Confidence in your e-coach

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Blood pressure, blood coagulation, blood sugar level, heart rate, breathing rate, galvanic skin reaction or everything at once… there is scarcely a bodily function that we cannot continuously monitor ourselves at home or wherever we might be with a small device. And if we enter the measurement data into our app, our e-coach tells us what to do: which medicine we must take, that it is time to do some exercises, or even that we should register for the group fitness session that has been organised in our neighbourhood. Thanks to our measurement devices and friendly, virtual adviser, driven by a software program, we no longer need a doctor for routine check-ups. E-coaching is a care application that is still in its infancy, but that with better measurement methods and refined software could really take off in the future. It offers numerous advantages: more freedom of movement and self-management for the chronically ill, a more targeted deployment of doctors, cost savings and a wide availability of data for medical research.

However, medical apps cannot be introduced on a large scale without ethical reflection at an early stage. A dedicated doctor who knows his patient personally cannot be replaced by a software program just like that. What is needed to transfer something of the traditional relationship of trust between the doctor and patient to the relationship between the patient and an e-coach? When can the patient have sound trust in his virtual medical care provider? The research group of technology philosopher Philip Nickel has an answer to these questions. Their project Medical trust beyond clinical walls is part of the NWO programme Responsible Innovation. The researchers have combined different disciplines. They have examined the psychological factors that determine

whether a patient trusts his e-coach, but also the philosophical principles that justify trust in the e-coach. They also studied how the interface of the coaching system can be designed such that it inspires trust. Mobihealth BV and Sananet BV, two companies that produce medical apps, contributed to the research and will use the results for the further development of their apps. Patient associations, health insurers and professional associations of doctors and physiotherapists also participated in the research.

The final conclusions of Nickel and his group give focus to the development of apps and the context around these. They provide concrete recommendations for app designers, policy makers and consortia of health insurers, doctors and patient organisations that are currently considering the future of telecare.

Nickel states five factors that can increase the confidence of patients in their medical apps.

Personal involvement of doctors

The basis for sound trust is that doctors must not completely relinquish the care, but share this with a software program. Not only should doctors use their medical expertise in the development of the software program but they could also be present at its introduction, or advise the patient when he is completing forms about what may or may not happen with his data.

Certification

Reliable medical apps should be easy to recognise and must be checked by an expert and independent body. This could, for example, make sure that the app does not have a hidden commercial objective. In the

Netherlands, doctors' organisations are investigating the feasibility of such a quality mark. Politicians have even called for an 'apps library' with reliable apps.

Users' forum

A forum needs to be created where users can state their positive or negative experiences with a care system, just like they can on existing forums for restaurants and many other services and products. Such a forum could encourage app developers to further improve their product and therefore to make things even more reliable still.

Make values explicit

Patients must know where they stand. Which values form the foundation of the app? Is the aim of this to improve the well-being and autonomy of the patient in the longer term? Is there a profit motive? App developers should explicitly state these principal choices. This would engender the trust of users.

Patient adapts system to his needs

Users build up a trust relationship with their care system if it gives them the freedom within responsible boundaries to lead their lives as they want. Therefore the system should not be too strict and ideally the patient should be able to set up his own individual application. Perhaps once in a while he wants to eat or drink too much, or skip his daily walk if it is too hot outside. The e-coach must respect such wishes.

Complex care

The five factors are not only relevant for e-coaching, says researcher

Philip Nickel. 'Complex forms of care will arise in the future, many of which will not take place in the clinic or the general practice, and in which technology will have an important role. The system will become less clear. Nevertheless as vulnerable and dependent creatures we do want to feel safe. Sound trust in that unclear care system is therefore an absolute must.'

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