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Antibiotics App Designed for Patient Safety

Researchers at the University of Twente (Enschede, Netherlands) have developed an eHealth application that provides support for care providers when administering antibiotics in hospitals. They say this eHealth tool is intended to help improve the quality of work of healthcare professionals that leads to safer patient care.

The app was created as part of Jobke Wentzel's doctoral thesis "Keeping an eye on the context: Participatory development of eHealth to support clinical practice". Wentzel recently obtained her doctoral degree at the Faculty of Behavioural, Management & Social Sciences (BMS) of the University of Twente. Her research work is part of EurSafety Health-net, a German-Dutch collaboration to achieve better and safer care.

For her research Wentzel recorded the information requirement of care providers, including nurses, when administering antibiotics in hospitals. She took note of the moment in which a decision is made and which information is required in order to encourage safe and appropriate use of antibiotics. On the basis of these findings technology has been developed in which the information requirements and work processes are key. The eHealth app, specifically built for this project, provides on-site support on how antibiotics can be administered. This app, according to the researchers, meets a need that can barely be met through the existing protocols — which do not take the care provider as starting point, but the medication.

Improvement in patient safety can be achieved through proper collaboration and information exchange between care providers, patients and other stakeholders, Wentzel says. "In this, technology plays a supporting role. The people who perform or are affected by the care processes concerned have to occupy centre stage in order to achieve enduring change," she explains. "Already during the development of MRSA-net (as part of the preceding project of the same name) the importance of focusing on the user became clear. In the current research, within the EurSafety Health-net project, we have added that an eye for the environment, relevant stakeholders included, is also a part of this."

During her research Wentzel observed a mismatch in the availability and accessibility of bedside information for the nurses. "They had to rely on a protocol system that was not user friendly and which did not determine the user's needs as most important," she pointed out. Since the app improved the accessibility of the information, many nurses preferred to use the app over the traditional sources of information. The log data showed a connection between moments of use and moments of antibiotics administration in the care process, such as increased use of the app at the times of the medication rounds.

The Persuasive Health Technology research group, where Wentzel obtained her doctoral degree, provides a context-directed and user-centred approach to eHealth with the CeHRes Roadmap, supervised by Prof. Dr. Van Gemert-Pijnen.

Source and image credit: University of Twente

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