Health and Care Research Wales Evidence Centre

Canolfan Dystiolaeth Ymchwil Iechyd a Gofal Cymru

A rapid review of the effectiveness of interventions for addressing digital exclusion in older adults

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Ymchwil Iechyd a Gofal Cymru Health and Care Research Wales

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GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

EXECUTIVE SUMMARY

What is a Rapid Review?

Our rapid reviews (RR) use a variation of the systematic review approach, abbreviating or omitting some components to generate the evidence to inform stakeholders promptly whilst maintaining attention to bias.

Who is this Rapid Review for?

The above question was suggested by Social Care Wales (SCW).

Background / Aim of Rapid Review

Older adults constitute the largest proportion of non-users of the internet. With the increasing digitalisation of services, in particular those provided in social care in Wales, it is important to understand how best to support older adults to overcome the challenges they face with accessing or engaging with the digital world (for personal use). This rapid review aimed to assess the effectiveness of interventions to address digital exclusion in older adults (aged 60 years and above). Digital exclusion can occur due to issues with motivation (if people do not see why the internet might be beneficial), accessibility (unable to physically access to the internet), ability (lack of skills to use the internet) or affordability (unable to afford access to the internet) of digital technology.

Results

Recency of the evidence base

- The review included evidence available up until November 2023. Included studies were published between 2018 and 2023.

Extent of the evidence base

- 21 comparative primary studies were included in the rapid review: 3 randomised controlled trials, 10 non-randomised controlled studies, and 8 uncontrolled before and after studies.
- Studies were conducted in the USA (n=6), Korea (n=3), Canada (n=2), Mexico (n=2), Australia (n=1), China (n=1), the Netherlands (n=1), Peru (n=1), Portugal (n=1), Singapore (n=1), and Spain (n=1). One study was conducted across multiple countries including the UK, Latvia, Poland and Portugal.
- Intervention approaches varied considerably however, all contained an educational component. Approaches included those with an intergenerational component (n=4), those that were incorporated into existing services (n=3), and those that created tailored computer software (n=2). One intervention incorporated an online game, and one intervention specifically aimed to teach participants to detect online deception. The remaining 10 studies were classified as more traditional educational interventions.
- Outcome measures included: technology adoption, digital literacy (including proxies for digital literacy), participants' perceptions of technology use (including own abilities), acceptability of interventions and cost-effectiveness.

Key findings and certainty of the evidence

- **Overall, all studies reported findings in favour of the interventions.**
- There is low certainty evidence to suggest that digital literacy interventions including interventions that are incorporated into existing services can **increase uptake in the use of digital technologies in older adults.**
- There is low certainty evidence to suggest that traditional digital literacy interventions and interventions incorporating gamification, tailored computer software, intergenerational

approaches, or teaching specific digital literacy skills (deception detection), can **improve digital literacy as a standalone outcome, and a range of proxies for digital literacy.**
- There is very low certainty evidence **that intergenerational interventions can improve E-health literacy and reduce technophobia** in older adults.
- There is low certainty evidence indicating a **range of interventions such as those using tailored computer software, intergenerational approaches, those incorporated into existing service and traditional digital literacy interventions are effective in improving participants' self-perceptions.**
- There is low certainty evidence to suggest that **older adults are accepting of educational interventions.**
- There is very low certainty evidence to suggest that **educational interventions may be cost-effective**.

Research Implications and Evidence Gaps

- The majority of studies included in this review were of low quality.
- It is unclear whether study findings would be generalisable to the UK.
- Outcome measures were heterogeneous across studies making it difficult to compare findings directly.
- Only one study assessed the cost-effectiveness of a digital education intervention.
- No study reported on interventions to address language barriers, for example, that may be experienced by people whose first language is not English.
- No study focused specifically on interventions to improve access to, or affordability of the internet and digital technologies to overcome digital exclusion.
- Further high-quality UK-based research is needed to better understand the effectiveness and cost-effectiveness of interventions for addressing digital exclusion in older adults.

Policy and Practice Implications

- This rapid review highlighted the **potential benefits of a range of complex multi-component educational interventions**, particularly with regards to improving digital literacy, and suggests that older adults are accepting of these interventions.
- To reduce digital exclusion in older adults, evidence suggests it may be important to ensure structural barriers, such as access to the internet and affordability of devices are removed. However, the cost of provision should be considered and assessed.
- Educational interventions may help to reduce perceptual barriers regarding digital technologies that contribute to digital exclusion including lack of confidence, fear and anxiety, or perceived lack of abilities.
- It is important to consider that older adults should be equipped with the skills to make an informed choice to interact with essential services physically (offline) or digitally. With the increasing digitalisation of services, it is important that older members of the community who do not wish to use digital technologies, are not left behind or disadvantaged.

Economic considerations

- It is important that the relative cost-effectiveness and acceptability of digital versus traditional in-person social care solutions is investigated further.
- There is a larger existing evidence base concerning reducing digital exclusion in healthcare solutions than social care solutions.

Technological solutions to improve patient data flows between health and social care in England have been found to provide monetary benefits and benefits to patients.