Healthcare workers' expectations of the Dyna-Form SMARTresponse application (HESA): A qualitative study

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Purpose The transformation in the global demography and the shortages of healthcare workers requires innovation and efficiency in healthcare. The Dyna-Form SMARTresponse application is an example of Digital Technology, the application can be linked to a Mercury Advance Hybrid Mattress (Direct Healthcare Group, 2019). The goal of this application is to reduce the risk of pressure injuries by notifying healthcare workers about patient, often older people, non-movement. Digital Technology has been studied comprehensively and according to previous research there is a mismatch between the available Digital Technology and the adoption of Digital Technology (Mathijssen et al., 2020). Currently it is unclear whether the Dyna-Form SMARTresponse application can adequately support healthcare workers in their daily practice. Consequently, a generic qualitative study investigating the expectations of healthcare workers of the Dyna-Form SMARTresponse application linked to the Mercury Advance mattress is needed. **Method** A generic qualitative study with healthcare workers was conducted between February and July 2022, using in-depth individual interviews and a focus group. The focus group provided interaction between the participants that is especially suitable for explorative research (Cyr, 2016). The individual in-depth interviews acknowledged the findings of the focus group and contributed to method-triangulation (Holloway & Wheeler, 2010). To address a semi-structured approach a topic-list was adopted. Inductive thematic analysis according to Braun and Clarke (2006) was used to analyze the transcriptions. Data analysis was performed by two independent researchers to enhance credibility. **Results and Discussion** This study included 12 participants via purposive sampling and snowballing selection technique. Four major themes were identified: (1) Vision towards innovation; (2) Materials and resources involved; (3) Factors specifically related to SMARTresponse; and (4) Fit with healthcare-activities. Thirteen factors were identified that could hamper or support the use of the Dyna-Form SMARTresponse application. A visualization regarding above-mentioned can be found in Figure 1. Findings from this qualitative study are reinforced by some components: (1) focus groups and individual interviews contributed to method-triangulation; (2) the constant comparison technique resulted in a thorough description regarding the aim of the study; and (3) member-checks and an expert validation enhanced trustworthiness of the findings. One additional factor was identified during the analyses of the last transcripts. Therefore, saturation was not confirmed, which can be noticed as a limitation. An association was observed with the findings of another qualitative study concerning the adoption of digital technology (Leeuw de et al., 2020) and similarities were observed with the Diffusion of Innovation Theory (Kaminski, 2011). The system is developed to support healthcare workers in their daily practices, especially as a preventive aide and as a signaling function. However, several conditions need to be met to enhance the adoption of the system, such as guidelines concerning the adherence to patient repositioning, engagement of representatives in training and a reliable wireless network. The factors can be used to facilitate the implementation process and adoption of the Dyna-Form SMARTresponse application, in order to provide quality of care in (older) patients who are at risk of developing pressure injuries.

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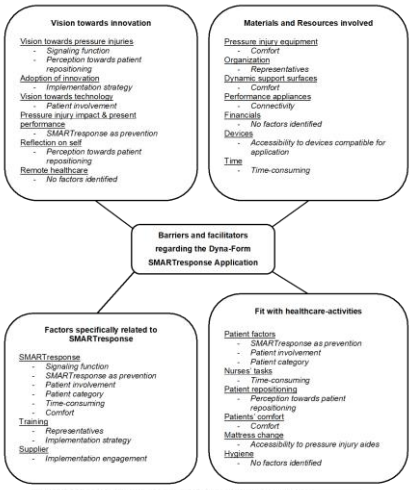

Figure 1. *Themes (bold), sub-themes (underlined) and related factors (italics)*
We presented the themes, sub-themes and related factors regarding the Dyna-Form SMARTresponse application. Some factors were related to multiple (sub-) themes.

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