

# ACCESS TO DIGITAL MENTAL HEALTH SUPPORTS FOR OLDER ADULTS AMIDST COVID-19

VISIONS FOR CHANGE POLICY CHALLENGE 2021-2022

**AMIKA SHAH** 

\*SEULEMENT DISPONIBLE EN ANGLAIS\*





#### **EXECUTIVE SUMMARY**

Digital mental health technologies are a common strategy used to rapidly increase access to mental health and addiction supports during the COVID-19 pandemic. On May 3, 2020, the Canadian federal government announced the release of Wellness Together Canada<sup>1</sup>, a national digital mental health platform for Canadians. The announcement noted a commitment to provide help to vulnerable communities, but it is currently unknown whether the platform and other similar digital mental health innovations used during the COVID-19 pandemic are benefitting older adults equally or widening the inequity of mental health services.<sup>2</sup> To address this gap, this policy report sought to identify the barriers and facilitators of access to digital mental health supports for older adults, as well as recommendations to address these barriers. A case study approach was used, with the case defined as the Wellness Together Canada platform. A review of the academic literature and online consultations with policymakers were conducted to identify barriers and facilitators of receiving digital mental health care for older adult Canadians during COVID-19. Published research and stakeholder consultations highlighted that a lack of awareness of digital mental health programs among older adults, low digital literacy, limited technical assistance, and insufficient social connection within existing platforms were key barriers to older adults accessing digital mental health programs during COVID-19. In contrast, partnerships with older adult serving organizations, personalized technical training and assistance, and inclusion of social support facilitated access. Based on the barriers and facilitators identified, this report recommends that digital mental health programs like Wellness Together Canada (1) forge partnerships with older adult serving organizations, (2) integrate personalized technical training and assistance, and (3) include social support components. Targeted efforts to improve the approachability, acceptability, and appropriateness of digital mental health programs will help improve access and ensure an age-inclusive response and recovery to the COVID-19 pandemic.



### **POLICY QUESTION**

The purpose of this policy report is to identify the barriers and facilitators of access to digital mental health programs for older adults, as well as recommendations to address these barriers for the federal government.

Research Question: How have older adults been considered in the shift to digital mental health as a result of the COVID-19 pandemic, and what changes are needed to improve access to care for this population?

#### **Relevant Terminology**

#### Older adults

Defined as individuals aged 65 years and older.3

#### Digital mental health

Digital mental health refers to "...mental health services and information delivered or enhanced through the Internet and related technologies". 4(p.3) This umbrella term encompasses a variety of technologies including social media and peer support platforms; computerized treatments, resources, and mobile apps; telehealth/telemedicine; wearable technology; virtual reality; robots; gaming; and artificial intelligence. 5

#### Access to care

Access to care is defined as "the opportunity to identify healthcare needs, to seek healthcare services, to reach, to obtain or use health care services, and to actually have a need for services fulfilled". Access to healthcare services is thus an interaction between characteristics of both the intended population (ability to perceive; ability to seek; ability to reach; ability to pay; ability to engage) and the health system (approachability; acceptability; availability and accommodation; affordability; appropriateness).



#### **BACKGROUND**

#### Mental Health of Older Adults Amidst COVID-19

While emerging research suggests that older adults are less likely to experience mental health effects from the pandemic compared to younger individuals<sup>7</sup>, this is not to say that this population has not been adversely affected. According to Statistics Canada<sup>8</sup>, there is a steady increase in the percentage of older adults reporting that their mental health status was "somewhat" or "much" worse than before the pandemic (24% in September 2020 to 33% in March/April 2021). In addition to facing a heightened risk of contracting COVID-19<sup>9</sup>, widespread measures to contain the virus, such as "stay at home" orders, physical distancing, and self-isolation are of particular concern<sup>10</sup> as older adults were disproportionately affected by social isolation and loneliness pre-COVID-19.<sup>11</sup> These pandemic measures have been found to have adverse psychosocial effects such as increased rates of depression and anxiety<sup>12</sup>, especially for older adults with pre-existing health conditions and residing in congregate settings.<sup>13</sup>

#### **Digital Mental Health & Older Adults**

Digital mental health technologies are a common strategy used to rapidly increase access to mental health and addiction supports during the COVID-19 pandemic.<sup>14</sup> Although a national poll suggests that older adults in Canada have been increasingly using technology during the pandemic, including for health purposes<sup>15</sup>, scholars have cautioned that the lack of consideration of the unique digital needs of older adults may also inadvertently widen inequities. <sup>2</sup> This has been described as a "digital Catch 22": older adults who may benefit most from digital health are also the least likely to be able to access these supports. 13 This tension has not only existed during the pandemic. Indeed, research preceding the pandemic has documented numerous factors acting at multiple levels that affect older adults' access to health supports through digital means. Older adults may have lower intrinsic motivation<sup>16</sup> to use digital services, and/or face barriers presented by cognitive and physical impairments<sup>17,18</sup>, including the mental health difficulties for which they seek help<sup>16</sup>. Characteristics of digital mental health technologies themselves can further impact access, namely their usability (ease of use)<sup>19</sup> and methods used to develop the platform (e.g., co-design)<sup>13,20,21</sup>. Additionally, the context in which these services are delivered also proves to be important through the availability of training 16 and support from family and caregivers<sup>22</sup>. With the need to reduce in-person contacts during the COVID-19 pandemic, ensuring access to digital mental health technologies for older adults is critical for an ageinclusive pandemic response and recovery. 23,24

On May 3, 2020, the Canadian federal government announced an investment in digital mental health tools including Wellness Together Canada<sup>25</sup>, a national digital mental health platform for Canadians, and later, a companion app called PocketWell<sup>26</sup>. The initial announcement<sup>25</sup> noted a commitment to providing help to vulnerable communities, but whether older adults, who experience distinctive usability and digital literacy needs, are equally benefiting from the platform or other digital mental health programs remains unknown.<sup>13,24</sup> Early reported figures from the Wellness Together Canada platform suggest that those in the 60 - 69, and 70+ age



ranges were the lowest represented demographics among registrants of the website in the first two months of operations, composing of only 4.54% and 1.25% registrants respectively.<sup>27</sup> Furthermore, Wellness Together Canada does not currently offer targeted support tailored to the unique needs of the older adult age group, instead opting to group older adults into the broader adult population.<sup>28</sup> Such an approach may neglect the unique access, digital literacy, and usability needs of this population, and requires further exploration.

#### RESEARCH APPROACH

A review of the academic literature was conducted to identify barriers and facilitators of receiving digital mental health care for older adult Canadians during COVID-19. Searches were conducted in MEDLINE, CINAHL, PsychINFO, EMBASE, and Scopus for studies relevant to the research question. A particular focus was taken on studies conducted from March 2020 onwards with an explicit discussion of delivering a digital mental health program within the context of the COVID-19 pandemic. Online consultations with relevant government stakeholders were also conducted to understand the key gaps and priorities with respect to mental health care for older adults during COVID-19 and perceptions of Wellness Together Canada.

### **KEY FINDINGS**

This review of the literature published during COVID-19 yielded several barriers and facilitators that affected older adults' access to digital mental health services, in line with pre-pandemic research. In this section, key factors frequently discussed within the COVID-19 context and applicable to Wellness Together Canada are outlined.

#### **Barriers**

#### Lack of Awareness of Digital Mental Health Programs

Studies reported that a lack of awareness and knowledge of digital mental health programs is a central barrier to access for older adults.<sup>29</sup> Even when older adult participants were provided with an email notification about the existence of the service, a lack of awareness was the most significant barrier to access as reported by the participants.<sup>29–31</sup> Staff of digital mental health programs also noted encountering challenges in recruiting older adults and identifying those who may benefit most from mental health support as older adults were hesitant to self-identify as lonely or requiring support.<sup>30,32</sup> Thus, targeted marketing and outreach efforts are needed to promote awareness of existing digital mental health programs among older adults and connect those who may benefit most from these programs.<sup>29,30</sup>

#### Low Digital Literacy & Limited Technological Assistance

Low digital literacy<sup>30</sup>, an inability to use technology<sup>33</sup> and perceptions that engaging with technology will involve extra work or be too difficult, served as barriers to access to digital mental health programs, especially if the same services were previously accessed in person.<sup>30</sup> Those who



were easily recruited and benefitted from digital mental health programs during COVID-19 often had prior experience using technology and the internet.<sup>30</sup>

A lack of support to use digital mental health services was also a significant barrier to access.<sup>31</sup> Such support may come from a variety of sources including family, caregivers, and program staff. Indeed, several respondents in a survey conducted in British Columbia reported relying on family, friends, and supportive services to facilitate their learning of technologies for social engagement purposes.<sup>31</sup> Importantly, all older adults may not have equal access (e.g., those living alone, socially isolated) to such support and thus this assistance benefits from being integrated within digital mental health programs where possible.<sup>31</sup>

#### Insufficient Social Support

Research documents that a variety of programming for older adults could be shifted to a digital format amidst the pandemic and serve as a substitute for in-person care.<sup>29</sup> Despite valuing online programming (e.g., physical exercise, professional lectures), older adults noted that the promotion of social connections was not sufficiently integrated within existing online older adult programming.<sup>29</sup> Similarly, older adults noted that promoting social connection was a central factor motivating their use of digital mental health technologies.<sup>29,31,34</sup> Older adults may also be hesitant to self-identify with mental health concerns and thus a broader perspective on mental health, focusing on social connections, may be a more acceptable approach.<sup>33</sup>

#### **Facilitators**

#### **Partnerships**

Partnering with organizations serving older adults was a frequently cited strategy to promote awareness and access to digital mental health programs during the COVID-19 pandemic.<sup>31</sup> Such partnerships can leverage relationships with older adults that already exist thereby facilitating trust in the digital mental health program, and promoting understanding of who may be contacted should they experience challenges.<sup>30,32</sup> Conversely, the loss of support from primary care and community organizations as they closed due the pandemic was a barrier to accessing mental health services.<sup>33,34</sup>

Partnering with long-term care staff is critical to promote access to digital mental health services and identification of individuals in care who may benefit; although, with front-line staff overwhelmed due to the COVID-19 response, there may be limited capacity to engage in these partnerships.<sup>35</sup> Targeting outreach to recreation administrators within long-term care may be a valuable method to develop partnerships, as their role may make them especially motivated to support digital mental health initiatives.<sup>35</sup> Partnerships with digital mental health services may not only allow long term care staff to continue to deliver social programming within the pandemic-altered context but in some cases, can also expand the "community" within these settings (e.g., through the use of social robots) during visitor bans without introducing added risk to the staff or residents.<sup>36</sup>



#### Personalized Training & Assistance

To address low digital literacy, providing training and technical assistance personalized to the older adult's needs and circumstances (including factors introduced as a result of the COVID-19 pandemic) was a valued strategy.<sup>37</sup> Barriers older adults may face to access and participate in digital mental health programs include multiple chronic conditions, health complications, as well as accessibility barriers related to vision and dexterity.<sup>30,34</sup> Where accommodations were provided, studies used strategies such as changing font sizes and screen contrast and providing a stylus or mouse for those unable to use a touchscreen or trackpad<sup>34</sup>, although, such strategies may not be appropriate for all older adults. Accessibility considerations were not only limited to the technology itself but also the approach to training and assisting older adults.<sup>34</sup> This included understanding how to communicate with individuals with audio, visual, and mobility-related impairments and adopting an individualized approach.<sup>34</sup>

In some cases, training and assistance are not only needed for the older adult but also for the family and caregiver.<sup>38</sup> Training can be delivered in a variety of formats, including through peer-to-peer learning, demonstrations, and paper-based instructions.<sup>33,39</sup> To be most acceptable, studies highlighted the value of engaging older adults or individuals with experience working with the older adult population in the provision of training and assistance.<sup>40,41</sup>

#### **Social Connections**

Several options to promote social connections within digital mental health programs have been raised.

- Online social support: While older adults can benefit from offline support networks, social connectedness facilitated by web-based platforms has been shown to further reduce depression among this population above and beyond the reductions observed from offline strategies.<sup>42</sup> These benefits were observed even for low effort engagement with web-based social support (i.e., reading posts on a forum instead of posting).<sup>42</sup>
- <u>Telephone contacts/check-ins:</u> Studies suggest that where regular contacts or check-ins are provided (e.g., telephone lines or programs), proactive contacts initiated by the staff or volunteers (contrary to traditional hotline models) can ensure older adults who may not seek help due to memory impairments are not left behind.<sup>40,43</sup>
- Intergenerational connections: Telephone-based intergenerational experience sharing between youth and older adults have been previously established as a valuable method of social support that can provide benefits to both parties and can be feasible to implement in light of closures of senior activities centres and schools.<sup>44,45</sup> Additionally, intergenerational connections can also serve to enhance the training and wellbeing of



students pursuing studies in health and social service professions (e.g., medicine, nursing, gerontology) whilst providing meaningful social connections for older adults. 35,46,47



#### POLICY RECOMMENDATIONS

## <u>Recommendation 1:</u> Partner with older adult-serving organizations to promote awareness and trust in digital mental health supports to older adults.

Cross-sectoral collaborations facilitate efficient use of resources and leverage the strengths of individual partners for digital mental health programs. While Wellness Together Canada leverages collaborations with existing digital mental health resources (Kids Help Phone, Homewood Health), partnering with community organizations with specific programs and expertise in serving older adults may promote the awareness and trust of the platform by this population. Potential partners may include non-profit organizations, faith-based organizations, health care services, and/or long term care settings. To facilitate these partnerships, continued funding of the Wellness Together Canada platform by Health Canada should include dedicated funds to develop a community engagement strategy for the older adult population. Informed by a needs assessment and stakeholder consultations, such a strategy should identify community organizations with existing connections to older adults residing in the community and within institutions across Canada and targeted outreach strategies that may be employed by these organizations to support access to and engagement with Wellness Together Canada.

# <u>Recommendation 2:</u> Integrate digital training and assistance to promote access and engagement with digital mental health programs.

Digital mental health services may see the most uptake among those with prior experience with technology or with a high desire to use technology.<sup>30</sup> To ensure those who can benefit are able to access and use these programs, digital mental health programs should incorporate personalized training and ongoing technical assistance (ideally on call) to support older adults in overcoming barriers to access including but not limited to digital illiteracy, lack of experience, and fear of using technology.<sup>37</sup> Device and program training can be delivered remotely to improve older adults' confidence and competence in engaging in digital mental health programs, and other technology use more broadly.<sup>33,39</sup>

Individuals providing training for digital mental health programs should include individuals with experience as an older adult or working with the older adult population. These individuals should be trained in resisting stereotypes and stigma around older adults and the use of digital services. When providing technical assistance, digital mental health programs should consider the barriers older adults may face to access and participate in digital mental health programs such as multiple chronic conditions, health complications as well as accessibility barriers related to vision and dexterity. Partnerships with community organizations that specialize in technical



support and remote training (e.g., Seniors DigIT<sup>48</sup>, Gluu Society<sup>49</sup>) for older adults may be a feasible option.<sup>31</sup>

## <u>Recommendation 3:</u> Incorporate social support to enhance the appropriateness of digital mental health programs.

Older adults are motivated to use digital mental health to strengthen their social connections. <sup>29,31,34</sup> Integration of social support and connectedness into digital mental health programs such as Wellness Together Canada may enhance their appropriateness for older adults. These social connections should ideally be proactively initiated by the digital mental health program (e.g., telephone check-ins), leverage online social support between older adults in similar circumstances, and/or provide opportunities for the exchange of intergenerational experiences. Should Health Canada continue to expand the Wellness Together Canada platform, social support resources for older adults (in addition to the peer support option) should be added as part of the platform's suite of offerings. Identification of existing remote social support services offered by community organizations may serve as a valuable component of the older adult engagement strategy recommended above to further leverage and increase access to existing community support.



#### REFERENCES

- 1. Health Canada. Government of Canada connects Canadians with mental wellness supports during COVID-19 [Internet]. Government of Canada. 2020 [cited 2021 Nov 24]. Available from: https://www.canada.ca/en/health-canada/news/2020/04/government-of-canada-connects-canadians-with-mental-wellness-supports-during-covid-190.html
- 2. Skorburg JA, Yam J. Is There an App for That?: Ethical Issues in the Digital Mental Health Response to COVID-19. AJOB Neurosci. 2021 May 14;1–14.
- 3. Government of Canada, Statistics Canada. Older adults and population aging statistics [Internet]. 2019 [cited 2022 Jan 9]. Available from: https://www.statcan.gc.ca/en/subjects-start/older\_adults\_and\_population\_aging
- 4. Christensen H, Griffiths KM, Evans K. E-mental health in Australia: Implications of the internet and related technologies for policy [Internet]. PsycEXTRA Dataset. 2002. Available from: http://dx.doi.org/10.1037/e677122010-001
- 5. E-mental health [Internet]. Mental Health Commission of Canada. 2021 [cited 2022 Jan 9]. Available from: https://mentalhealthcommission.ca/what-we-do/e-mental-health/
- Levesque J-F, Harris MF, Russell G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. Int J Equity Health. 2013 Mar 11;12:18.
- 7. García-Portilla P, de la Fuente Tomás L, Bobes-Bascarán T, Jiménez Treviño L, Zurrón Madera P, Suárez Álvarez M, et al. Are older adults also at higher psychological risk from COVID-19? Aging Ment Health. 2021 Jul;25(7):1297–304.
- 8. Government of Canada, Statistics Canada. Impact of the COVID-19 pandemic on Canadian seniors [Internet]. 2021 [cited 2021 Nov 24]. Available from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00008-eng.htm
- 9. Montero-Odasso M, Goens SD, Kamkar N, Lam R, Madden K, Molnar F, et al. Canadian Geriatrics Society COVID-19 Recommendations for Older Adults. What Do Older Adults Need To Know? Can Geriatr J. 2020 Mar;23(1):149–51.
- 10. Armitage R, Nellums LB. COVID-19 and the consequences of isolating the elderly. Lancet Public Health. Elsevier BV; 2020 May;5(5):e256.
- 11. Coyle CE, Dugan E. Social isolation, loneliness and health among older adults. J Aging Health. 2012 Dec;24(8):1346–63.
- 12. Robb CE, de Jager CA, Ahmadi-Abhari S, Giannakopoulou P, Udeh-Momoh C, McKeand J, et



- al. Associations of social isolation with anxiety and depression during the early COVID-19 pandemic: A survey of older adults in London, UK. Front Psychiatry. 2020 Sep 17;11:591120.
- 13. Cosco TD, Fortuna K, Wister A, Riadi I, Wagner K, Sixsmith A. COVID-19, Social Isolation, and Mental Health Among Older Adults: A Digital Catch-22. J Med Internet Res. 2021 May 6;23(5):e21864.
- 14. Torous J, Jän Myrick K, Rauseo-Ricupero N, Firth J. Digital Mental Health and COVID-19: Using Technology Today to Accelerate the Curve on Access and Quality Tomorrow. JMIR Ment Health. 2020 Mar 26;7(3):e18848.
- 15. Zimonja B. AGE-WELL [Internet]. [cited 2021 Nov 24]. Available from: https://agewell-nce.ca/archives/10884
- 16. Greer B, Robotham D, Simblett S, Curtis H, Griffiths H, Wykes T. Digital Exclusion Among Mental Health Service Users: Qualitative Investigation. J Med Internet Res. 2019 Jan 9;21(1):e11696.
- 17. Good A, Stokes S, Jerrams-Smith J. Elderly, novice users and health information web sites: issues of accessibility and usability. J Healthc Inf Manag. 2007 Summer;21(3):72–9.
- 18. Namazi KH, McClintic M. COMPUTER USE AMONG ELDERLY PERSONS IN LONG-TERM CARE FACILITIES. Educ Gerontol. 2003 Jun 1;29(6):535–50.
- 19. Fortuna KL, Lohman MC, Gill LE, Bruce ML, Bartels SJ. Adapting a Psychosocial Intervention for Smartphone Delivery to Middle-Aged and Older Adults with Serious Mental Illness. Am J Geriatr Psychiatry. 2017 Aug;25(8):819–28.
- 20. Fortuna KL, DiMilia PR, Lohman MC, Bruce ML, Zubritsky CD, Halaby MR, et al. Feasibility, Acceptability, and Preliminary Effectiveness of a Peer-Delivered and Technology Supported Self-Management Intervention for Older Adults with Serious Mental Illness. Psychiatr Q. 2018 Jun;89(2):293–305.
- 21. Fortuna KL, Torous J, Depp CA, Jimenez DE, Areán PA, Walker R, et al. A Future Research Agenda for Digital Geriatric Mental Healthcare [Internet]. Vol. 27, The American Journal of Geriatric Psychiatry. 2019. p. 1277–85. Available from: http://dx.doi.org/10.1016/j.jagp.2019.05.013
- 22. Ivan L, Fernández-Ardèvol M. Older people and the use of ICTs to communicate with children and grandchildren. Transnational Social Review. 2017 Jan 2;7(1):41–55.
- 23. Gratzer D, Torous J, Lam RW, Patten SB, Kutcher S, Chan S, et al. Our Digital Moment: Innovations and Opportunities in Digital Mental Health Care. Can J Psychiatry. 2021



Jan;66(1):5-8.

- 24. Seifert A, Cotten SR, Xie B. A Double Burden of Exclusion? Digital and Social Exclusion of Older Adults in Times of COVID-19. J Gerontol B Psychol Sci Soc Sci. 2021 Feb 17;76(3):e99–103.
- 25. Prime Minister announces virtual care and mental health tools for Canadians [Internet]. Prime Minister of Canada. 2020 [cited 2022 Jan 9]. Available from: https://pm.gc.ca/en/news/news-releases/2020/05/03/prime-minister-announces-virtual-care-and-mental-health-tools
- 26. Health Canada. Government of Canada improves digital access to mental health and substance use resources during the COVID-19 pandemic [Internet]. Government of Canada. 2022 [cited 2022 Feb 4]. Available from: https://www.canada.ca/en/health-canada/news/2022/01/government-of-canada-improves-digital-access-to-mental-health-and-substance-use-resources-during-the-covid-19-pandemic.html
- 27. [No title] [Internet]. [cited 2022 May 15]. Available from: https://sencanada.ca/content/sen/committee/431/SOCI/Briefs/Followup HealthCanada e.pdf
- 28. Wellness Together Canada [Internet]. [cited 2022 Jan 9]. Available from: https://wellnesstogether.ca
- 29. Cohen-Mansfield J, Muff A, Meschiany G, Lev-Ari S. Adequacy of Web-Based Activities as a Substitute for In-Person Activities for Older Persons During the COVID-19 Pandemic: Survey Study. J Med Internet Res. 2021 Jan 22;23(1):e25848.
- 30. Jiménez FN, Brazier JF, Davoodi NM, Florence LC, Thomas KS, Gadbois EA. A Technology Training Program to Alleviate Social Isolation and Loneliness Among Homebound Older Adults: A Community Case Study. Front Public Health. 2021 Nov 18;9:750609.
- 31. Haase KR, Cosco T, Kervin L, Riadi I, O'Connell ME. Older Adults' Experiences With Using Technology for Socialization During the COVID-19 Pandemic: Cross-sectional Survey Study. JMIR Aging. 2021 Apr 23;4(2):e28010.
- 32. Shapira S, Yeshua-Katz D, Goren G, Aharonson-Daniel L, Clarfield AM, Sarid O. Evaluation of a Short-Term Digital Group Intervention to Relieve Mental Distress and Promote Well-Being Among Community-Dwelling Older Individuals During the COVID-19 Outbreak: A Study Protocol. Front Public Health. 2021 Apr 9;9:577079.
- 33. Bhome R, Huntley J, Dalton-Locke C, San Juan NV, Oram S, Foye U, et al. Impact of the COVID-19 pandemic on older adults mental health services: A mixed methods study. Int J Geriatr Psychiatry. 2021 Nov;36(11):1748–58.



- 34. Sanchez-Villagomez P, Zurlini C, Wimmer M, Roberts L, Trieu B, McGrath B, et al. Shift to Virtual Self-Management Programs During COVID-19: Ensuring Access and Efficacy for Older Adults. Front Public Health. 2021 May 31;9:663875.
- 35. van Dyck LI, Wilkins KM, Ouellet J, Ouellet GM, Conroy ML. Combating Heightened Social Isolation of Nursing Home Elders: The Telephone Outreach in the COVID-19 Outbreak Program. Am J Geriatr Psychiatry. 2020 Sep;28(9):989–92.
- 36. Follmann A, Schollemann F, Arnolds A, Weismann P, Laurentius T, Rossaint R, et al. Reducing Loneliness in Stationary Geriatric Care with Robots and Virtual Encounters-A Contribution to the COVID-19 Pandemic. Int J Environ Res Public Health [Internet]. 2021 May 1;18(9). Available from: http://dx.doi.org/10.3390/ijerph18094846
- 37. Conroy KM, Krishnan S, Mittelstaedt S, Patel SS. Technological advancements to address elderly loneliness: Practical considerations and community resilience implications for COVID-19 pandemic. Work Older People. 2020 Sep 8;24(4):257–64.
- 38. Isabet B, Pino M, Lewis M, Benveniste S, Rigaud A-S. Social Telepresence Robots: A Narrative Review of Experiments Involving Older Adults before and during the COVID-19 Pandemic. Int J Environ Res Public Health [Internet]. 2021 Mar 30;18(7). Available from: http://dx.doi.org/10.3390/ijerph18073597
- 39. McCabe L, Dawson A, Douglas E, Barry N. Using Technology the Right Way to Support Social Connectedness for Older People in the Era of COVID-19. Int J Environ Res Public Health [Internet]. 2021 Aug 18;18(16). Available from: http://dx.doi.org/10.3390/ijerph18168725
- 40. Bar-Tur L, Inbal-Jacobson M, Brik-Deshen S, Zilbershlag Y, Pearl Naim S, Brick Y. Telephone-Based Emotional Support for Older Adults during the COVID-19 Pandemic. J Aging Soc Policy. 2021 Jul;33(4-5):522–38.
- 41. Fearn M, Harper R, Major G, Bhar S, Bryant C, Dow B, et al. Befriending Older Adults in Nursing Homes: Volunteer Perceptions of Switching to Remote Befriending in the COVID-19 Era. Clin Gerontol. 2021 Jul;44(4):430–8.
- 42. Hwang J, Toma CL, Chen J, Shah DV, Gustafson D, Mares M-L. Effects of Web-Based Social Connectedness on Older Adults' Depressive Symptoms: A Two-Wave Cross-Lagged Panel Study [Internet]. Vol. 23, Journal of Medical Internet Research. 2021. p. e21275. Available from: http://dx.doi.org/10.2196/21275
- 43. Gorenko JA, Moran C, Flynn M, Dobson K, Konnert C. Social Isolation and Psychological Distress Among Older Adults Related to COVID-19: A Narrative Review of Remotely-Delivered Interventions and Recommendations. J Appl Gerontol. 2021 Jan;40(1):3–13.



- 44. Gualano MR, Voglino G, Bert F, Thomas R, Camussi E, Siliquini R. The impact of intergenerational programs on children and older adults: a review [Internet]. Vol. 30, International Psychogeriatrics. 2018. p. 451–68. Available from: http://dx.doi.org/10.1017/s104161021700182x
- 45. Chatterjee P, Yatnatti SK. Intergenerational Digital Engagement: A Way to Prevent Social Isolation During the COVID-19 Crisis. J Am Geriatr Soc. 2020 Jul;68(7):1394–5.
- 46. Elfenbein P. Generation to Generation Project: Pairing Students With Older Adult Mentors During the COVID-19 Pandemic. Innov Aging. 2021 Dec 17;5(Supplement\_1):77–77.
- 47. Kirk L, Kessler P, Gingerich S, McGill S, Pryor H. Intergenerational communication as intervention: Social isolation in older adults during COVID-19. Innov Aging. 2021 Dec 17;5(Supplement 1):78–78.
- 48. Seniors dig-IT [Internet]. [cited 2022 Jan 10]. Available from: https://seniorsdig-it.ca
- 49. Gluu Society Digital Skills for Older Adults [Internet]. [cited 2022 May 15]. Available from: https://gluusociety.org/