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When elderly people have a stroke: do they receive **adequate treatment?**

Since 2009, the Norwegian Board of Health Supervision has focussed on supervision of services for elderly people. Treatment of patients over 80 years of age who have had a stroke was therefore chosen as a theme for countrywide supervision of specialized health services in 2011.

Adequate treatment of frail, elderly patients with acute disease demands a comprehensive approach, with a thorough assessment of their medical needs, nutritional status, level of functioning, coping and need for assistance. While they are receiving acute treatment, early mobilization and other appropriate rehabilitation must be initiated. Systematic inter-disciplinary cooperation is therefore essential in all phases of treatment. Studies, including studies from Norway, have shown that such an approach in the case of acute disease increases the chance that patients will survive, that their functioning is restored, and that they manage to cope in their own home.

A basic principle for treatment of stroke is that rehabilitation and training must be initiated at the same time as acute observation, assessment and treatment.

In order provide adequate care for frail elderly people who have had a stroke, inter-disciplinary treatment in all phases of treatment is necessary. Usually the following types of health personnel are needed: senior consultant (neurologist, geriatrician, specialist in internal medicine), nurse (stroke nurse), physiotherapist, occupational therapist and speech therapist. The level of staffing must be adequate for the tasks that need to be performed, 24 hours a day, in holiday periods and on public holidays. If other members of staff need to take over the tasks of staff with special qualifications or skills, they must receive adequate training.

We investigated whether specialized health services are managed in such a way that elderly patients who have had a stroke receive adequate treatment. We focussed on areas which can have serious, negative consequences for this group of patients if services are inadequate.

> "Early mobilization is very important for the survival of patients who have had a stroke"

Altogether, 17 health trusts and 29 health institutions, including one private hospital, were included in the supervision. The reports of this supervision are available on our website: www.helsetilsynet.no.

We found breaches of the legislation in nine health institutions. We did not find breaches of the legislation in the other 20 health institutions, but we identified areas with potential for improvement in eight of them.

These findings may be an indication that not all vulnerable, elderly patients who have had a stroke receive adequate hospital treatment.

Observation and assessment during the first 24 hours – a critical phase

The first 24 hours are the most critical for many patients who have had a stroke, and there are many things that must be observed, assessed and investigated. Therefore, hospitals must have routines for allocating responsibility for different tasks and for ensuring that different health personnel cooperate with each other. For example, the following must be monitored and assessed: vital bodily functions, blood supply to the brain (using CT/MR), neurological status, swallowing function, and language and speech.

We found that many stroke patients were not followed up quickly enough by specialized personnel when they had to wait a long time in the emergency unit or in other units before being transferred to the stroke unit. In the stroke unit we also found that routines for distribution of tasks were lacking, and that observation and investigation were not adequately carried out. For example, vital functions were not assessed systematically. It was not clear who should examine neurological status. Standard methods for examination were not used. Swallowing was not assessed systematically. In many units, language and speech were not adequately followed up because of lack of qualified personnel, unclear allocation of responsibility, and inadequate routines for referral.
The following are examples of our findings:

"It is not clear how often blood pressure, pulse, temperature and oxygen saturation should be measured in the unit."

"Testing of swallowing and documentation of this are not always carried out in line with standard procedures."

"At the moment the hospital does not have a speech therapist. There is no system for ensuring that the needs of patients who have speech difficulties are met".

Early mobilization and rehabilitation are important for future quality of life

Early mobilization is very important for the survival of patients who have had a stroke, and is the first measure in the rehabilitation process. The hospital must have a programme for mobilization of patients, which can be adapted to each patient's individual situation, and which can be carried out at weekends, in holiday periods and on public holidays. Early mobilization can range from simple exercises in bed and out of bed to daily activities such as washing and dressing. It is important that tasks and responsibility are clearly allocated between the different professional groups that are involved in assessing the prospects for rehabilitation and carrying out the measures.

In several health institutions we found that early mobilization was not carried out. Allocation of responsibility was uncertain, and mobilization and other types of functional training were not carried out inadequately at weekends and in holiday periods, because of lack of capacity and too few personnel with the relevant skills.

Examples of our findings:

"Early mobilization is not carried out routinely and is at times dependent on when the patient is admitted. The number and availability of staff with relevant skills for carrying out early mobilization varies a lot in holiday periods and on public holidays."

"We were told that staff do not have time to carry out adequate mobilization and task-related functional training."

Is it important how treatment of stroke is organized?

The health trusts organized treatment of elderly people with stroke in different ways. We investigated whether the health trusts ensure that elderly stroke patients receive adequate treatment and rehabilitation, independently of whether they were treated in a stroke unit or in another department.

Our findings showed that for patients who were not admitted to a stroke unit, either because of lack of capacity, or because the health institution did not have a stroke unit, there was a risk that health care was not adequate. Among other things, in several places it was pointed out that personnel in other departments had not received adequate training in several of the standard procedures for observation and assessment of stroke patients, and that several types of examination were not carried out. It was also pointed out that early mobilization was not focussed on in the same way, and that inter-disciplinary cooperation was inadequate. The leadership had not assessed the risk of patients receiving inadequate treatment if they were admitted to other departments.

Stroke units

In the national guidelines from the Norwegian Directorate of Health, a stroke unit is defined in the following way:
organized treatment of stroke patients in a separate unit with permanent beds, manned by inter-disciplinary, specially qualified personnel, and with a standard programme for diagnosis, observation, acute treatment and early rehabilitation.

Facts about stroke

The World Health Organization (WHO) defines stroke as "an acute disturbance in the functioning of the brain, caused by interruption of the blood supply, that lasts more than 25 hours or leads to death. About 85 % of strokes are caused by cerebral infarction (interruption of the blood supply to the brain) and about 10 % by cerebral haemorrhage (bleeding in the brain)

65 % of the 15 000 cases of stroke in Norway each year affect people over 75 years of age. Stroke is the third most common cause of death and the most common cause of functional disability among elderly people.

Mortality during the first month is 15–20 %. About one third of those who survive have a serious functional disability, which makes them dependent on help with daily tasks. Later effects of stroke can be lameness in different parts of the body, speech difficulties and mental confusion.

Treatment of stroke in 2011: Much is positive, but this is still a vulnerable area in some health trusts

In two thirds of the health institutions, no breaches of the legislation were found. This indicates that specialized health services generally provide adequate treatment for elderly stroke patients. Experience from supervision indicates that many health trusts give sufficient priority to this vulnerable area. The work of professionals in this area may have contributed to this, for example, the development of national guidelines.

Acute treatment of stroke is demanding. Many professional groups need to cooperate, and many measures must be implemented and followed up at the same time. In order for all stroke patients to receive adequate treatment, some health trusts need to increase the capacity for specialized treatment of stroke, and to ensure that inter-disciplinary cooperation functions better. This requires stronger management. Relevant information must be obtained to assess the risk of inadequate health care and to evaluate it.