Perceptions and use of technology to support self-management for older adults living with multiple health conditions within an ecosystem of care


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Background

• In this study we have explored what technologies older people with multimorbidity (PwMs) are currently using and how they and their networks of care perceive technology to support their health conditions.

• This research is part of ProACT - an EU-funded Horizon 2020 project that aims to develop and evaluate a digital integrated care ecosystem to support older people with multimorbidity (PwM).

• This study is part of an extensive user requirements study to elicit requirements for the design of the digital care system.

• While older adults generally have positive opinions and attitudes towards trying and using new technologies (Mitzner et al., 2010), health status itself is a moderating factor for computer use and digital literacy (Heart and Kalderon, 2013).

Methodology

• Semi-structured qualitative interviews and focus groups were conducted with 19 older PwMs, 7 informal carers, 16 formal care workers, 6 general practitioners, 4 pharmacists, and 15 other healthcare professionals (including public health nurses, physiotherapist, geriatrician, clinical nurse specialists and other HCPs).

• Inclusion criteria for participants with multimorbidity:
  • Over 60 years of age
  • Managing two or more conditions:
    • Diabetes
    • Chronic Obstructive Pulmonary Disorder (COPD)
    • Coronary Heart Disease (CHD) or Congestive Heart Failure (CHF)
    • Mild Cognitive Impairment (MCI)

• PwM participant profiles: We engaged with 19 people (8 males and 11 females) with multimorbidity between the ages of 60 and 86 (Mean: 73.39 years). The figures below illustrate the numbers and types of conditions of the PwM participants.

Results

• Eleven of the 19 PwMs reported using devices to monitor their health.

• Eight PwMs reported owning and using a laptop or PC; Fourteen reported owning and using a mobile phone (eight of these were smartphone users); Seven participants own and use tablet devices.

• PwMs reported using their phone as a reminder to help with self-managing (e.g. to take medications) and to help with scheduling appointments and reminders.

• Ensuring that technology is accessible and easy to use is important to PwMs;

  “Declining ability of faculties over time needs to be built into the systems. While you might start off with a system that would be very dependent on the individual himself or herself in their 60s but by the time you get them into - you know my age - you are probably beginning to think in terms of, you know, more of it being done by a carer - because of the declining faculties” (PwM).

• HCPs reported very little technology usage for communicating about patients or supporting integration. Referrals, patient notes etc. are all typically communicated on paper, via post.

• Where IT systems were already in use, for example by GPs or pharmacists, there were concerns expressed about security of data should external devices have access to deliver or receive data to/from their system.

• GPs were hesitant to recommend the use of devices for self-monitoring symptoms at home. They were wary of creating additional anxiety and burden for the PwM, and were also concerned about the accuracy of some devices (e.g. pulse oximetry and spirometry sensors).

  “The other thing I guess is to watch out for increased anxiety around measuring things. You know some patients can be quite fixed on their blood pressure with their home blood pressure monitors, and they will come screaming through the door if it is above a certain level” (GP).

Conclusions

• Older adults with multimorbidity perceive technology as a mechanism to sustain living independently in their own home but have concerns around accessibility and ease of use.

• Healthcare professionals were more cautious in their perception of the role of new technology to support PwMs, primarily due to privacy and security concerns. Both PwMs and GPs highlighted the potential for digital monitoring to create additional anxiety about health conditions.

• This study is the first step in an iterative user-centred design process to create a novel digital integrated care system.

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References
