

# WHO DIED FROM CANCER? A HISTORY OF VICTIMS OF MALIGNANT TUMORS IN BELGIUM, 1850-1950

## CONTEXT

- Today, cancer is the 2<sup>nd</sup> most important cause of death (COD) in Belgium. The disease was responsible for 26% of all deaths in 2015, while it was 1% in 1855, 4% in 1910 and 12% in 1950.
- The period between 1850 and 1950 thus witnessed an important rise in cancer mortality. At the time, knowledge on the causes or cure of cancer was still limited.
- Current medical research emphasizes the importance of external factors in the development of cancer
  - area characteristics (e.g. air pollution)
  - individual characteristics & lifestyle (e.g. unhealthy diet)
 } this results in spatial and socioeconomic inequalities in cancer mortality
- Today, cancer mortality is higher in disadvantaged areas and amongst lower socioeconomic groups. A historical perspective on the origin and the development of these inequalities is missing.

## GOALS

- Unravel the spatial patterning of cancer mortality in Belgium and the reasons behind these patterns.
- Investigate the socioeconomic inequalities in cancer mortality to determine if and why some groups were more afflicted than others.
- Understand how cancer was perceived by contemporary medical professionals, government officials and laypeople.

## WORK PACKAGES

### 1 Did it matter where you lived? Spatial inequalities in cancer mortality

#### Research questions

Were there distinct cancer hot spots or was there no specific geographical clustering? Did spatial disparities increase or decrease over time? And how were these related to historical environmental, social and economic circumstances?

#### Hypotheses

- Cancer first appears in cities, as cancer deaths were better registered and behavioral differences between city and rural dwellers contributed to higher urban cancer mortality (Sharp et al., 2014).
- Cancer hot spots in industrialized areas (exposure to carcinogens).

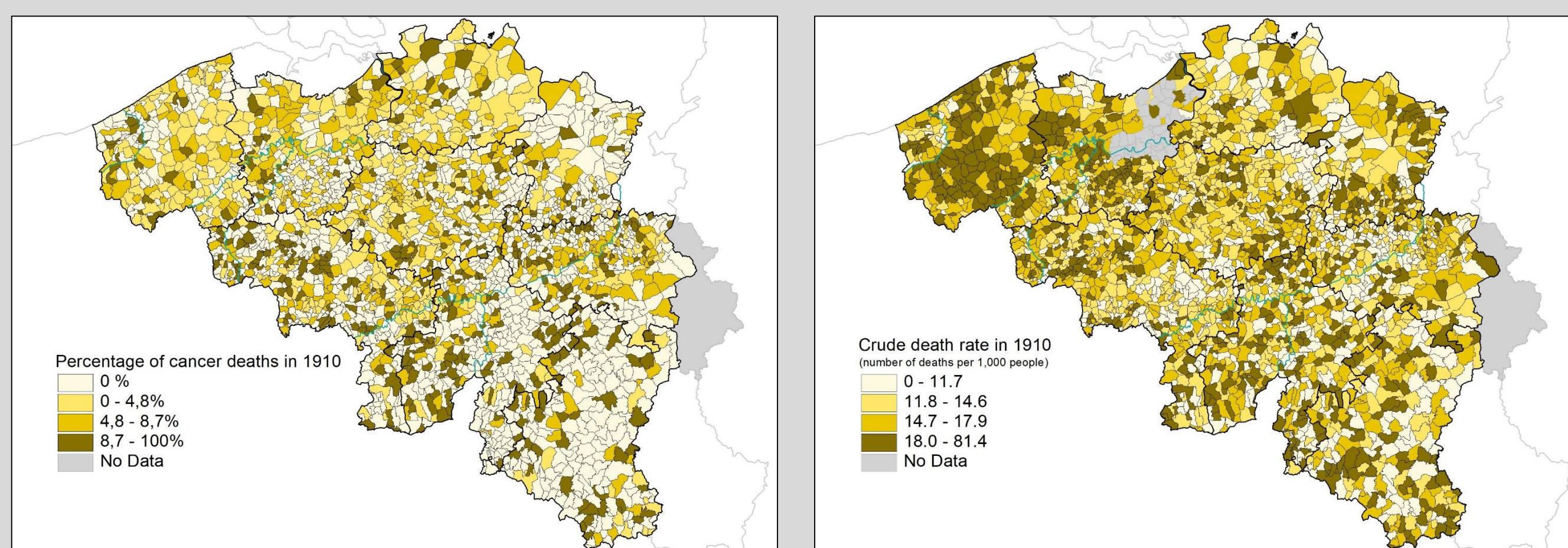
#### Sources

- Le Mouvement de la Population et de l'Etat Civil* (since 1855): data on COD by province and municipality.
- Recensements de la Population, de l'Agriculture et de l'Industrie* (since 1856): data on regional and local living conditions (e.g. industrial activities, age structure of population).

#### Methodology



#### Preliminary results for the year 1910



Cancer mortality shows no distinct geographical pattern in 1910, while the crude death rate reveals excess mortality in West-Flanders.

### 2 Who died from cancer? Socioeconomic inequalities in cancer mortality

#### Research questions

How marked were socioeconomic differences in cancer mortality? Did cancer afflict the poorest more? Or were the advantaged groups the first to be faced with cancer? Did patterns change over time? And how can these patterns be explained?

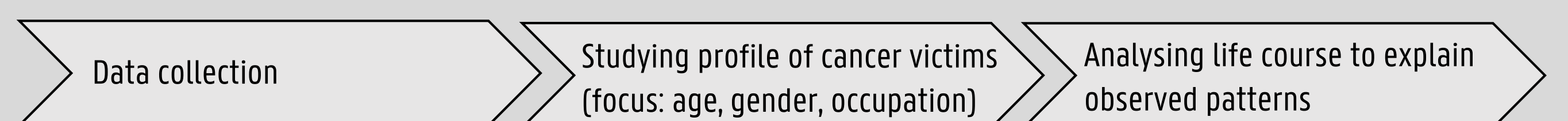
#### Hypotheses

- Cancer first afflicts the more advantaged groups: 1) lifestyle (e.g. nutrition), 2) first to experience rising life expectancy, 3) infectious diseases precluded cancer amongst lower classes.
- This pattern reverses when knowledge of cancer increases (Link & Phelan 1995, Clouston et al., 2016).

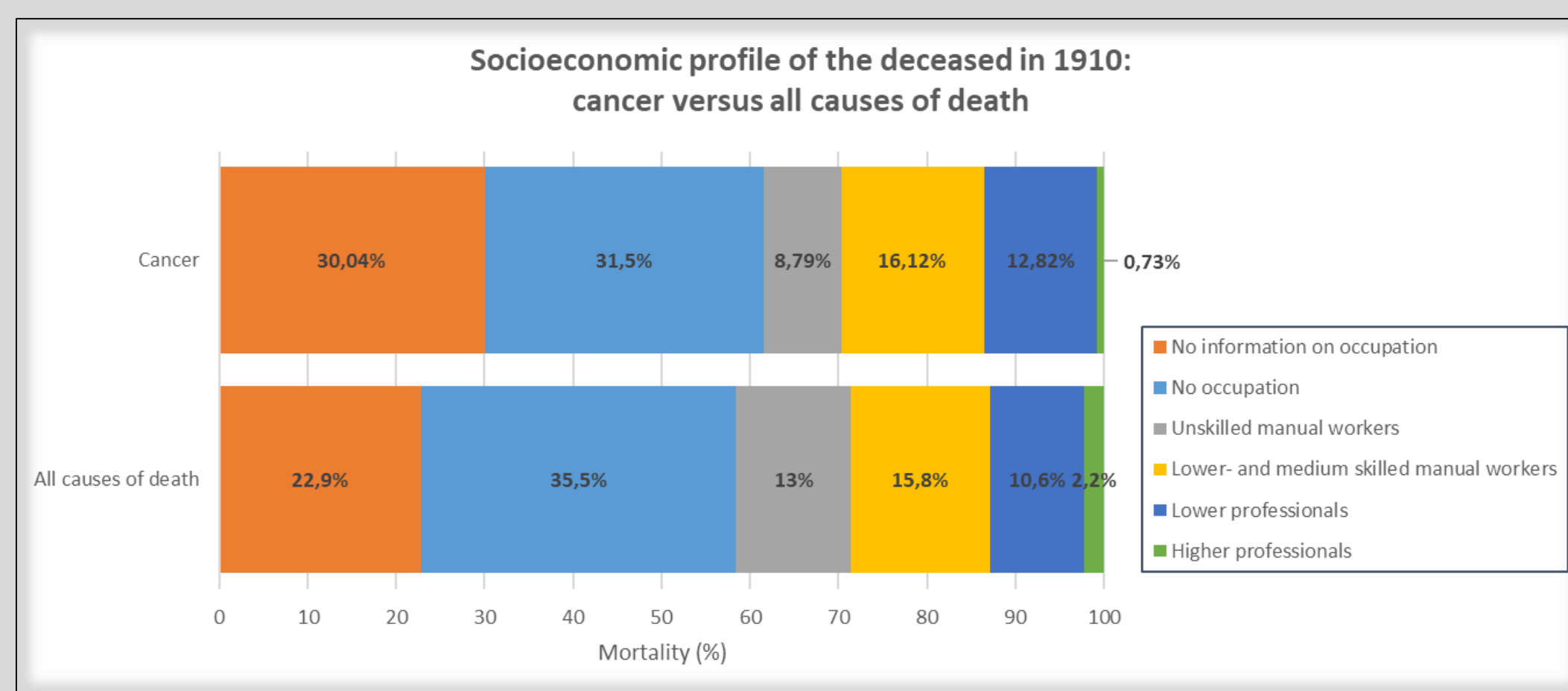
#### Sources

- Individual COD registers for the city of Antwerp, the only Belgian city for which these registers have been preserved (1850-1946): name, age, sex, occupation, marital status, COD.
- Death certificates and population registers (1850-1946): former occupation, place of birth & residence.

#### Methodology



#### Preliminary results for the year 1910



In comparison to overall mortality, cancer mortality in 1910 was higher amongst lower professionals, lower and medium skilled workers and deceased with no information on occupation.

### 3 What did they know about cancer? Contemporary concepts of cancer

#### Research questions

How did government officials, medical professionals and laypeople perceive cancer? What did they know about the disease? And how did this change over time?

#### Hypothesis

The knowledge of cancer expands in the late 19<sup>th</sup> century (development of oncology) and intensifies when cancer becomes a predominant COD in the interwar period. This results in more accurate diagnoses and improved registration of cancer deaths. Knowledge on the causes however remained limited.

#### Sources

Contemporary government reports (e.g. of provincial medical committees), medical journals (e.g. *Le Cancer*) and newspapers.

#### Methodology



*"When there is a tendency to cancer, let the patient be removed to the high, dry sites."*

The English physician Alfred Haviland observed in 1875 that cancer was most common among people living on the wet soil of river basins and rarest among those living in hard rocky areas and high-lying places



Newspaper *De Gentenaar*, 1934  
The German scholar Von Brehmer claims to have found the bacteria that causes cancer.