

# Effects of multidisciplinary ambulant services for patients with chronic diseases

This is an excerpt from the full technical report, which is written in Norwegian.

The excerpt provides the report's main messages in English.

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Systematic review

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Norwegian Knowledge Centre for the Health Services summarizes and disseminates evidence concerning the effect of treatments, methods, and interventions in health services, in addition to monitoring health service quality. Our goal is to support good decision making in order to provide patients in Norway with the best possible care. The Centre is organized under The Norwegian Directorate for Health, but is scientifically and professionally independent. The Centre has no authority to develop health policy or responsibility to implement policies.

We would like to thank all contributors for their expertise in this project. Norwegian Knowledge Centre for the Health Services assumes final responsibility for the content of this report.

Norwegian Knowledge Centre for the Health Services  
Oslo, April 2010

# Key Messages (in English)

## Effects of multidisciplinary ambulant services for patients with chronic diseases

We have identified and summarized 20 systematic reviews on the effects of various types of ambulatory services for patients with chronic diseases, defined as multidisciplinary care at a specialised level provided by a team at the patient's home or in the community, without admitting the patient admitted to hospital. Services can be provided from the hospital, from the municipality or in collaboration.

- Appropriately resourced early supported discharge (ESD) services provided for a selected group of stroke patients can reduce a combined outcome of death and dependency after 6 months, shorten the length of hospital stay and increase the possibility that the patient is independent and has taken up daily activities. There is probably no difference in mortality. ESD services may provide care at modestly lower total costs (versus usual care) for stroke patients with mild or moderate disability.
- For adults with acquired brain damage, heart failure, coronary heart disease, chronic obstructive pulmonary disease, multiple sclerosis, epilepsy and leg ulcer, and for children with various chronic diseases, ambulatory multidisciplinary services are likely to provide some improvements in health outcomes and quality of life, and increased satisfaction with treatment. Many of the studies, however, were small and of moderate methodological quality, so it was difficult to draw firm conclusions. Further research is likely to affect our confidence in the results, and may change the results.
- We need more research to increase the evidence about the effects of ambulatory multidisciplinary services to improve health care for patients with chronic diseases, and to reduce the use of specialist care services.

Effects of multidisciplinary ambulant services for patients with chronic diseases

What kind of report is this?

**Systematic Review**

This report includes:

20 systematic reviews form the knowledge base for this report. In addition, we included four overviews of overviews.

Not included:

Primary studies and other types of studies that might provide information about the circumstances under which ambulatory services can be effective and which can identify factors that may increase or reduce the effects of ambulatory services.

Who produced it?

The Norwegian Knowledge Centre for the Health Services on behalf of the South-Eastern Norway Regional Health Authority.

When was it written?

Latest search for studies: December 2009.

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# Executive summary (in English)

## Effects of multidisciplinary ambulant services for patients with chronic diseases

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### BACKGROUND

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South-Eastern Norway Regional Health Authority asked the Norwegian Knowledge Centre for the Health Services to assess the evidence on the effects of multidisciplinary ambulant services for patients with chronic diseases, and to investigate if integrated care programmes had positive effects on health outcomes and resource use.

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### METHODS

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In this report we have included systematic reviews of studies on the effects of various types of ambulatory services for patients with chronic diseases, defined as multidisciplinary care at a specialised level provided by a team at the patient's home or in the community, without admitting the patient admitted to hospital. Services can be provided from the hospital, from the municipality or in collaboration. We examined the effect of such interventions compared with standard treatment in nursing house or other institutions on health outcomes, readmissions and costs.

We searched for systematic reviews in the Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, Health Technology Assessment Data-base, MEDLINE, EMBASE, CINAHL and the NHS Economic Evaluation Database (NHSEED). Two people independently read all unique titles and abstracts identified in the literature search and assessed the relevance in relation to the inclusion and exclusion criteria. We assessed the methodological quality of the included reviews, and graded the quality of evidence for the main comparisons and outcomes using GRADE.

If there were overlapping reviews, we included the last updated systematic review of good quality. Two persons independently read the reviews and extracted data on the

effects of the interventions on the outcomes. We categorised the report based on different patient groups, and different interventions and comparisons.

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## RESULTS

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We identified 3 151 titles in the searches for systematic reviews. A total of 20 systematic reviews form the knowledge base for this report. In addition, we included four overviews of overviews.

The main conclusions based on the included systematic reviews are:

### *Patients with stroke*

Well-planned and coordinated early discharge of stroke patients from hospitals with follow-up at home by a multidisciplinary team led to a reduction in a combined outcome of death or dependency after 6 months, it reduces length of stay in hospital, and it increases the possibility that patients are living independently in their homes and have taken up daily activities. There is probably no difference in mortality. Early supported discharge is probably less costly than usual practice for stroke patients with mild to moderate strokes.

Interdisciplinary active rehabilitation of stroke patients living at home within one year after the stroke may have no impact on functioning, quality of life and readmissions compared with standard treatment, but we lack good evidence to draw a firm conclusion.

We lack evidence to conclude whether the treatment provided by a multidisciplinary team improves the recovery process for patients living at home or in a community based institution one year or more after the first stroke. Patients with a recovery period of one year and more often have a more persistent disability.

### *Patients with acquired brain injury*

A multidisciplinary community based team can possibly improve functioning and increase the participation of patients with severe brain injury, but may not lead to improvement in terms of activity and mood compared with written information alone.

### *Patients with heart failure*

Multidisciplinary ambulatory services for patients with heart failure may likely reduce the total mortality measured after nine months, and may cause fewer readmissions and days in hospital, possibly at lower costs per patient.

### *Patients with coronary heart disease*

It is not possible to say whether multidisciplinary programs to support patients with coronary heart disease affect the risk of new heart attacks or death. Such programs seem to increase the likelihood that the patients receive more effective pharmacological treatment. Treatment costs may possibly be lower.

#### *Patients with chronic obstructive pulmonary disease (COPD)*

There were no significant differences between treatments at home or in hospital regarding readmissions and mortality for patients with acute exacerbation of COPD. One of four patients who contacted the emergency department with acute exacerbation of COPD was suitable for home treatment. These patients could safely be treated at home, had better quality of life and both patients and their families were more satisfied with such treatment. It was difficult to draw any firm conclusions with regard to the costs of home treatment compared with hospital treatment.

#### *Patients with multiple sclerosis (MS)*

An organized rehabilitation program outside the hospital for patients with MS may not increase patients' functioning, but appeared to increase patients' experience of being more physically and socially active compared to standard treatment. There is scarce data on costs. One study found that the costs for home based treatment were somewhat lower, mainly due to fewer readmissions.

For patients with severe MS interdisciplinary rehabilitation in an institution compared with outpatient rehabilitation is possibly more effective in the short term in terms of activity level, but it is probably no difference between inpatient and outpatient rehabilitation in the long term need for home care and support.

#### *Patients with epilepsy*

Specialized epilepsy units outside the hospital and teams in the community led by nurses with special expertise may have little effect on health, quality of life and seizure frequency, but patients are probably more satisfied with the treatment and information they receive. We lack good data to provide firm conclusions about how we should organize rehabilitation services for patients with epilepsy.

#### *Patients with leg ulcers*

Leg ulcer treatment clinics possibly give positive results for patients with leg ulcers, both in terms of how quickly the wounds heal, and the proportion of wounds that heal, compared with home visits by a nurse. We have insufficient information about the cost of treatment in leg ulcer clinics.

#### *Children with chronic diseases*

For children with diabetes, haemophilia and other chronic diseases there are possibly no differences between groups that are treated by an interdisciplinary team at home or in hospitals regarding health outcomes. However, home based multidisciplinary teams may have a positive effect on children's stress levels, psychological ad-

justment, and the satisfaction with treatment.

There is uncertainty about the costs associated with the interventions. A study that included children with diabetes found no difference between the groups with regard to costs, but a transfer of costs of home treatment, where the parents' spending was reduced while the health system's expenses increased.

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## **DISCUSSION**

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Although we included 20 systematic reviews, there is insufficient evidence to draw firm conclusions and make strong recommendations regarding how multidisciplinary ambulatory services for most patients with chronic diseases should be organized to give patients high quality care while reducing the need for hospital services. We also have insufficient knowledge about costs associated with ambulatory services.

We have only searched for systematic reviews, not primary studies. We have searched for studies that have examined the effect of multidisciplinary ambulatory services, not for other types of studies that might provide information about the circumstances under which such services can be effective and which can identify factors that may increase or reduce the effects of ambulatory services.

Many of the studies were small and of moderate methodological quality. The evidence for most of the outcomes and comparison is often sparse and of moderate or low quality. The interventions were heterogeneous in content, intensity and duration, and they were often inadequately described, and aiming at different outcomes. The studies are conducted in different countries, with different frameworks for the health service. The degree to which the results are transferable to a Norwegian health care system may be uncertain.

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## **CONCLUSION**

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Many studies and systematic reviews have assessed the impact of multidisciplinary ambulatory services for patients with different diseases. We found highest quality evidence on interventions for patients with stroke. There is limited evidence to draw firm conclusions for most patient groups and interventions, however. This is partly because there are too few and too small studies, but also because there are methodological weaknesses in how several of the studies are designed and conducted.

We need more studies with robust design to support and develop rehabilitation efforts for patients with different chronic diseases living at home. The studies should be sufficiently large with long enough follow-up to provide answers to the most important outcomes. We need more research based knowledge for all patient groups.

The report shows that it is possible to carry out well designed and conducted randomized controlled trials comparing different ways of organizing the treatment for the different patient groups. Several such studies have been conducted in Norway as well. Preferably such studies should be designed as randomized controlled studies.

We also need more knowledge about the factors that may influence the effect of the interventions, or explain the variation in effect. International cooperation is desirable, both to get consistent definitions, larger studies of better quality and possibly also opportunities for meta-analysis based on individual patient data.



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