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User Experience: Findings from Patient Telehealth Survey

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Technology Strategy Board
Driving Innovation

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MALT – WS3: User experience

- Overcoming the Barriers to Mainstreaming Assisted Living Technologies: User experience research

1. Developing a measure of predictors of heart failure and chronic obstructive pulmonary disease (COPD) patients' uptake and sustained use of telehealth

2. Assessing the acceptability and face validity of a questionnaire to measure predictors of heart failure and COPD patients' uptake and sustained use of telehealth

3. A longitudinal survey to determine predictors of heart failure and COPD patients' uptake and sustained use of telehealth

Telehealth uptake

- Large scale deployment of telehealth in the UK or in Europe is yet to be achieved and there is growing evidence that patients are refusing to accept telehealth or abandoning it
- Healthcare professionals need to be able to identify patients who are likely to benefit from telehealth , however there is currently no set of criteria, which can be used to decide which patients should be recruited to use telehealth
- Psychological variables need to be considered when deciding which patients should be offered telehealth
- **Aim:** To utilise the telehealth acceptance questionnaire in a longitudinal survey to determine predictors of heart failure and COPD patients' uptake and sustained use of telehealth

Method

Participant recruitment

- Postal survey mailed to all patients with heart failure and/or COPD who were currently using telehealth in six healthcare regions in England (*N* = 738)

- The postal survey contained:
  - Invitation letter
  - Participant information sheet
  - Consent form
  - Telehealth acceptance questionnaire
  - Prepaid return envelope

- 263 patients (35.64%) completed the questionnaire

Participants

- 205 heart failure and/or COPD patients
- Age: 42 – 97 (Mean = 71.79 years)
- Gender: 61% male
- Health condition:
  - 22.8% heart failure
  - 54.4% COPD
  - 22.8% heart failure and COPD
- Length of time using telehealth: 1 week to eight years (Mean = 19.64 months)

Telehealth Acceptance Questionnaire

1. Demographics
2. Opinions about technology
3. Barriers to, and facilitators of, telehealth use
4. Theory of planned behavior (TPB)
   - Behavioural intention
   - Perceived behavioural control
   - Subjective norms
   - Attitude
5. Role-person merger scale
6. Self-report behavioural automaticity index (SRBAI)

Results

- TPB Behavioural intention scores were used to measure patient motivation to use telehealth

- Multiple regression analysis revealed four statistically significant predictors (accounting for 73% of the variance, $F[10, 194] = 53.62$, $p < .001$) of motivation to use telehealth:

  - Length of time using telehealth, $\beta = -.11$, $t(205) = 2.95$, $p < .01$

  - TPB Perceived behavioural control, $\beta = .19$, $t(205) = 4.32$, $p < .001$

  - TPB Subjective norms, $\beta = .43$, $t(205) = 7.14$, $p < .001$

  - TPB Attitude, $\beta = .32$, $t(205) = 5.01$, $p < .001$

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Predictors of motivation

- Length of time using telehealth: the longer patients have been using telehealth, the more motivated they are to continue to use it
- Perceived behavioural control: patients who have more favourable perceptions of the successful use of telehealth are more motivated to continue using it
- Subjective norms: patients who believe that their significant others would like them to use telehealth are more motivated to continue using it
- Attitude: patients who have a more positive attitude towards using telehealth are more motivated to continue using it

Wave 2 results

- 152 patients (57.79%) completed wave 2 of the telehealth acceptance questionnaire

- Multiple regression analysis revealed three statistically significant predictors (accounting for 54% of the variance, $F[8, 122] = 18.09$, $p < .001$) of motivation to use telehealth:

  - TPB Perceived behavioural control, $\beta = .25$, $t(131) = 2.84$, $p < .01$

  - TPB Subjective norms, $\beta = .23$, $t(131) = 3.03$, $p < .01$

  - TPB Attitude, $\beta = .35$, $t(131) = 4.09$, $p < .001$

Conclusions

- The Theory of Planned Behaviour (TPB) was found to significantly predict patient motivation to use telehealth in both wave 1 and wave 2 of the survey
- Variables derived from psychological theories should be used to inform decision making about who should be offered telehealth
- This work has led to the development of a Telehealth Acceptance Model (ThAM), which can be used as a tool to assess motivation to use telehealth
- It would be beneficial for future research to explore whether the TPB can also significantly predict patient refusal and/or abandonment of telehealth