Designing decision support for continuous healthcare: LTC-Choices tool for supporting individuals living with long-term conditions

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This paper is presenting an extension of our research aiming to propose a tool to support better decision making and goal setting for people leaving with a long-term condition (LTC). In our original paper (see Cowie and Burstein (2018)) we presented a rationale for the development of a mobile app we call LTC-Choices and described its architecture and design. LTC-Choices implements a multicriteria decision model (Belton and Stewart, 2002) and is informed by clinical guidelines (for example, the National Institute for Health and Care Excellence guidelines (www.nice.org.uk)) and relevant clinical literature available on specific long-term conditions (for example, SIGN guidelines (sign.ac.uk).

"How can I apply this? – The practice contribution"

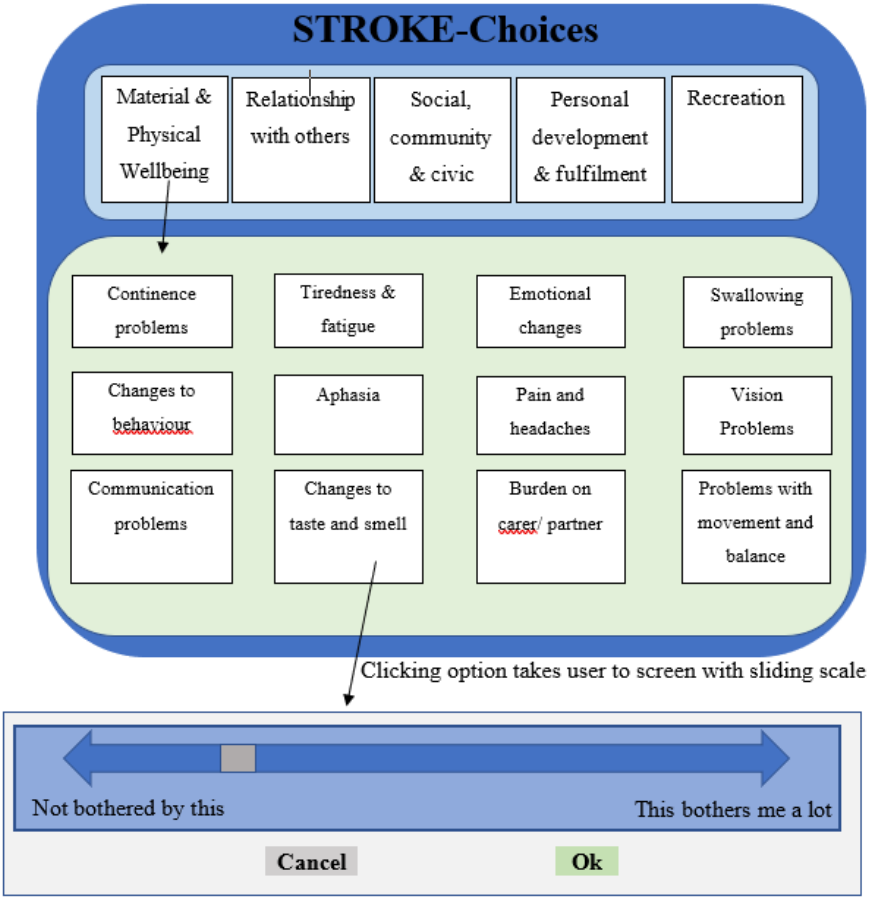
Health service delivery to people with long term conditions (LTC) is usually fragmented and often follows an episodic model. However, those with long term chronic conditions have very different illness trajectories to those suffering from acute one-off episodes. The support needs of individuals with long term conditions are unique and changeable over time. In addition, there are significant challenges to management of long-term conditions: the need for continuing care; the impact on care givers and need for their ongoing support; and the influence of lifestyle factors in long-term management of the condition.

To support the continuum of care, where priorities and decisions fluctuate over the course of the individual's life, LTC-Choices can be used to support goal setting and expression of desires and needs regarding lifestyle and condition management. Through appropriate decision support around goals set, individuals can become self-managers and empowered to make their own informed choices.

Back to life after stroke example

Using the example of the STROKE-Choices decision engine cited in our paper, we foresee STROKE-Choices being developed as a mobile accessible online system with suitable user-friendly interface that individuals can use throughout their life course, post-stroke, to set goals and make decisions about lifestyle choices. An example interface is proposed in Figure 1, where individuals indicate how bothersome, or not, they find different aspects of life post-stroke.

Figure 1: STROKE-CHOICES system interface



The top menu of the system provides 5 categories that may be of significance to the individual (Material & Physical Wellbeing; Relationship with others; Social, community & civic activities; Personal development & fulfilment; and Recreation). By selecting an item, the individual is provided with further topics

about which they can specify how important/bothersome an aspect is to them currently. For example, it could be that an individual is experiencing communication problems, but these are minor and don't bother the person. However, the factor that is really important to the individual just now is their care burden, as they are aware that they are very reliant on their partner for support. Using the app, the individual would indicate this bothers them a lot. Having identified what is significant to that individual at that time (using the LTC-Choices decision engine), the app would then link to appropriate signposting to direct the individual to resources that might help (for example in this situation, a stroke support group or additional career provision).

Our future vision

The LTC-Choices system has the potential to provide ongoing support to people as they live life with fluctuations in health and adapt dynamically to what matters to them. LTC-Choices can provide an easy-to-use decision support tool that offers signposting and advice, tailored to an individual and tailored to their current goals around lifestyle and health. Its generic dashboard architecture and decision engine mean the tool can be tailored to any condition, and indeed, multiple conditions to accommodate the increasing number of individuals living with multi-morbidities.

References

Belton, V. & Stewart, T.J. (2002). Multiple Criteria Decision Analysis: An Integrated Approach. Springer US.