



## Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. This report was prepared by Health Technology Wales on behalf of the Bevan Commission. It summarises the existing evidence on the technology of interest to support a Bevan health technology exemplar application.

Topic:	Digital Companions : improving health and wellbeing in a digital age
Topic exploration report number:	TER018
Referrer:	Marc Davies
Topic exploration undertaken by:	Health Technology Wales

### Aim of Search

Health Technology Wales researchers searched for evidence on digital inclusion/exclusion of the general population, in particular the older generation, as well as computer literacy (in the context of social isolation, social support, electronic health records and the internet).

### Summary of Findings

A number of secondary studies and guidelines were identified on the topic of digital inclusion/exclusion and computer literacy, although none solely on digital companions.

NICE Guideline NG44 (published March 2016) covers community engagement approaches to reduce health inequalities, ensure health and wellbeing initiatives are effective and help local authorities and health bodies meet their statutory obligations. One recommendation is the use of 'Community Health Champions' or 'peer intervention'.

The 'Digital inclusion guide for health and social care' was published by NHS Digital on 1st April 2018 and is aimed at local health and care organisations to help them to take practical steps to support digital inclusion in their communities.

One (dated) Cochrane review had insufficient evidence to draw any conclusions on delivery of interventions for online health literacy. Two subsequent systematic reviews Jacobs et al (2016) and Kim & Xie (2017) conclude, respectively, that it's possible to improve health literacy skills and that this should be done through educational programmes.

Three primary studies were identified on digital inclusion of older people (Jones et al (2015), Krug et al (2018) & Medeiros Fde et al (2012)) and all three confirm that strategies are needed to reach the digitally excluded. Jones et al (2015) is the only study which specifically considers using volunteers to help teach their peers to go online.

## Key sources of evidence

- NICE guideline NG44: Community engagement: improving health and wellbeing and reducing health inequalities (March 2016) <https://www.nice.org.uk/guidance/ng44>
- NHS Digital: Digital inclusion guide for health and social care (1st April 2018) <https://digital.nhs.uk/binaries/content/assets/website-assets/corporate-information/digital-inclusion/digital-inclusion-guide-for-health-and-social-care.pdf>
- Car, J., et al. (2011). "Interventions for enhancing consumers' online health literacy." Cochrane Database of Systematic Reviews (6): CD007092.
- Jacobs, R. J., et al. (2016). "A systematic review of eHealth interventions to improve health literacy." Health Informatics Journal 22(2): 81-98.
- Kim, H. and B. Xie (2017). "Health literacy in the eHealth era: A systematic review of the literature." Patient Education & Counseling 100(6): 1073-1082.
- Jones, R. B., et al. (2015). "Older people going online: its value and before-after evaluation of volunteer support." Journal of Medical Internet Research 17(5): e122.

## Areas of Uncertainty

We did not identify any significant uncertainties regarding the evidence.

## Brief literature search results

Resource	Results
<b>Guidelines and guidance</b>	
<p><a href="#">NICE</a></p> <p><i>We searched for guidelines, technology appraisals, diagnostics, interventional procedures, and medical technologies guidance.</i></p>	<p>NICE guideline NG44: Community engagement: improving health and wellbeing and reducing health inequalities (March 2016)</p> <p><a href="https://www.nice.org.uk/guidance/ng44">https://www.nice.org.uk/guidance/ng44</a></p> <p>NHS Digital: Digital inclusion guide for health and social care (1<sup>st</sup> April 2018)</p> <p><a href="https://digital.nhs.uk/binaries/content/assets/website-assets/corporate-information/digital-inclusion/digital-inclusion-guide-for-health-and-social-care.pdf">https://digital.nhs.uk/binaries/content/assets/website-assets/corporate-information/digital-inclusion/digital-inclusion-guide-for-health-and-social-care.pdf</a></p> <p>Making it easy : a health literacy action plan for Scotland (29 May 2014)</p> <p><a href="http://www.gov.scot/Resource/0045/00451263.pdf">http://www.gov.scot/Resource/0045/00451263.pdf</a></p>
<p><a href="#">Healthcare Improvement Scotland:</a></p> <p><i>We searched the HIS website for any relevant advice and hand-searched Scottish Health Technologies Group and Scottish Intercollegiate Guidelines Network publications.</i></p>	<p>We did not identify any guidance on computer literacy or digital inclusion/exclusion.</p>
<p><a href="#">Guidelines International Network</a></p>	<p>No guidelines on computer literacy or digital inclusion/exclusion were found</p>
<b>Secondary literature and economic evaluations</b>	
<p><a href="#">ECRI</a></p>	<p>We did not identify any guidance on computer literacy or digital inclusion/exclusion.</p>
<p><a href="#">Cochrane library</a></p> <p><i>We searched for relevant Cochrane Reviews.</i></p>	<p>Car, J., et al. (2011). "Interventions for enhancing consumers' online health literacy." Cochrane Database of Systematic Reviews (6): CD007092.</p>
<p><a href="#">Medline</a></p> <p><i>We searched the Medline database for systematic reviews, meta-analyses, economic evaluations only.</i></p>	<ol style="list-style-type: none"> <li>Jacobs, R. J., et al. (2016). "A systematic review of eHealth interventions to improve health literacy." Health Informatics Journal 22(2): 81-98.</li> <li>Kim, H. and B. Xie (2017). "Health literacy in the eHealth era: A systematic review of the literature." Patient Education &amp; Counseling 100(6): 1073-1082.</li> </ol>
<b>Primary studies</b>	
<p><a href="#">Medline</a></p> <p><i>We searched the Medline database for studies of any design.</i></p>	<p>Digital Inclusion/Exclusion</p> <ol style="list-style-type: none"> <li>Jones, R. B., et al. (2015). "Older people going online: its value and before-after evaluation of volunteer support." Journal of Medical Internet Research 17(5): e122.</li> <li>Ordonez, T. N., et al. (2011). "Elderly online: effects of a digital inclusion program in cognitive performance." Archives of Gerontology &amp; Geriatrics 53(2): 216-219.</li> </ol>

	<ol style="list-style-type: none"> <li>3. Krug, R. R., et al. (2018). "Factors associated with maintenance of the use of internet, EpiFloripa Idozo longitudinal study." <i>Revista de Saude Publica</i> 52: 37.</li> <li>4. Medeiros Fde, L., et al. (2012). "Digital inclusion and functional capacity of older adults living in Florianopolis, Santa Catarina, Brazil (EpiFloripa 2009-2010). [Erratum appears in <i>Rev Bras Epidemiol</i>. 2012 Dec;15(4):909]." <i>Revista Brasileira de Epidemiologia</i> 15(1): 106-122.</li> <li>5. Robotham, D., et al. (2016). "Do We Still Have a Digital Divide in Mental Health? A Five-Year Survey Follow-up." <i>Journal of Medical Internet Research</i> 18(11): e309.</li> <li>6. Hemmingsson, H., et al. (2015). "E-inclusion: Digital equality - young people with disabilities." <i>Studies in Health Technology &amp; Informatics</i> 217: 685-688.</li> </ol> <p>Computer Literacy</p> <ol style="list-style-type: none"> <li>1. Bickmore, T. W., et al. (2016). "Improving Access to Online Health Information With Conversational Agents: A Randomized Controlled Experiment." <i>Journal of Medical Internet Research</i> 18(1): e1.</li> <li>2. Chiou, W. B. and C. S. Wan (2007). "The dynamic change of self-efficacy in information searching on the Internet: influence of valence of experience and prior self-efficacy." <i>Journal of Psychology</i> 141(6): 589-603.</li> <li>3. Chu, A. and B. Mastel-Smith (2010). "The outcomes of anxiety, confidence, and self-efficacy with Internet health information retrieval in older adults: a pilot study." <i>CIN: Computers, Informatics, Nursing</i> 28(4): 222-228.</li> <li>4. Haesner, M., et al. (2015). "[Analysis of how elderly internet users react to unexpected situations]." <i>Zeitschrift fur Gerontologie und Geriatrie</i> 48(8): 715-721.</li> <li>5. McCloud, R. F., et al. (2016). "Entertainment or Health? Exploring the Internet Usage Patterns of the Urban Poor: A Secondary Analysis of a Randomized Controlled Trial." <i>Journal of Medical Internet Research</i> 18(3): e46.</li> <li>6. Xie, B. (2011). "Effects of an eHealth literacy intervention for older adults." <i>Journal of Medical Internet Research</i> 13(4): e90.</li> </ol>
<p><a href="#">Cochrane library</a></p> <p><i>We searched the Cochrane Trials database for studies of any design.</i></p>	<p>We did not find any trials on digital inclusion/exclusion or computer literacy that had not already been identified in the Medline primary studies search.</p>
<p>Ongoing research</p> <p><a href="#">Clinicaltrials.gov</a></p>	<p>We did not identify any ongoing trials on computer literacy or digital inclusion</p>

<p><b>Date of search:</b></p>	<p>September 2018</p>
<p><b>Concepts used:</b></p>	<p>Digital inclusion/exclusion and computer literacy (in the context of social isolation, social support, electronic health records and the internet).</p>