

Preliminary results from the review

The research team and the review procedures

The research team is led by Dr. polit Anne G. Ekeland, Norwegian Centre for Integrated Care and Telemedicine and also includes Professor Alison Bowes, University of Stirling, Scotland, Research Director Signe Flottorp, Norwegian Knowledge Centre for the Health Services, and Kristian Kidholm (please insert correct title and affiliation). We have performed a systematic review of review articles concerning telemedicine assessment. These articles have been reviewed in collaboration with a group of ten external experts. The team has so far compiled and systematised review data from approximately 2/3 of the included review articles. We still await 1/3 of the reviews from the external expert reviewers. After the workshop we will finish the review of reviews, and move on to analyse primary studies not covered.

The 138 reviews included in the first selection round, comprised 5977 primary studies of telemedicine. The time span of the primary studies is from 1960 to 2007. 23 were excluded as reports, primary studies and background studies. Ten papers have not been sent out for review. Of the 105 sent out to review, 2/3 has been reviewed. We have included approximately 50 reviews (we still consider 2 reviews). We are not ready to be definitive and what we present at this stage is tentative. We would therefore ask participants to not circulate the results that we provide in this introduction, as they are incomplete. We will elaborate the results for the workshop presentation.

In terms of patients and patient conditions covered, the review provides systematic reviews of among others:

1. Diabetes

4 reviews on different aspects of diabetes, foot ulcers are not mentioned, however.
5 reviews cover chronic illness, and diabetes is included as one of several conditions.
2 reviews where chronic conditions are included, but diabetes is not mentioned.

Interventions include: Home telemonitoring, how emerging interactive IT has been used to enhance care for adults with type 2 diabetes and clinical studies using electronic transfer of blood glucose results in people with diabetes.

We have not yet concluded whether self monitoring for blood glucose should be included as telemedicine. There are 3 reviews covering this topic in different ways.

Tentative conclusions on telemedicine for diabetes care are: growing evidence and positive effects reported, but variation in patient characteristics (background, ability, medical condition), sample selection and approach for treatment of control groups are reported.

Telemedicine solutions for diabetes care are feasible and acceptable, but evidence for their effectiveness in improving HbA or reducing costs while maintaining HbA levels, or improving other aspects of diabetes management is not strong.

Telemonitoring seems to be a promising approach to chronic patient management. Technology is reliable. Empowers patients, and potentially improves clinical condition.

According to authors of the reviews, further research should seek to understand how telemedicine might enhance educational and self-management interventions and RCTs are required to examine cost-effectiveness.

Further research should also take into consideration variations in patient characteristics.

2. COPD.

Copd is only mentioned in one systematic review, and then as one of many patient groups.

The results reported in a 2008 HTA-report states:

The number of hospitalizations for home telemonitoring versus usual care did not differ when the results of one RCT and two observational studies were pooled, but were less with home telemonitoring for the RCT alone. Home telemonitoring and telephone support were found to reduce the rates of re-hospitalization and emergency department visits. The results for BDOC and non-hospital health care visits were limited and varied. No differences between groups were reported for health-related QoL and patient satisfaction.

3. Different aspects of cardiovascular diseases

Cardiovascular diseases include coronary heart disease (heart attacks), cerebrovascular disease, raised blood pressure (hypertension), peripheral artery disease, rheumatic heart disease, congenital heart disease and heart failure. The major causes of cardiovascular disease are tobacco use, physical inactivity, and an unhealthy diet. Globally, cardiovascular diseases are the number one cause of death and is projected to remain so.

http://www.who.int/cardiovascular_diseases/en/

Different aspects of cardiovascular diseases, including tobacco use and physical activity interventions, are the subject of many reviews.

Interventions included home-telemonitoring of blood pressure which represents a patient management approach combining various information technologies for monitoring patients at distance. In addition, multidisciplinary interventions were described, defined as those in which heart failure management was the responsibility of a multidisciplinary team including medical input plus one or more of the following: specialist nurse, pharmacist, dietician, or social worker. Interventions were separated into four mutually exclusive groups: provision of home visits; home physiological monitoring or televideo link; telephone follow up but no home visits; and hospital or clinic interventions alone.

Obesity was considered an epidemic disease that can be met partly by developing effective weight loss programs on the Internet. Internet weight loss interventions for obesity were also included.

Preliminary studies suggest that the internet may be an adequate vehicle for weight loss intervention and possibly for programs directed at weight loss maintenance.

Programmes for chronic heart failure that include remote monitoring have a positive effect on clinical outcomes in community dwelling patients with chronic heart failure.

4. Other patient groups included in reviews

Stroke patients, anxiety and depression, interventions for a wide range of patient groups and heavy college drinkers. We will present results also for these at the workshop.

5. Methodologies used

The methodologies used in the majority of primary studies included in the reviewed reviews are positivist and quantitative. 7 of the included reviews were defined as HTA reviews. At this workshop, we are especially focused on empirical knowledge needs and also interested in what kind of evidence that is relevant.

A sketch of different “classes” of evidence related to research methodologies, as proposed in the bid:

1. Positivist evidence. This is objective evidence obtained by neutral researchers in order to control and predict. For instance: Randomised Controlled Trials and other quantitative methods.
2. Qualitative evidence. This is interpretive evidence of subjective meanings, obtained by reflexive researchers in order to understand and provide insight. For instance: Qualitative assessments of patient experiences. (Note: 1 and 2 are often combined).
3. Constructivist evidence. This is situated evidence, co-constructed through ongoing interaction between interventions, researchers, users and other relevant stakeholders in specified locations and situations. The aim is dynamic adaptations according to emerging issues to reach common (and changing) understandings of success. For instance: Constructive Technology Assessments, using a mix of quantitative and qualitative methods.
4. No evidence, just do it. “The world is uncertain, nothing can be predicted and we need to act”. No formal assessments are needed.

Questions for the participants:

1. What kind of empirical knowledge do you need in order to make informed decisions about uses of telemedicine in your domain?
2. Please discuss your needs in the light of what kind of evidence is most important for you in order to make decisions.

If there is evidence you need, that we have not mentioned or that is not reported, please mention it.

We wish you a very interesting and productive workshop.