

Research gives better understanding of performance urgent health care providers

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Every year in the Netherlands, thousands of people still die after suffering from a heart attack or stroke, caused by the blocking of one or more blood vessels. With both conditions it is imperative to restore the blood flow to the organ as quickly as possible. Research indicates that often there is still too much time between a heart attack or stroke and admission to a hospital. In this, the patients themselves play a large role.

Before the patient with a heart attack or stroke is admitted to the coronary care unit or stroke unit of the hospital for treatment, they have often already been in contact with one or more health care providers, for example the general practitioner, urgent care unit, ambulance service or the emergency room. Researchers of the University of Twente have, on behalf of the Acute Zorg Euregio and in conjunction with various health care providers, performed a study of [patients](#) to gain insight into the use and performance of the urgent health care providers in the Twente and Oost-Achterhoek region.

The approach of the Myocardial Infarction and Cerebrovascular Accident Chain (Myocard Infarct en Cerebrovasculair Keten, MICK) study is mainly to be able to determine whether there are delays or bottlenecks present in the urgent health care chain. Before the MICK study was performed, this was insufficiently known.

The research

In the MICK study, 202 patients who were suspected of having suffered a heart attack were admitted to the coronary care unit. In addition, 239 patients who were suspected of having suffered a stroke were admitted to the stroke unit. Data was collected by means of a questionnaire and supplemented with data from the hospital registration. It concerns data regarding the time and circumstances in which the symptoms first occurred, the time of action taken, the time of

admission and the final diagnosis. The hospitals participating in the research are Medisch Spectrum Twente, Ziekenhuisgroep Twente and the Streekziekenhuis Koningin Beatrix (Oost-Achterhoek). In addition, various general practitioners, urgent care units, the ambulance services Ambulance Oost and Connexion, and emergency rooms filled in a digital questionnaire. These questions were mostly related to the times of contact.

Long processing times

Research indicates that often the time between the onset of symptoms and admission is very long. A considerable part of this long processing time is caused by the patients themselves waiting too long before they take action. Over forty percent of the patients suspected of having suffered a heart attack waits longer than six hours before they take action. If the patient has been in contact with the [health care provider](#), over half of the patients suspected of having suffered a [heart attack](#) are admitted to the hospital within 90 minutes. Three-quarter of the patients suspected of having suffered a stroke arrives at the emergency room within four hours. For the patients that qualify for this procedure, only half an hour then remains in the hospital in which to initiate the thrombolytic therapy. A third of the patients waited even longer than four hours before taking action, resulting in thrombolysis no longer being possible. This part of the total processing time could possibly be shortened.

Patients passed through various urgent health care chains before they were admitted to the hospital. In the majority of cases, two or more [health care](#) providers are involved and this calls for effective coordination and cooperation. Direct contact with the ambulance service leads to the shortest time between action and admission to the [hospital](#). If the patient first contacts the urgent care unit or the general practitioner, these times become longer.

Aside from the fact that patients themselves wait longer before they take action, a variety of reasons may form the basis of the long processing times. However, the MICK study does not focus on the underlying reasons and the why of the patient's choice. A follow-up study may be able to provide better insights and starting points for shortening the time between action and admission.

Provided by University of Twente

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