



METHODOLOGY:
COVID-19 and the number of new cancer diagnoses
(Belgium, January-September 2020)

Objective:

- The main objective of this study was to make an early estimation of the decrease in the number of new cancer diagnoses due to the COVID-19 pandemic in Belgium. This estimation was based on data collected between January 1st and September 18th, 2020.

Data on cancer:

- Pathology data: All analyses of this study were performed on data delivered by the laboratories for anatomic pathology ('the pathology network'). Data from this pathology network were delivered in an exceptionally fast way and are based on sample results (cytological puncture, biopsy, surgery, lymph nodes, etc.).
- Standard cancer registration: For its standard cancer reporting, the Belgian Cancer Registry also uses data delivered by hospitals with basic oncological care programs and hospitals with specific oncological care programs ('clinical network'). As these data will only be available at a later date, they were not included for the current study.
- Early estimation: We expected that an early estimation of the new cancer diagnoses could be made based on the data delivered by the pathology network. However, since estimates were only based on pathology data and to prevent bias, comparisons were made throughout the analysis between the incidence year 2020 and 2019 (more info below).

Trend analysis¹:

- Incidence date: The incidence date for every cancer diagnosis was set on the date of the first sampling.
- Results by age: The age of the individual during the first sampling was considered as the actual age of this individual at the time of cancer diagnosis.
- Results by cancer type: The reported general numbers of cancer diagnoses (i.e., all cancer types) did not include non-melanoma skin cancers. To detect a difference in new cancer diagnoses between different cancer types, 15 tumour types were identified.
- Comparison 2020-2019: To prevent bias, all results were shown as ratios between the number of new cancer diagnoses for incidence years 2020 and 2019. The ratios were expected to be around 100% for the months prior to the beginning of the COVID-19 pandemic. Therefore, January and February can be considered as the 'baseline' of this data analysis.
- Moving average: All figures showing daily results were based on a calculation of the 'moving average' of the new cancer diagnoses. This means that every point on the curve corresponds to an average for a specific time period (Figure 2: 7-day moving average; Figure 4-5: 14-day moving average)². The moving average was calculated in order to reduce fluctuations due to the weekend effect, national holidays, school vacations, etc.).

¹ The comparison between the number of confirmed COVID-19 cases and the number of occupied hospital beds are based on data from Sciensano (<https://covid-19.sciensano.be/nl>)

²The choice for a 7-day or 14-day moving average is based on the number of cancer diagnoses on a weekly basis. Trends based on low numbers are more sensible to fluctuations.

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