Good experiences with health monitoring via mobile phone

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VTT Technical Research Centre of Finland is coordinating a trial at Sipo Health Centre and Helsinki University Hospital where patients submit test results to health care professionals by mobile phone. Nokia has developed a Wellness Diary app that helps users attain their exercise, nutrition and well-being goals. The new technology has been favourably received, and clear benefits have already been observed for both personal health and organisational functionality.

The mobile phone is fast becoming a key tool in promoting health and well-being and in treating illnesses. The purpose of the solutions developed in the Care4Me project is to enable early detection of risks in the lifestyles of healthy individuals on the one hand and to allow chronically ill patients to control their own condition as far as possible on the other. This decreases the overall risk of serious illnesses and helps achieve substantial savings in healthcare costs.

The most significant innovation in the project is what is known as citizen’s decision support, a set of research-based instructions and reminders sent automatically to users via mobile phone. Up to now, decision support has mainly been used as a guidance tool for healthcare professionals. Now, patients or members of at-risk groups can receive instructions on a healthy lifestyle, background information and feedback on test results submitted (amount of exercise, blood pressure or blood sugar level).

Nokia Wellness Diary

Developed by Nokia and available free for downloading, the Wellness Diary mobile phone app helps users live a healthier life. It instructs and motivates users to take more exercise, to sleep better and to eat more healthily. The app makes monitoring habits and body weight simple and fun, with features such as an automatic pedometer and graphic displays showing progress.

The Wellness Diary can be incorporated in various training programmes. In Nokia’s own in-house well-being at work programme, employees receive messages from Duodecim health coaching in their Wellness Diary app. The service has been well received: in the first pilot stage, nearly half of the test group of 220 employees began to take more exercise and to eat healthier food. In the user study, the Wellness Diary was given an ‘excellent’ or ‘good’ rating by 93% of respondents.

Using mobile phones at health centres and in specialist medical care

A trial is being conducted at Sipo Health Centre and at the cardiology clinic at Helsinki University Hospital on an operating model based on technology developed by VTT, Medicinsult and Duodecim, whereby patients themselves submit various test results (e.g. blood pressure) to healthcare professionals and are given feedback on them. Thanks to this new model, healthcare professionals can respond to a patient’s condition even before the patient seeks treatment. Health centre clients benefit from access to the Medinet health database, which contains essential health data and an individual care plan, on which the feedback given to the client is based.

Regular testing, automatic messages supporting decision-making and being contacted by a nurse have improved patient motivation for self-care. At the cardiology clinic, an initial group of 30 patients was involved in a six-month self-care period. The feedback from patients has been excellent. Nearly all of the patients in the self-care period considered the system and the feedback received on test results to have been useful, and about 80% of them are willing to continue with the self-care regime.

The Care4Me project

The Care4Me project is funded in Finland by the Finnish Funding Agency for Technology and Innovation (Tekes) and the participating organisations: Kustannus Oy Duodecim, Medicinsult Oy, Nokia plc, Pohjola Vakuutus Oy, Prowellness Oy and VTT. The project forms part of the ITEA2 programme, with participating companies, universities and research institutions not only in Finland but also in the Netherlands, France and Spain.

The motivation for the project is the ageing of the population and the escalation of healthcare costs. There are currently some 400,000 diabetics in Finland, the majority with type 2 diabetes. Up to half of Finnish men aged 35 to 64 and one third of women in the same age group have hypertension. Type 2 diabetes and hypertension are highly lifestyle-dependent conditions that substantially increase the risk of serious cardiovascular diseases, the treatment of which is considerably expensive for society.

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