare policies and standard of living, figures differ importantly from one country to another, and cannot, therefore, be compared unless appropriate adjustments, such as for price level differences, are made.

<sup>4</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>5</sup> Different methods exist to value productivity. The human-capital method takes the patient's perspective and counts any hour not worked as an hour lost.

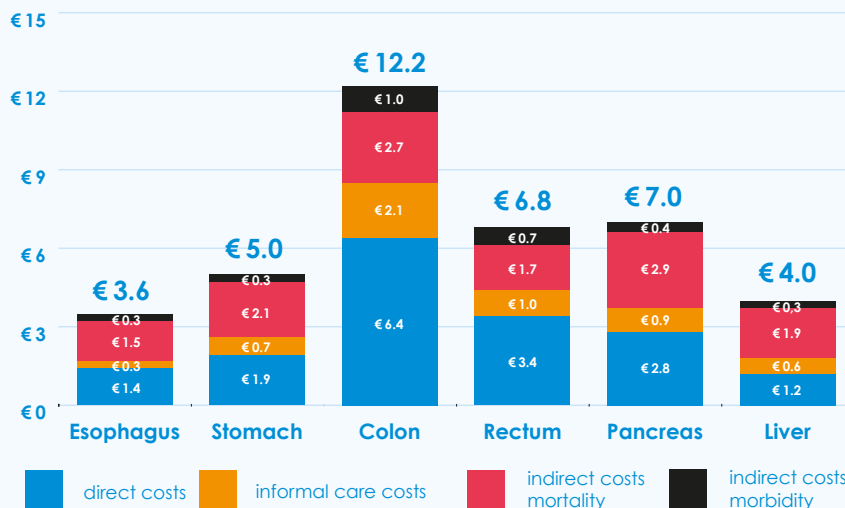
<sup>6</sup> There are other types of indirect costs which have not been calculated in this study. These include costs related to disease comorbidities (such as such as hypertension, osteoarthritis, diabetes mellitus, poor mental health, sleep problems, etc.), treatment-related toxicities (such as bowel perforation, hypertension, arterial thrombosis) or other out-of-pocket expenses such as childcare, legal services or home health.

# Study - Main Findings

## WHAT ARE THE OVERALL COSTS OF DIGESTIVE CANCERS AND WHAT CONSTITUTES THESE COSTS?

Digestive cancers' costs were **39 billion euros** in 2018, of which around 17 billion euros account for direct cost and 22 billion euros for indirect costs and informal care costs. This is equivalent to **19% of total cancer costs** and this is the case for most European countries. As can be expected, the total absolute costs of a cancer type are mainly determined by the number of patients suffering from the disease.

Figure 2: Costs of cancers of the digestive system (in billion €) in Europe, 2018

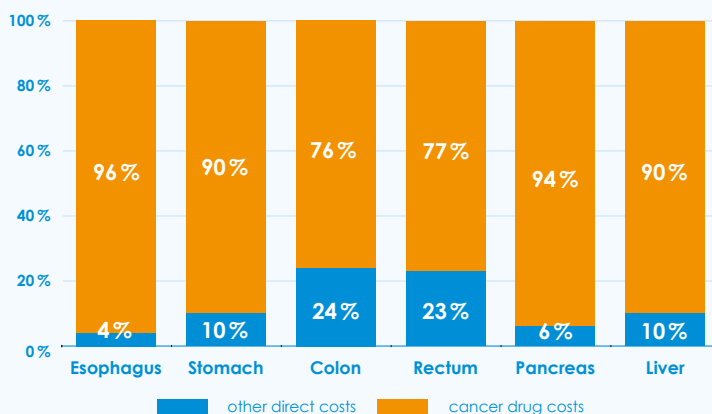


→ In all six cancer types and across all countries, the sum of **informal care costs and indirect costs is either equal or larger than that of direct costs.**

→ Moreover, as shown in a recent OECD study, 20 % of all health spending in Europe is wasted<sup>7</sup>. In the assumption that this is also valid for digestive cancers, this would amount to 3.4 billion euros out of the 17.1 billion euros of direct costs.

## THE COSTS OF CANCER DRUGS

Figure 3: Composition of direct costs in Europe, 2018



→ The availability of cancer drugs influences the direct costs. For colon cancer and rectal cancer pharmaceutical treatment amounts to almost one-quarter of all direct costs. For all other types of cancer, drugs amount to 10% or less.

## DIFFERENCES IN COSTS ACROSS EUROPEAN COUNTRIES

There are major differences across European countries. For example:

- the total costs of **colon cancer** vary between €50 (e.g. Denmark, Luxembourg, Norway, Switzerland) and €12-15 per capita (e.g. Czech Republic, Greece, Slovakia).
- the total costs of **oesophageal cancer** vary between €13 (e.g. Denmark, Netherlands Switzerland) and under €3 per capita (e.g. Hungary, Greece, Poland, Romania, Lithuania).
- the total costs of **liver cancer** vary between €9-10 (e.g. Austria, Denmark, France, Germany, Norway) and €3 per capita (e.g. Bulgaria, Latvia, Hungary, Latvia, Lithuania, Poland).

### Why are there differences?

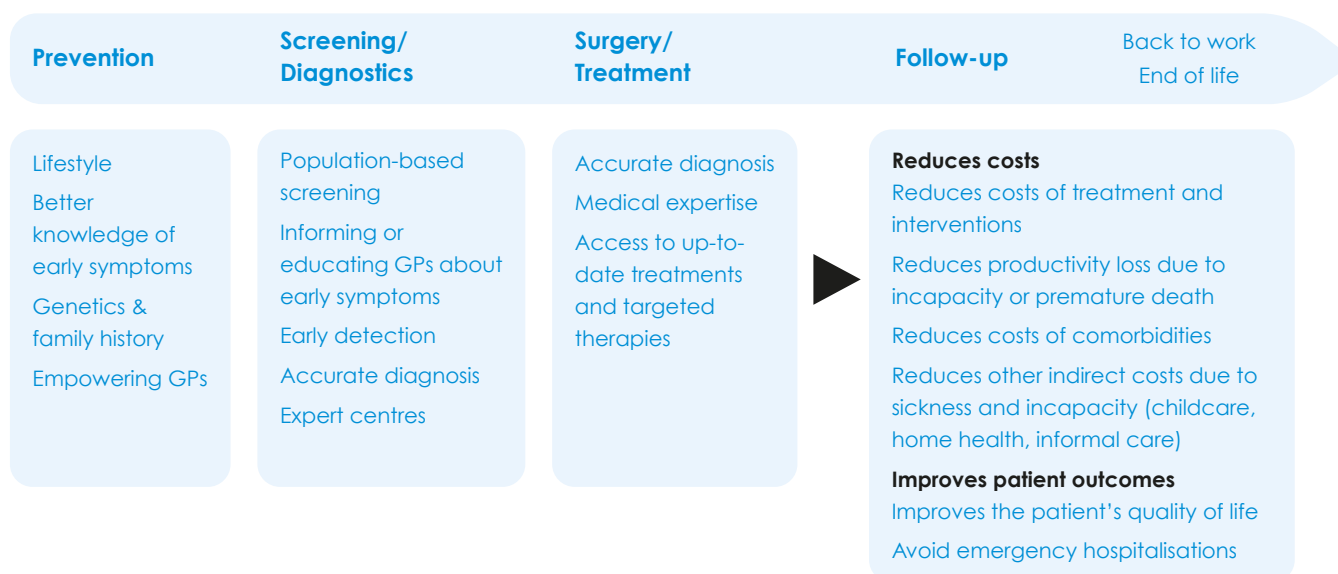
- **Differences in cost of living and costs of cancer care services.** The figures are not adjusted for differences in price and earnings levels, which are typically much higher in wealthier countries.
- **Incidence rates differ.** Some countries have a relatively high number of patients affected by a type of 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 lower indirect costs due to premature mortality but potentially increases indirect costs due to morbidity. Higher survival also means that patients who live longer receive more treatments which might increase direct costs.

## Conclusions & Recommendations

This IHE study is a debate starter. It demonstrates that digestive cancers incur heavy costs on healthcare systems. It also demonstrates that accurate data, which include direct, indirect and informal care costs, are key in understanding the impact of digestive cancers at national level<sup>8</sup>. Finally, such evidence could suggest that diagnosing, treating patients in a timely and efficient manner could considerably reduce these costs.

### THE PATIENT JOURNEY

Looking at the patient journey from Prevention to Back-to-work or End-of-life, we have developed an overview on how digestive cancers could be best managed at each stage within it, and the impact it could have on reducing costs, improving patient outcomes and improving survival rates.



<sup>8</sup> It should also be noted that despite the repeated debate on the "lack of sustainability of the healthcare system", almost no countries have financial data on the total health economic burden of the disease or about the outcomes they generate. Patient organisations can play a pivotal role in such a challenging task.



## RECOMMENDATIONS FOR ACTION

Digestive Cancers Europe has developed key recommendations at EU and national level on how to best manage digestive cancers in Europe:

### Promoting Pan-European and country-specific research about:

- the **economic burden of all six types of digestive cancers**, following a common methodological framework. This is crucial to address the current data gaps, fully grasp the magnitude of cancer costs and better adapt future cancer policies. This also helps to reflect the rapidly changing treatment landscape.
- **prevention and early detection** to help make the case for a more holistic approach to the management of digestive cancers with a focus on prevention, early detection and screening.
- the **productivity loss caused by cancer comorbidities**, which are estimated to be very high. This will help demonstrate the costs that could be saved with better prevention and early detection.

### Developing cancer-specific policies that take into consideration:

- **The full patient journey**, from prevention, early detection, screening and timely intervention and treatment, to follow-up, return to work or end of life.
- **Informal care and indirect costs**, moving away from a silo-budgeting mentality.
- The need to **harmonise the patient referral process** to ensure patients are systematically directed to a cancer expert centre that meets the European Cancer Organisation's Essential Requirements of Quality Cancer care.<sup>9</sup>
- **A 360 degrees - multidisciplinary approach** to cancer management should be a priority, with a collaboration among all partners: screening agency, hospitals, laboratories, diagnostic companies, general practitioners, primary care professionals, medical experts and patient organisations.
- The need to **reduce the timeframe for national pricing & reimbursement approvals** of new cancer therapies as these vary importantly from one country to another.<sup>10</sup>

**Empowering cancer-specific patient organisations** with the double objective of offering patient support and education as well as leading multistakeholder design of optimal patient pathway.

**Invest more in pharmaceutical research** for oesophagus, gastric, liver and pancreatic cancers.

<sup>9</sup> <https://www.europeanccancer.org/2-content/8-erqcc>

<sup>10</sup> EFPIA Patient W.A.I.T. Indicator 2018 (<https://www.efpia.eu/media/412747/efpia-patient-wait-indicator-study-2018-results-030419.pdf>) and EFPIA-sponsored Vintura report on *Improving Time To Patient Access To Innovative Oncology Therapies In Europe: Every Day Counts* (<https://www.efpia.eu/media/554647/every-day-counts-improving-time-to-patient-access-to-innovative-oncology-therapies-in-europe.pdf>).