

# Socioeconomic differences in prehospital stroke treatment

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Credit: University of Gothenburg

New research indicates that emergency responses to stroke before the patient has reached the hospital differ, depending on the patients' socioeconomic status. For groups of patients with less education and lower income, more time passes before the diagnosis is made, which can affect the efficacy of health care interventions.

"There is a median difference of 25 minutes, which is quite a long time

because the efficacy of emergency treatments decreases for every minute that passes after the onset of the stroke," says Katarina Jood, associate professor of neurology at Sahlgrenska Academy, Sweden, and one of the authors involved in the study.

"It's important to quickly reach the hospital for brain scan and treatment. This increases the chances of survival with less disability."

The fact that there are socioeconomic differences in [stroke treatment](#) as a whole has been known. In this study the focus was on prehospital treatment.

The study analyzed the records of 3,006 people who were treated at Sahlgrenska University Hospital stroke units during the 2014–2016 period for stroke or a transient ischaemic attack (TIA), a temporary shortage of oxygen in the brain due to a small clot. The patients were grouped by postal codes to provide a picture of the education and income level of them and their communities.

## **Knowledge is believed to be a factor**

The study shows that the interval between the patient's first contact with emergency services and arrival at the hospital for an X-ray of the brain is longer for people who live in areas with lower levels of education and income. It also shows that patients with [low socioeconomic status](#) were given lower priority in the ambulance, and that paramedics recognized to a lesser extent that they were dealing with the victim of a stroke or TIA.

"It's very important that ambulance personnel understand that a stroke or TIA may be involved, because then they can activate a specific chain of treatment whereby the hospital is contacted prior to arrival so preparations can be made for continued rapid personal attention. On the other hand, if you don't suspect a stroke, you get off on the wrong foot

right from the beginning," according to Katarina.

"Our data suggests that it's more difficult to identify people with a stroke in groups with a lower education and [income level](#). In the study we haven't been able to analyze the underlying factors, but one can speculate that higher education and higher income are associated with a greater potential for acquiring knowledge and heeding symptoms of various diseases and also the ability to contact and communicate with personnel within the health care system. Notifying emergency personnel quickly after the onset also is important for prompt attention in the early chain of treatment."

## **Targeted health interventions**

The results of the study was presented at the European Stroke Organisation Conference in Gothenburg (ESOC), where Swedish and international stroke experts gathered for three days, May 16–18, to share research news in the field.

Katarina Jood emphasizes the value of calling attention to strokes among the public as well so that more people learn the distinguishing features of a [stroke](#) (sudden difficulty in speaking, paralysis or disturbing sensations on one side of the body) and in that case immediately contact [emergency personnel](#). At the same time, the medical profession needs to further address inequalities in health care.

"We do these analyses because we have to become more aware of the fact that it's more difficult to deliver [health care](#) with equal quality to groups with low socioeconomic status. We need to raise awareness of the issue and maybe concentrate on more targeted [health interventions](#) for groups with less education and lower income. This is an area where we need to improve."

**More information:** Socioeconomic disparities in prehospital stroke care in Sweden? [gubox.app.box.com/s/r0twevaz5d ...  
1cmsr0j7iiumsygivsht](https://gubox.app.box.com/s/r0twevaz5d...1cmsr0j7iiumsygivsht)

Provided by University of Gothenburg

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