

LETTER TO THE EDITOR

How to Make Health Information Technology Effective: The Challenge of Patient Engagement

We read with great interest the paper by Zimmerli et al¹ discussing the effects of different design features for virtual reality exercises in engaging patients in lower extremity motor rehabilitation. One of Zimmerli's main points is that the use of health technologies is highly relevant for active and continuous patient engagement during robotic-assisted rehabilitation; however, Zimmerli suggests that patient preferences and expectations should be taken into more consideration when designing virtual reality exercises for every day, clinical motor rehabilitation.

Moreover, no specific guidelines are offered to support the patient engagement process. Here we suggest that the emerging discipline of positive psychology with its focus on personal experience² provides a useful framework for guiding these efforts. In this view, patient engagement can be conceptualized as a subjective experiential process resulting from the conjoint

conative (act), cognitive (think), and emotional (feel) enactment of individuals in care and cure management (fig 1). This process consists of 4 subsequent phases (disengagement, arousal, adhesion, and eudaimonic reconfiguration) in which the different experiential dimensions play complementary driving roles as key factors for promoting patients' advancement in this process. The unachieved synergy among these dimensions inhibits patients from full engagement in their care process, limiting the benefit from robotic-assisted rehabilitation.

Health technologies that succeed in addressing and fostering an effective synergy among these experiential dimensions may offer a solution to this shortcoming.³ Positive technology⁴ focuses on the use of technology for improving the quality of our personal experience, by suggesting specific strategies to modify/improve each of the different dimensions involved, and fostering patients' motivation and engagement in the process.⁵

The first goal is the structuration of the health experience using a goal, rules, and a feedback system.⁶ In this view, the rehabilitation experience should offer patients with a sense of purpose, focusing attention and orienting engagement in the experience. The rules, by

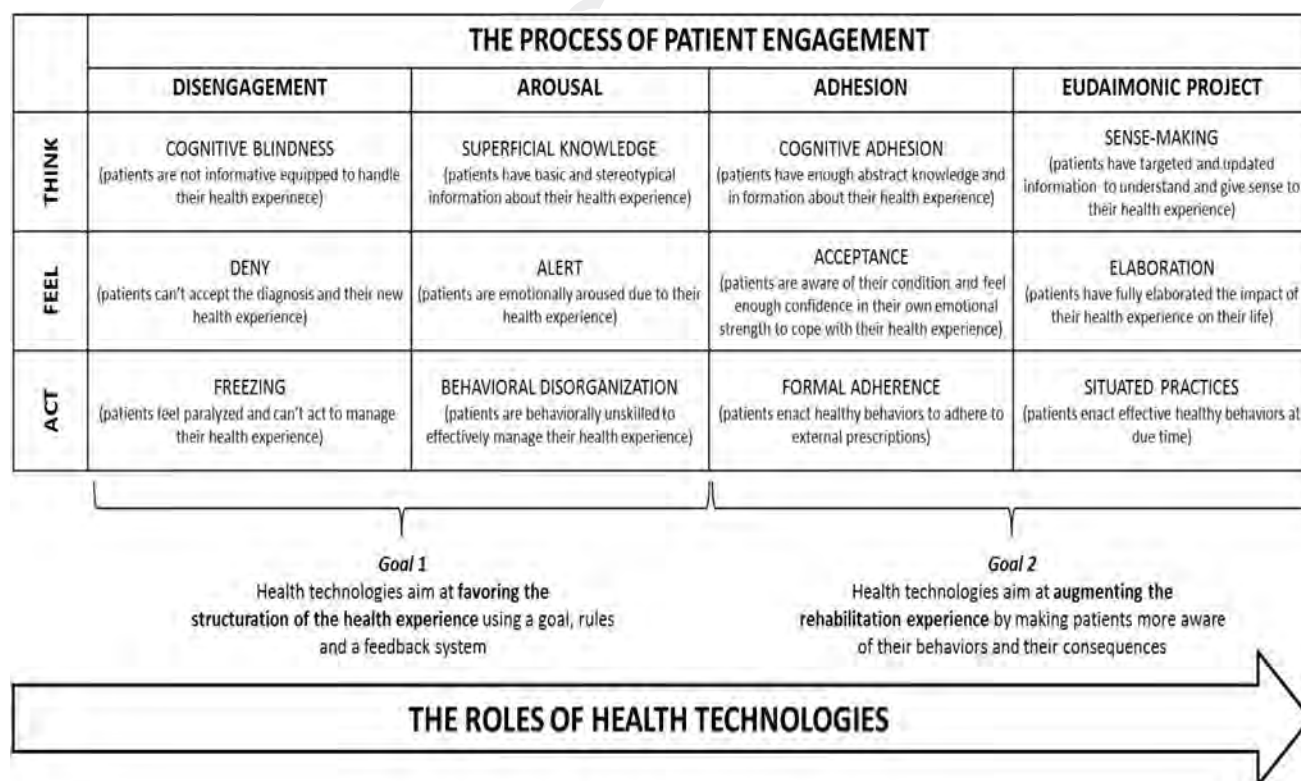



Fig 1 Roles of health technologies in fostering the potential regulatory pathways in the patient engagement process.

125 removing or limiting the obvious ways of getting to the goal, push
126 subjects to see the experience from a different point of view. The
127 feedback system tells players how close they are to achieving the
128 goal and provides motivation to keep trying.

129 A second goal is to augment the rehabilitation experience by
130 offering external cues or making patients more aware of their
131 behaviors and consequences.³ Technology allows multisensory
132 experiences in which content and its interaction are offered through
133 >1 of the senses. It is even possible to use augmented reality to
134 overlay virtual guidelines (eg, movement paths) onto real scenes.

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136 **Q2** We think that the quality of experience should become a critical
137 factor to design and implement health technologies supports
138 really able to foster patient engagement in its phases and an
139 important criterion for their assessment.
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