

# Belgium – excess mortality in 2020: 124,000 years of life lost

Excess mortality in 2020 is estimated at 16,000 deaths. These 16,000 people lost a combined 124,000 years of life, given their life expectancy, or an average of 7.7 years per person. These values seem to show that COVID-19 did not just cause the death of the most vulnerable people who, in the absence of the epidemic, would have died anyway in the next weeks or months.

Author: Marie Vandresse, [vm@plan.be](mailto:vm@plan.be)

## Years of life lost, a summary measure of cause-specific premature mortality.

Mortality in 2020 due to the health crisis has already been the subject of numerous studies by different institutions. These studies focus on the number of deaths, whether the total number of deaths caused by COVID-19 or excess mortality from all causes in 2020. An indicator can be calculated to determine the extent to which these deaths were premature: the **years of life lost**.

As the name suggests, this indicator measures the years of life lost due to a cause. It is obtained by multiplying the number of deaths (by age and gender) related to a specific cause, by the life expectancy by age and gender. In this analysis, however, the number of years of life lost is not calculated based on the number of COVID-19 deaths, but on the estimated excess mortality in 2020. This choice is founded on two arguments. Firstly, analysis using excess mortality avoids errors in the classification of deaths by cause, even though several studies show that Belgium has accounted for its epidemic-related deaths fairly exhaustively. Secondly, the calculation of life expectancies is based on mortality rates calculated over a full calendar year, from January to January, as is the excess mortality in this analysis.

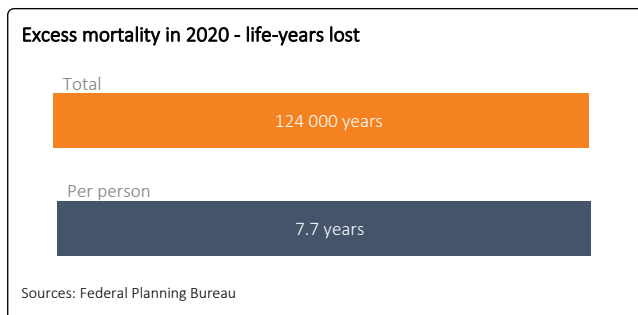
The results presented here thus refer to excess mortality from all causes, not to mortality due to COVID-19. However, since excess mortality in 2020 is largely explained by COVID-19, the indicator presented here can be considered an indicator of premature deaths caused by the virus.

## An excess of 16,000 deaths: those who died lost 7.7 years of life on average.

The total number of all-cause deaths in 2020 is estimated at 127,800. Using age- and gender-specific probabilities of

death that prevail in normal times, the total number of deaths would have been estimated at 111,800 for Belgium in 2020. Excess mortality (all causes) in 2020 is thus estimated at 16,000 people (more information: [demographic outlook 2020-2070, Reference and alternative scenarios, Federal Planning Bureau and Statbel](#)).

Multiplying this number of excess deaths by age and gender, by life expectancy by age and gender in 2020, disregarding the health crisis, gives a total of 124,000 years of life lost. Dividing this total number by the 16,000 excess deaths, we can conclude that these people could have lived another 7.7 years on average.

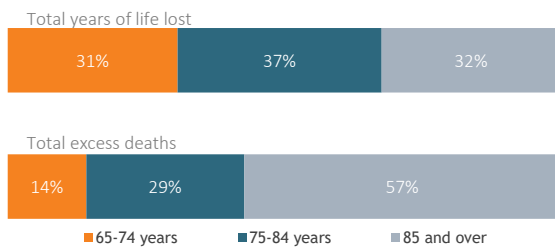


## Total years of life lost by age group

Of the 124,000 life-years lost in 2020, 32% are attributable to people over 85, although this age group accounts for 57% of excess deaths. This difference is explained by a lower life expectancy at these ages. Conversely, the percentage of 65–74 year-olds among excess deaths is only 14%, but the proportion of this age group in the total number of life-years lost is 31%, which is explained by the higher life expectancy at these ages. For example, life expectancy is 17 years for people aged 65–74, and 5 years for people aged 85 and over.



#### Excess mortality in 2020 - Breakdown by age group



Sources: Federal Planning Bureau

#### A critical look at this analysis

The analysis uses life expectancies by age and gender. However, those who died of COVID-19 may have had a lower life expectancy, independently of COVID-19, as a result of co-morbidities already present. This could lead to an overestimation of the number of years of life lost. However, this limitation of the method is valid regardless of the cause of death studied. It should be noted, however, that the mortality rates used to calculate life expectancy are based on the entire population living in Belgium. They therefore represent the average health status of the population "in normal times", including co-morbidity factors.

The figures in this Fact Sheet must therefore be analysed with a critical eye, depending on the methodological choices made. But the values obtained seem to show that COVID-19 did not just cause the death of the most vulnerable people who, in the absence of the epidemic, would have died anyway in the next weeks or months. The 16,000 excess deaths estimated for 2020 would represent people who died prematurely, on average 7.7 years too early.