

Increase in stroke mortality in people with COVID-19 during first lockdown

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Deaths of people who suffered strokes increased during the first lockdown compared to the three previous years, new data analysis has found. Despite the pandemic, health care quality was maintained at a high level.

In their paper, published today in *Stroke*, research teams from King's College London, Guy's and St Thomas' NHS Foundation and the Sentinel Stroke National Audit Programme (SSNAP) analyzed the data of 184,017 patients admitted to [hospital](#) with confirmed stroke during October-April periods across four consecutive years. This [patient data](#) were collected from 114 hospital trusts in England, Wales and Northern Ireland.

Starting from the third week of February 2020 there was an increase in seven-day in-patient case fatality (people who died within seven days of being admitted to hospital) from 6.9% to 9.4%, compared to the same period in the three previous years.

This was significantly higher in [stroke patients](#) with

confirmed or suspected COVID-19, at 22.0% and 21.9% respectively, compared to 7.3% for patients with negative/unknown COVID-19 status.

In contrast, during the first lockdown the number of people admitted to hospital with a stroke remained stable until the second week of February 2020 when there was a steep decline. Between 23 March and 30 April 2020 there was a 12% reduction in stroke admissions compared to the same period in the three previous years (6,923 versus 7,902).

The team found that during the first lockdown stroke admissions fell more for:

- Ischaemic stroke (blockage cutting off the blood supply to the brain) than haemorrhagic stroke (bleeding in or around the brain)
- Older patients (aged over 65 years)
- Patients with less severe strokes

No change was found in the proportion of patients discharged from hospital with good outcomes.

Quality of care was preserved for all measures and in some areas improved during lockdown, such as access to stroke unit care, speed of screening for dysphagia and access to rehabilitation therapies.

Dr. Abdel Douiri, study lead from King's College London, said: "We know the immediate impact of the COVID-19 pandemic was to cause a reduction in the number of people presenting to hospital with stroke, an effect that was evident from early February and well before the imposition of population-level lockdown measures. This fall in admissions was predominantly for patients with mild symptoms and particularly in patients over the age of 85 years. Whether this was because there was a reluctance to refer patients to hospital due to their increased risk if they did contract coronavirus, in an attempt to reduce the burden on the health service or because the patients were not able to

alert emergency services themselves or decided against referral is not known."

Dr. Douiri added: "Despite maintaining high quality services, the seven-day case fatality rate for stroke increased significantly by 2.5% percentage points. It is not possible to determine if this higher mortality is explained by the high case fatality rates in patients with confirmed or suspected COVID-19 or as a result of fewer patients with milder [stroke](#) being admitted to hospital, or a combination of these effects."

More information: Abdel Douiri et al. Stroke Care in the United Kingdom During the COVID-19 Pandemic, *Stroke* (2021). DOI: [10.1161/STROKEAHA.120.032253](https://doi.org/10.1161/STROKEAHA.120.032253)

Provided by King's College London

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