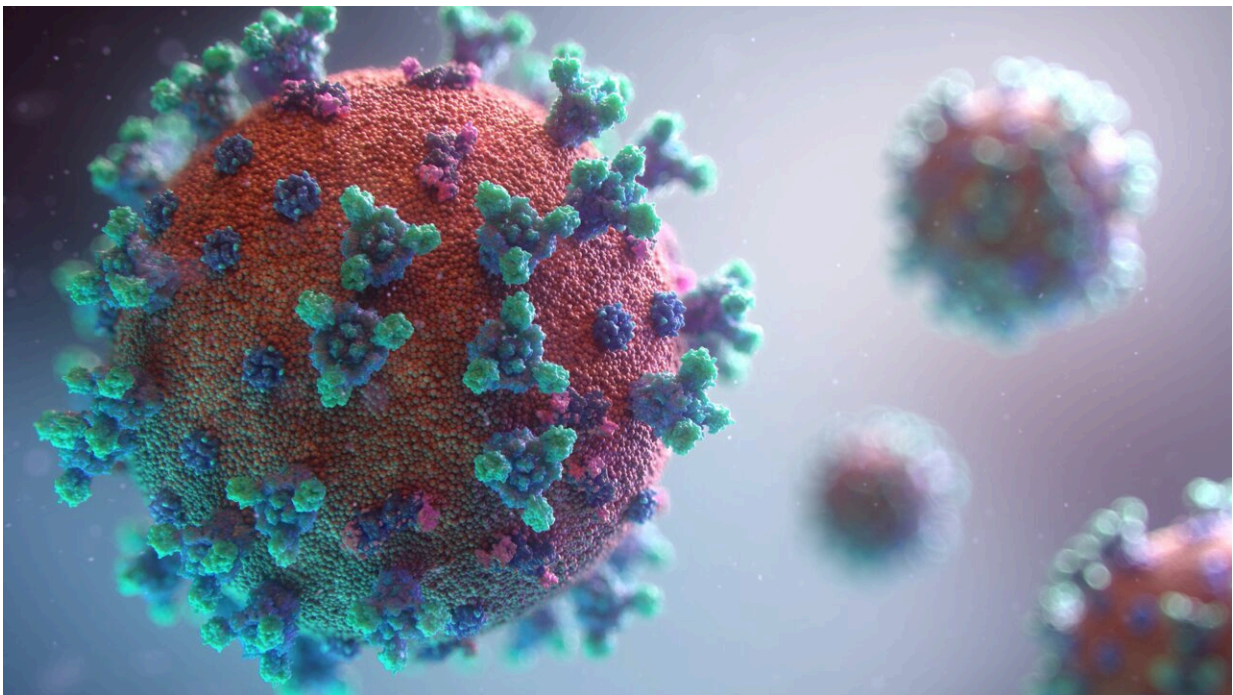


Study: One-month of COVID-19 lockdown cost heart attack patients up to two years of life

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Patients who had heart attacks during the first COVID-19 lockdown in the UK and Spain are predicted to live 1.5 and 2 years less, respectively, than their pre-COVID counterparts. That's the finding of a study published in *European Heart Journal—Quality of Care and Clinical*

Outcomes,. The additional costs to the UK and Spanish economies are estimated at £36.6 million (€41.3 million) and €88.6 million, respectively, largely due to absence from work.

"Restrictions to treatment of life-threatening conditions have immediate and long-term negative consequences for individuals and society as a whole," said study author Professor William Wijns of the Lambe Institute for Translational Medicine, University of Galway, Ireland. "Back-up plans must be in place so that [emergency services](#) can be retained even during natural or health catastrophes."

Heart attacks require urgent treatment with stents (called [percutaneous coronary intervention](#) or PCI) to open the blocked artery and restore the flow of oxygen-carrying blood. Delays, and the resulting lack of oxygen, lead to irreversible damage of the heart muscle and can cause heart failure or other complications. When a large amount of heart tissue is damaged, the heart stops beating (called cardiac arrest) and this can be fatal.

During the first wave of the pandemic, about 40% fewer [heart attack patients](#) went to hospital as governments told people to stay at home, people were afraid of catching the virus, and some routine emergency care was stopped. Compared to receiving timely treatment, heart attack patients who stayed at home were more than twice as likely to die, while those who delayed going to the hospital were nearly twice as likely to have serious complications that could have been avoided.

This study estimated the long-term clinical and economic implications of reduced heart attack treatment during the pandemic in the UK and Spain. The researchers compared the predicted life expectancy of patients who had a heart attack during the first lockdown with those who had a [heart attack](#) at the same time in the previous year.

The study focused on ST-elevation myocardial infarction (STEMI), where an artery supplying blood to the heart is completely blocked. The researchers also compared the cost of STEMI during lockdown with the equivalent period the year before.

A model was developed to estimate [long-term survival](#), quality of life and costs related to STEMI. The UK analysis compared the period 23 March (when lockdown began) to 22 April 2020 with the equivalent time in 2019. The Spanish analysis compared March 2019 with March 2020 (lockdown began on 14 March 2020).

Survival projections considered age, hospitalization status and time to treatment using published data for each country. For example, using published data, it was estimated that 77% of STEMI patients in the UK were hospitalized prior to the pandemic compared with 44% during lockdown. The equivalent rates for Spain were 74% and 57%. The researchers also compared how many years in perfect health were lost for patients with a STEMI before versus during the pandemic.

The cost analysis focused on initial hospitalization and treatment, follow-up treatment, management of heart failure and productivity loss in patients unable to return to work. For example, the cost applied to a STEMI admission with PCI was £2,837 in the UK and €8,780 in Spain. Heart failure costs were estimated at £6,086 in year one and £3,882 in all subsequent years for the UK. The equivalent figures for Spain were €3,815 (year one) and €2,930 (each subsequent year).

The analysis predicted that patients who had a STEMI during the first UK lockdown would lose an average of 1.55 years of life compared to patients presenting with a STEMI before the pandemic. In addition, while alive, those with a STEMI during lockdown were predicted to lose approximately one year and two months of life in perfect health. The equivalent figures for Spain were 2.03 years of life lost and around one

year and seven months of life in perfect health lost.

In the UK, the extra cost of one STEMI during the pandemic, compared to before, was £8,897 which included £214 for the National Health Service and £8,684 in work absenteeism. Based on an incidence of 49,332 STEMIs per year, reduced access to PCI during the first month of lockdown was projected to cost an extra £36.6 million (€41.3 million) over the lifetime of these patients.

For Spain, the extra cost per STEMI during lockdown was estimated at €20,069. Based on an annual STEMI incidence of 52,954 STEMIs, reduced access to PCI during March 2020 was projected to cost an additional €88.6 million over these patients' lifetimes. Work absenteeism was the main contributor, costing an extra €23,224 per patient (€81,062 pre- vs. €104,286 post-pandemic). However, this was partially offset by lower costs of [heart failure](#) hospitalizations since more STEMI patients died during lockdown.

Professor Wijns said, "The findings illustrate the repercussions of delayed or missed care. Patients and societies will pay the price of reduced [heart](#) attack treatment during just one month of [lockdown](#) for years to come. Health services need a list of lifesaving therapies that should always be delivered, and resilient healthcare systems must be established that can switch to emergency plans without delay. Public awareness campaigns should emphasize the benefits of timely care, even during a pandemic or other crisis."

More information: William Wijns et al, Predicted clinical and economic burden associated with reduction in access to acute coronary interventional care during the COVID-19 lockdown in two European countries, *European Heart Journal—Quality of Care and Clinical Outcomes* (2023). [DOI: 10.1093/ehjqcco/qcad025](https://doi.org/10.1093/ehjqcco/qcad025)

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