
CONFERENCE ABSTRACT

Neurology consultations at a distance

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Purpose: A pilot study has explored how to use telemedicine to improve handovers of patients with Parkinson's disease, from a neurologist at a specialist center to advanced treatment at Karolinska University Hospital (Karolinska), in order to provide the right treatment at the right time to the right patient.

Context: When the basic medication starts to fail for a patient diagnosed with Parkinson's disease, the neurologist considers advanced treatment, and may refer the patient to a movement disorder specialist at Karolinska for a second opinion. In Sweden, the health care system prioritizes undiagnosed patients before second opinion. The waiting time for a second opinion is from six weeks up to six months. However, over 80% of the patients referred to Karolinska are not considered to be a candidate for advanced treatment. About 50% of these patients request medication adjustment before going back to the previous care giver. The patient has, thereby, been on a suboptimal medication for up to six months in vain, inflicting unnecessary discomfort and a lower quality of life.

Methods: A movement disorder specialist at Karolinska and two of the most frequent referring neurologists have been interviewed. A standardized video conferencing solution, tested under controlled conditions and verified with the three participants, was installed at the three sites. Individual weekly meetings between the referring neurologists and the movement disorder specialist were introduced. The number of patients discussed at the meetings was documented along with if the patient needed advanced treatment and thereby should be referred to Karolinska. Also, the perception of ease of use and technical difficulties were documented. An economical evaluation, based on a mathematical prediction model of the impact on the quality of life for the patient, based on published research, was made.

Results and discussion: Traditionally the neurologist spent one hour per patient he/she assessed, including administrative work before and after visit. With the weekly meetings a patient is assessed in total 10-15 minutes. The waiting time for second opinion was reduced from six months to one week mainly because all referrals to the movement disorder specialist were correct. The patients could sometimes start their advanced treatment directly at Karolinska instead of first seeing the neurologist to get assessed. The movement disorder specialist could get a better picture of the patient's situation since there was a previous dialogue with the referring neurologist who had known the patient for

several years. The new method of working also enabled stored videos of the patient to be shown at the weekly meetings, something that otherwise usually is dependent on integration between different electronic patient records. The prediction model showed that it is likely that the method increases the quality of life by 1,2% over one year. The economical evaluation showed a return of investment of just 1,5 months.

The initial interviews showed that the documentation of a referred patient could lack vital information or tests that had not been conducted, which made it difficult for the movement disorder specialist to make a decision without seeing the patient. The new way of working introduced a structure where the referring neurologists came prepared to the weekly meetings, where they used standardized information forms and had test results and vital information ready at hand.

A weakness in the method is that several changes were made to the process of referring patients, i.e., the standardized information collection, possibility to show recorded videos and the bidirectional audio/video communication. These have not been isolated in order to determine if one alone can provide the results shown.

Keywords: telemedicine, tele-consultation, neurology, handover
