WHAT INFLUENCES A PHYSICIAN’S INTENTION TO PRESCRIBE AN ARTIFICIAL PANCREAS TO INDIVIDUALS WITH TYPE 1 DIABETES?

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BACKGROUND
Recent studies have shown that the intention to use an artificial pancreas system (APS) among persons with T1DM is high. Usually, the end user makes the decision to adopt a new technology or not. However, in the European health care system the physician generally decides for the type of treatment a certain patient receives. Thus, in order to receive treatment with an APS as a patient, his/her physician must be willing to prescribe it. Nevertheless, studies have shown that physicians are noticeably lagging behind in the adoption of new technologies. Therefore, an in-depth understanding of the factors influencing the adoption of APSs among physicians is urgently needed.

METHODS

Survey design. The survey contained 58 questions about the physician’s (a) technological readiness and (b) social environment as well as the perception of (c) the usefulness and (d) the complexity of APSs. The questions were adapted from 7-point Likert scales (1-7) used in Diffusion Theory, the Technology Acceptance Model and the Technology Readiness Index.
Participants. 105 endocrinologists from Germany (n=20), Austria (n=13) and the Netherlands (n=72) filled out an online questionnaire after a personal e-mail invitation. The contact information was collected through the Dutch Diabetes Physician Association for the Netherlands and through the Internet for Germany and Austria.

RESULTS

Figure 1. Mean and standard deviation of key variables: technology readiness of the physician (very light green), the perceptions of an APS’ characteristics (light green), people’s social influence in the work environment (green) and the intention to prescribe an APS (dark green).

Figure 2. Results of the multiple regression analysis. The total variance explained through the model is 69.1%. The numbers represent the strength of the relation (b), while the sign represents the direction of the effect. * represents a significant effect at p < .05; ** represents a significant effect at p < .01.

CONCLUSION
Endocrinologists from three European countries appear to have the intention to prescribe an artificial pancreas once it becomes available. This intention is positively and significantly influenced by their perceptions about the usefulness of APSs and whether their patients think that the physician should prescribe an APS, while it is negatively and significantly affected by whether their subordinates think that they should prescribe it.

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