

## Harnessing digital mental health to improve equity in mental health care in the context of COVID-19: Needs, best-practices and opportunities in the Asia Pacific region

**Introduction:** The ongoing novel coronavirus (COVID-19) pandemic has had unprecedented and devastating effects globally, including throughout the Asia Pacific region. The mental health effects of COVID-19 are expected to be profound, with the need for enhanced and targeted mental health care identified as urgent from the beginning of the outbreak in late 2019 (1). The purpose of this Knowledge Synthesis grant is to identify needs and gaps related to mental health care for at-risk groups in the Asia Pacific region, and to identify best practices for the use of digital mental health to provide accessible and evidence-based care for these groups. Drawing on established collaborations and regional efforts led by the APEC Digital Hub for Mental Health, the goal is to mobilize knowledge to support the planning and implementation of digital mental health initiatives within the network to improve access by at-risk populations in response to the COVID-19 pandemic in Canada and the Asia Pacific.

**Background and Rationale:** The mental health impacts of COVID-19 are still emerging and will become increasingly apparent as the longer-term impacts of social isolation, job and economic insecurity, experiences of illness and bereavement, physical distancing, and disrupted access to usual health and mental healthcare reverberate among populations (2). While the effects of COVID-19 are felt globally, some groups are at higher risk of experiencing negative mental health effects without adequate access to care. Healthcare workers and others on the frontlines, essential workers, vulnerable groups such as people experiencing homelessness, migrants, and people living with existing mental health and substance use conditions, women, sexual minorities, children, the elderly, Indigenous communities and victims of domestic violence may be at higher risk of negative mental health impacts and may experience unique barriers in accessing care (3). It is essential to understand the needs of these populations and to identify specific strategies to improve equity in access to mental health services.

The COVID-19 pandemic has contributed to a rapid shift in many aspects of society. Healthcare service delivery has, in many cases, shifted toward online or virtual models to ensure ongoing availability of care during the pandemic. Digital technology has previously been recognized as having great potential to address gaps in access to evidence-based mental health care, with the potential to reach people in rural and remote areas, to minimize the effects of stigma on help-seeking, and to offer widespread and cost-effective care (4, 5). In the context of COVID-19, there has been a call to increase the use of digital mental health care (6) and to prioritize it in the COVID-19 mental health research agenda (3). Though digital mental health may improve access, there are also risks that it might exacerbate inequities in access to care among high-risk populations who may face poorer digital resources or other barriers (7). Equity-oriented research, recognizing the intersections of sex, gender, age, ethnicity and other factors, is needed to identify needs and gaps to equitable digital health care delivery (7, 8).

The APEC Digital Hub for Mental Health (9) ('the Digital Hub') was created under the Asia Pacific Economic Cooperation's (APEC) Roadmap to Promote Mental Wellness in a Healthy Asia Pacific (10) and acts as the coordinating centre for mental health in the Asia Pacific. The Digital Hub is hosted in Canada at the University of British Columbia (UBC) in partnership with the University of Alberta, the Mood Disorders Society of Canada and the Canadian Network for Mood and Anxiety Treatments (CANMAT). The Digital Hub is a network of stakeholders representing researchers, healthcare providers, policy makers and people with lived experience (PWLE) from across the region with the goal of "strengthen[ing] the mental health and wellbeing of individuals and communities across the Asia-Pacific region in support of economic growth" (9). The Digital Hub's working group on Disaster Resilience and Trauma is leading a coordinated response to mental health and the COVID-19 pandemic.

**The opportunity:** The APEC region is made up of 21 countries, including Canada, and is home to close to 40% of the world's population (11). The APEC countries represent a tremendous opportunity for generation, synthesis and mobilization of new evidence on the use of digital technologies for mental health among high-risk populations in the context of COVID-19. The region has extensive expertise in mental health responses to emergencies, including the SARS outbreak and following the major earthquakes in Chile (2010) and Japan (2011). APEC countries are currently at different stages of the pandemic, taking varying approaches to the development and roll-out of digital and virtual mental health care. This experience represents an important opportunity for cross-regional learning and mobilization. This study convenes a network of researchers and knowledge users from across the region, representing Australia, Canada, Chile, China, Japan, Malaysia, South Korea, the United States, and Vietnam. Study objectives were identified at an April 2020 meeting of work group members who identified the need for knowledge synthesis to inform the development of digital mental health opportunities across the region.

**Study Objectives:** This proposed study has two goals: 1) Conduct a needs assessment to identify the mental health needs specific to high-risk groups in the context of the COVID-19 pandemic in the APEC region, including identifying barriers and

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opportunities for delivering care; and 2) Identify best practices for using digital mental health to provide care to at-risk populations and in emergency settings. The overall goal is to conduct knowledge synthesis and mobilization to support planning and implementation of digital mental health initiatives with an emphasis on access by high-risk populations in response to the COVID-19 pandemic across the APEC region. The active involvement of knowledge users in the development of this proposal demonstrates its alignment with the priorities of knowledge users and its strong potential to influence mental health care delivery. These knowledge users are poised to act on the resulting knowledge mobilization plan, having identified the need to better understand the needs of at-risk groups to improve design and delivery of digital mental health care for these populations.

**Methodology:** This study will use mixed methods to achieve the objectives as outlined above. Because this work spans several countries, a comprehensive and iterative process of knowledge generation, synthesis and mobilization is warranted. In the first month, we will conduct a rapid review of peer reviewed and grey literature on the needs of at-risk populations and barriers to mental health care in the APEC region. Via the Digital Hub, we will also elicit information, using an online survey, from network members regarding ongoing COVID-19 mental health initiatives and identified needs and gaps. This rapid review will inform the 1-month knowledge synthesis and knowledge mobilization plan, which we will produce in plain-language and translate for dissemination in all participating countries. Building on the results of the rapid review, we will conduct a needs assessment using a modified Delphi consensus consultation (12). The first round will consist of a survey which will be completed by three Delphi 'expert panels': 1) policy makers, 2) healthcare providers and 3) PWLE. The survey will be translated to ensure accessibility by experts in all countries. Following completion of the survey, we will hold virtual meetings with each expert group, with 3 consultations in each of 2 regions (North/South America and Asia/Australia) to allow for time zone differences. In the case where English language is a barrier, we will hold country-specific consultations. For participants without access to digital platforms, we will hold telephone consultations to ensure accessibility while respecting physical distancing requirements. Building on the survey results, which will be presented during the consultations, discussion will engage members to build consensus on: a) which groups are most at-risk of experiencing negative mental health effects as a result of the pandemic; b) barriers to providing accessible care to these groups, and c) opportunities to use digital technologies to increase access. The results of the meeting and discussions will be made available as a report to participants from all panels, after which time the second online Delphi survey will be conducted and voting will occur again. There are different approaches taken in Delphi methodology to reaching 'consensus'; for this study, we will not necessarily be driving for complete consensus, but to generate a comprehensive picture of the landscape and needs of at-risk groups across the region. The outcome of this process will be a refined knowledge mobilization plan, including recommendations for mental health care for at-risk populations in the region. Recruitment for the Delphi process will be by invitation from among Digital Hub networks, using the study team for additional referrals. PWLE, including those representing at-risk groups, will be recruited via patient organizations and partner organization networks (e.g. Mental Health Commission of Canada and equivalent groups).

We will also conduct a scoping review of the use of digital mental health in disaster and emergency settings, and the extent to which digital health interventions have considered equity or access by at-risk populations. There is currently a dearth of randomized trials testing the effectiveness of digital mental health specific to disaster response, meaning a scoping review is appropriate to identify the range and extent of research that has taken place in this field (13). We will conduct the review using the PRISMA-Scoping Review (PRISMA-ScR) guidelines (14). The objectives of the review will be to: a) identify the use of digital mental health to support mental health in and after disaster situations; b) to understand barriers and facilitators to their implementation; and, c) to examine the extent to which equity or access by high-risk groups was considered in their delivery. We will search PubMed, PsychInfo, ScienceDirect and Google Scholar, starting with the search terms: Digital Mental Health AND Disaster, Digital Mental Health AND Emergency, eMental Health AND Disaster, eMental Health AND Emergency, Digital Mental Health AND Disaster AND Equity, Digital Mental Health AND Emergency AND Equity. We will also include search terms specific to gender and other anticipated at-risk groups. Though our study focuses on the Asia Pacific and we will include this as an initial search term, we anticipate broadening our search to access a larger scope of literature. Given the expertise of our study team, we will also use snowballing to elicit additional literature, including grey literature. Our team has experience conducting scoping reviews, particularly with an emphasis on equity (15).

Finally, as part of our end-of-grant knowledge mobilization plan, we will hold a second series of virtual consultations with the same groups to share results and present recommendations for digital mental health care among at-risk populations. We will use these consultations to verify the findings and will revise recommendations as needed. We will

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also create a policy brief for dissemination to policy makers and through the Digital Hub's networks, including to various APEC fora (Health Working Group, Life Sciences Innovation Forum, etc). Using the Digital Hub, we will also run a series of open access capacity-building webinars to disseminate the findings and recommendations. Findings will also be disseminated via the Digital Hub's website and social media platforms, and will be submitted to open-access peer reviewed journals.

This study will have an impact on equitable mental health care delivery in the context of COVID-19 in Canada and across the APEC region. The resulting recommendations will guide knowledge users to tailor and target mental health interventions to those most at-risk, promoting equity in delivery of care. The investigators and knowledge users partnering on this grant are all currently working to deliver evidence-based mental health care in the changing landscape of COVID-19. The results of this study will have direct implications on equitable mental health policy and practice in the region. It will also catalyse further research on the implementation of these interventions and their impact on equitable and effective mental health care delivery.

Experience and Expertise: The study team is made up of a diverse group of experts, including knowledge users from across the APEC region. **NPA Dr. Raymond Lam** is the Executive Director of the APEC Digital Hub, Professor and BC Leadership Chair in Depression Research, Associate Head for Education of the Department of Psychiatry at UBC and the past Executive Chair of CANMAT. He has extensive experience in mHealth, and is the Canadian PI of a Canada-China mHealth implementation study. **Dr. Erin Michalak** is the Program Director of the Digital Hub, Professor in the Department of Psychiatry at UBC and recipient of the 2018 CIHR Gold Leaf Prize for Transformation in Patient Engagement. **Dr. Jill Murphy** is the Strategic Initiatives Director of the Digital Hub and is a MITACS Elevate postdoctoral fellow in the Department of Psychiatry at UBC. She has been co-PI on several grants global mental health grant in Asia. **Dr. Andrew Greenshaw** is the Scientific Director of the Digital Hub, a Professor and Associate Chair for Research in the Department of Psychiatry and Neuroscience at the University of Alberta with expertise in digital health. **Dr. Chee Ng** is a member of the Digital Hub Executive and is Healthscope Chair and Professor of Psychiatry and Director of the International Unit, Department of Psychiatry, St. Vincent's Hospital and the University of Melbourne, Australia. **Dr. Arun Ravindran** is a member of the Digital Hub Executive and is Professor and Director of Global Mental Health Affairs at the University of Toronto. He holds youth mental health implementation grants in several countries, including China. **Dr. Simon Hatcher** is Professor and Vice Chair, Research of the Department of Psychiatry at the University of Ottawa and has expertise in using technology for mental health. **Dr. John O'Neil** is a Professor and former Dean of the Faculty of Health Sciences at Simon Fraser University. He is the PI of a CIHR funded grant on depression care in Vietnam. **Dr. Vu Cong Nguyen** is Director of the Institute of Population, Health and Development (PHAD) in Hanoi, Vietnam. He is the co-PI of a CIHR-funded study on care in Vietnam and works extensively with government to enhance mental health care in the country. **Dr. Harry Minas** is Associate Professor and Head of the Global and Cultural Health Unit at the University of Melbourne. He has extensive experience in mental health systems and policy research in the Asia Pacific. **Dr. Jun Chen** is Chief Physician and Director, Office of Clinical Research Center and Office of Shanghai Clinical Center for Mental Disorders, Shanghai Mental Health Center. **Dr. Mellissa Withers** is Assistant Professor at the University of Southern California Centre for Global Health and is the Program Director for Global Health for the Association of Pacific Rim Universities. **Dr. Angela Paric** is a postdoctoral fellow at the Centre for Addiction and Mental Health and project coordinator for global youth mental health initiatives, including in China. **Dr. Tae-Yeon Hwang** is Director, Division of Mental Health Services and Planning at the National Centre for Mental Health in Seoul, Korea. **Ms. Sapna Mahajan** represents the Mental Health Commission of Canada and is the co-chair of the Digital Hub's Workplace Wellness and Resilience working group. **Mr. Matias Irrarrazaval** is Director of Mental Health at the Ministry of Health, Chile. **Mr. Nguyen Van Hoi** is the Director of the Department of Social Protection at Vietnam's Ministry of Labour, Invalids and Social Affairs. **Dr. Nurashikin Ibrahim** is Sector Head for Mental Health, Substance Abuse and Violence Injury Prevention at the Malaysia Ministry of Health, and is Head Coordinator of the Mental Health and Psychosocial Support Services response to the COVID-19 outbreak in Malaysia. **Dr. Karen Sharmini** is senior Principle Assistant Director at the Mental Health Unit, Ministry of Health, Malaysia.