

Assessment of the value of a national telemedical monitoring system for patients with diabetic foot ulcer and venous leg ulcers.

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Introduction

In 2012 a national implementation of telemedical monitoring of patients with diabetic foot ulcer or venous leg ulcers was initiated in Denmark. The intervention included improving the skills of the municipality wound nurses and improving the possibilities of the nurses to communicate with hospital physicians regarding the treatment of the specific patient. This was made possible by use of an IT-system called plejenet.dk in which municipality nurses could register the treatment of patients with diabetic foot ulcers and submit questions and pictures (by use of smart phones) of the ulcers to hospital physicians.

The purpose of the implementation was to improve the quality of care and reduce the number of outpatient visits and costs. In relation to this national implementation a health technology assessment of the value of the telemedicine intervention was also planned. The aim of this presentation is to describe the results from this Health Technology Assessment (HTA) of a new innovative health technology based on MAST (Model for ASsessment of Telemedicine).

Materials and Methods

MAST includes assessment of safety, clinical effectiveness, patient perception and economic and organizational aspects.

The assessment is based on a randomized controlled trial (RCT) including 374 patients, data from public registers, two studies on patient perception and interview and survey studies with a sample of 418 health professionals of the perception of clinical staff in hospitals and municipalities in the five regions in Denmark.

Results

The assessment has demonstrated the following outcomes of the telemedicine intervention:

Safety: The IT system plejenet.dk has demonstrated a high degree of technical reliability.

Clinical impact: The RCT shows that the telemedicine patients have a statistical significant reduced number of outpatient visits. No difference in the clinical outcomes wound healing and

amputation rate was found. A potential increase in the risk of mortality was found, but the relation to the use of telemedicine is not clear and further studies are needed.

Patient perception: Two minor studies of patient perception demonstrate that the patients have a high level of satisfaction due to the improved collaboration between municipalities and hospitals and the time saved for transportation of the patients.

Economics: Based on the RCT the reduction in the costs per patients by use of telemedicine was identified.

Organization: Results from interviews and surveys indicate that the project has increased the skills of the municipality nurses. Communication between primary and secondary health care is also improved. Also, the project has resulted in improved documentation with respect to ulcers.

Discussion

The assessment of the national implementation of telemedical monitoring of patients with diabetic foot ulcers or venous leg ulcers demonstrates a number of benefits for patients, the clinical staff and the economy of the health care sector. Based on the findings of a potentially increased mortality, patients with severe comorbidity are no longer offered the telemedicine intervention in order to avoid the potential risk for the patients.

Even though the intervention is implemented in all regions, the assessment has also highlighted a number of differences in the implementation of the telemedicine intervention in the five regions in Denmark and not all regions are using all facilities of the intervention. Therefore, improvements are still possible by a more consistent implementation in all regions.

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