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9th Annual E-Mental Health Conference

Caring in a Digital World: Introducing Disruptive Change to Mental Health Care

Summary Report

University of British Columbia
University Health Network
Centre for Addictions and Mental Health
Mental Health Commission of Canada

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"E-mental health. . . is evolving so quickly. But this fast pace is not without risks — and we cannot talk about the opportunities without knowing the pitfalls we might face."

Louise Bradley, MHCC

EXECUTIVE SUMMARY

The ninth annual E-Mental Health Conference brought together mental health practitioners, researchers, students, people with lived experience and other system stakeholders to explore recent developments and insights related to technology-enabled mental health support — including how to effectively incorporate digital tools into the delivery of compassionate mental health care.

Day 1 opened with **four workshops** that took a practical look at some key areas of e-mental health (e-mh): engaging youth as active agents of change, implementing and building capacity for e-mh, using mobile apps to achieve clinical results, and evaluating the effectiveness of digital mental health interventions.

The conference proper began with remarks from **Elder Diane Longboat**; Mental Health Commission of Canada (MHCC) President and CEO **Louise Bradley**; the **Hon. Michael Tibollo**, Ontario Associate Minister of Mental Health and Addictions; **Susan Abbey, MD** of the University Health Network (UHN); and **Damian Jankowicz, PhD** of the Centre for Addiction and Mental Health (CAMH). These were followed by a keynote presentation by **John Torous, MD** on the current state and future potential of e-mh apps.

Day 2 was built around a series of panel discussions and presentations. **Andy Greenshaw, PhD**; **Sean Kidd, PhD**; and **Alisa Simon** tackled the question, "Is change coming?" **Sanjeev Sockalingam, MD** and **Eva Serhal** shared lessons learned from CAMH's implementation of the ECHO Ontario Mental Health program, and **Lori Wozney, PhD** talked about the policy challenges Nova Scotia faces in e-mh implementation. Disruption — what it is and how it happens — was the focus of a discussion among **Catherine Zahn, MD**; **Justin Scaini** and **Shaleen Jones**. That same topic was taken up by **Allison Crawford, MD, PhD**; **John Dick**, and **Mohammadali Nikoo, MD** with respect to reaching marginalized populations such as Indigenous communities, youth and people with substance use disorders.

The final panel of the day posed the question, "Who is going to change the world?" Emerging researchers **Alexander Daros, PhD**; **Emma Morton, PhD**; **Nelson Shen, PhD**; and **Ellen Stephenson, PhD** had the opportunity to talk about their work in digital mental health. The event concluded with a keynote presentation from **Ian Hickie, MD** on what Canada can learn from the Australian experience with e-mh.

Key takeaways

At the end of the conference, **David Wiljer, PhD** provided a succinct recap of the lessons learned and key themes that emerged over the two days:

- Trust, transparency and compassion are key to scaling up mental health services and supports.

- It will take new knowledge, specific evidence and cultural humility to build and adopt smarter approaches to mental health care.
- Diversity, inclusion, equity and access are the fundamental starting points for expanding reach and broadening perspectives.
- Going forward, it will be important to mind the "Ps and Qs" of e-mh: making sure it is **p**redictive, **p**reventative and **p**ersonalized, and that it uses high-**q**uality, high-volume data.
- We need to start with the basic competencies: training and education, building workforce capacity, and creating new roles and the workforce of the future.
- Involving all stakeholders in creating and implementing solutions will be essential: people with lived experience, researchers, clinicians, developers, IT experts and others.

David Wiljer's favourite phrases heard during the conference:

- "Know your knots."
- "It's important to lead, but more important to follow."
- "Pay attention to folks who have no care, nowhere."
- "The unmet need is endless."
- "We need to speak to needs greater than our own self-interest."
- "Real care in real time."
- "Why not do something online?"
- "Boil the ocean one drop at a time."
- "This work requires patience and a big, open heart."
- "Have the courage to admit when you're wrong."
- "Ensure no one ever feels they're alone."
- "Pay attention to the mental wealth of nations."
- "Tell me what you want, what you really, really want."
- "Stop, collaborate and listen."

DAY ONE: WORKSHOPS

The workshops that kicked off this year's conference took a practical look at four areas of e-mh: engaging youth as active agents of change, implementing and building capacity for e-mh, using mobile apps to achieve clinical results, and evaluating the effectiveness of digital mental health interventions.

Workshop 1: Engaging youth as active agents of change for mental health care

Across four presentations, the leaders of this workshop shared best practices for youth engagement, explored the impact youth engagement can have at multiple levels, and discussed processes for evaluating and mobilizing best practices.

FACILITATORS

Joanna Henderson, PhD
Director, McCain Centre for Child, Youth and Family Mental Health, Centre for Addiction and Mental Health

Alec Cook
Youth Co-Researcher, MINDS of London-Middlesex

Ian Hickie, MD
Co-Director, Health and Policy, University of Sydney Brain and Mind Centre

Eugenia Canas, PhD
Coordinator, Centre for Research on Health Equity and Social Inclusion

YOUTH ENGAGEMENT IN PROJECT PLANNING, DESIGN AND EXECUTION

Joanna Henderson, PhD explained how involving youth in every stage of a research project — as participants, consultants, partners and project leads — helps generate more relevant questions and outcomes while strengthening buy-in, enrolment and retention. Youth who participate also benefit by developing skills, self-efficacy and social trust.

To effectively involve and engage with youth, researchers must be trained on using youth-friendly language and creating inviting, open and welcoming spaces. Henderson gave several examples of successful projects built on youth engagement, including the YouthCan IMPACT walk-in clinics and the Lower-Risk Cannabis Use Guidelines, which involved youth in translating recommendations on safer cannabis use into a format and language more accessible to younger users.

LONDON-MIDDLESEX YOUTH MENTAL HEALTH AND ADDICTIONS COUNCIL

Alec Cook presented on the London-Middlesex Youth Mental Health and Addictions Council, which is made up of 12 youth aged 16 to 25 with lived experience with addiction or mental health issues. The Council has advised on a number of youth-focused projects, including developing intake forms for a local mental health walk-in clinic and recommending ways to increase youth involvement in the Youth Wellness Hub Coalition for London. The Council has also created a service transition plan for youth moving to adult mental health and addiction services.

ENHANCING MENTAL HEALTH SERVICES THROUGH TECHNOLOGY-ASSISTED, PERSON-CENTRED, MEASUREMENT-BASED CARE

Ian Hickie, MD touched on systemic problems in mental health services around the world — and noted how digital technologies can help overcome those problems with innovative new approaches. By collecting real-time data from users, for example, service providers can monitor the efficacy of treatments and adjust accordingly. By sharing patient-approved information across multiple platforms, practitioners can integrate data to deliver a personalized health-care experience to each user, greatly improving patient outcomes.

Hickie showed the InnoWell platform as an example of a tool that helps monitor health in real time, with detailed questionnaires to provide a snapshot of users' current health state along and detailed care options and recommendations pushed out in response. To build platforms like these, end users must be directly involved in the design process, not tokenistically but as real partners.

WORKING WITH YOUTH AS STAKEHOLDERS IN MENTAL HEALTH SYSTEM TRANSFORMATION

Eugenia Canas, PhD spoke about the impact of youth engagement at the individual, cultural, organizational and community levels, and how that helps strengthen the focus on personalized care while providing greater visibility into the needs of diverse youth populations.

She described the work of the Mental Health Incubator for Disruptive Solutions (MINDS) of London-Middlesex, a social innovation lab dedicated to integrating youth perspectives into mental health care. The goal is to provide a resource service providers can tap into at any time: "A backbone of support so these organizations don't have to make an investment in youth engagement," she explained.

Canas also described key facilitators for successful youth engagement, including trained staff, full buy-in from leadership and visibility within the community. Barriers to engagement include tight timelines, the fast-paced health services culture and an aversion to change.

"We like to think these tools and resources will be magically implemented on their own, but that's just not the case."
Nicholas Watters, MHCC

Workshop 2: Building capacity for e-mental health: An introductory implementation workshop

How do we move beyond just talking about digital mental health tools and actually start putting them into practice? That was the question explored by the MHCC's Nicholas Watters and Danielle Impey, PhD during their workshop on e-mh implementation.

FACILITATORS

Nicholas Watters, MBA
Director, Access to Quality Mental Health Services, Mental Health Commission of Canada

Danielle Impey, PhD
Program Manager, Access to Quality Mental Health Services, Mental Health Commission of Canada

IMPLEMENTATION CAN'T BE AN AFTERTHOUGHT

While a lot of time is spent building technology-enabled mental health tools, very little thought is given to their implementation — which Watters compared to making a car with all the bells and whistles but forgetting the steering wheel. Implementation has to be considered in any project's timeline and budget right from the very start.

To address skills and knowledge gaps related to implementation, Impey walked through the five modules of the MHCC's *Toolkit for e-Mental Health Implementation*, providing a primer on what's involved in successfully planning and initiating digital mental health innovations in practice. Through the presentations and discussions that followed, several key themes emerged:

- Co-design is a must. No e-mh app should be developed "just because" — it's important to be clear about what you're hoping to achieve and the value for end users. That means making user needs central to service design. But it's not sufficient to have one person with lived experience at the table and call it "co-design" as no single person can speak for an entire population. One participant mentioned the importance of beta testing and "baking in" feedback mechanisms to learn what works and what doesn't before proceeding with a full-scale launch.

- Implementation requires good project management. Having a complete understanding of objectives, scope, available budget/resources and timelines from the outset is critical. That requires solid planning up front. The Toolkit's e-mh planning canvas is a resource to help map a path to an initiative's final destination, including what you'll need today and over the long term to keep it going.

- Start small and manageable. The MHCC recommends organizations begin by providing digital mental health tools to targeted populations or a small group of champion service providers, then making adjustments based on their feedback before expanding the tool to a larger group.

- Evaluate and assess at every stage. Evaluations (using the RE-AIM framework, for example) are key to determining whether an initiative needs to be paused, adjusted or scaled once it's off the

ground. Evaluation must happen during every stage of the implementation and should incorporate a diversity of metrics (because success means different things to different people).

Impey and Watters stressed that anybody can be an e-mh champion, no matter what their role is in their organization, simply by challenging outdated assumptions, opening dialogue with innovators and being open to change.

Workshop 3: If you build it, will they change? Implementing mobile apps to achieve clinical results

Mobile mental health apps have potential to provide tangible benefits. But with more than 10,000 currently available — and only one approved by the U.S. Food and Drug Administration — are any of them effective? And how can effectiveness be evaluated? John Torous, MD and Sean Kidd, PhD explored those questions, explaining the need to go beyond user ratings and asserting that no single app can be "best" for all cases, just as no single medication is ideal for all patients.

FACILITATORS

John Torous, MD
Director, Digital Psychiatry Division, Beth Israel Deaconess Medical Center, Harvard University

Sean Kidd, PhD
Chief, Psychology Division, Centre for Addiction and Mental Health

DEVELOPING A MOBILE APP FRAMEWORK

Torous had the group quickly evaluate two meditation apps: HeadSpace and Relax Now. He then described a four-stage evaluation framework developed by his team and adapted by the American Psychiatric Association that can help people make better, more informed decisions when looking at a mental health app:

1. *Safety:* Does the app respect data privacy and security?
2. *Efficacy:* Is there any scientific evidence to support the app's approach?
3. *Usability:* Is the app simple to use and easy to keep using?
4. *Interoperability:* Does the app share data in useful ways with service providers and other apps?

Apps that pass through all four levels can be said to have some level of effectiveness. This framework, Torous explained, can be easily adapted and customized to fit the user's needs. It has already been used by various organizations, including the City of New York, to recommend mental health apps to patients seeking care.

CHALLENGES AND SUCCESSES OF MOBILE HEALTH APP DEVELOPMENT

Kidd described the development of App4Independence, which he is building with CAMH. Based on user-generated objective and subjective data gathered through sleep tracking, surveys and other markers, the app suggests interventions and provides information to the user's health-care provider. It was developed with feedback from potential users to ensure it collects only information they are comfortable sharing.

Kidd also shared details of mindLAMP, a customizable app created by Torous' team at Harvard University. mindLAMP uses real-time survey data, games, HealthKit and phone sensor data to give users an easy-to-understand snapshot of their current health — and gives health-care providers critical information about their patients' well-being.

Workshop 4: Will my e-mental health interventions be effective? A practical guide to evaluation, rapid assessment and awesome analytics

Evaluating digital health technologies should be standard practice given their high cost and potential impact on people's lives. Yet too often evaluations are not done, usually due to the time and effort involved.

A joint team from UHN and CAMH shared strategies and tools to encourage evaluation — and to make it easier. They explained evaluations can be formative (focused on activities and out*puts*) or summative (focused on out*comes*). Hundreds of frameworks exist, all basically designed to determine if a given solution is achieving its goals and is implemented as intended.

FACILITATORS

Quynh Pham, PhD
Associate Director, Research, eHealth Innovation, University Health Network

Brian Lo, PhD cand.
Research Analyst, Information Management, Centre for Addiction and Mental Health

Nelson Shen, PhD
Post-Doctoral Fellow, Centre for Addiction and Mental Health

David Wiljer, PhD
Executive Director of Education, Technology & Innovation, University Health Network

BUILDING ON A LOGIC MODEL

The foundation of any evaluation is a logic model. Workshop participants used the United Way model, which starts with resources and inputs and progresses through activities and outputs to outcomes and ultimately impact. Participants used that framework to create logic models to evaluate Thought Spot, an app that helps post-secondary students locate mental health services.

The logic model forms the basis of the evaluation questions and design. While there are many options for evaluation design, the workshop focused on surveys, qualitative designs and observational designs — with the greatest emphasis on observational evaluations and tools for conducting them.

MEASURING EFFECTIVE ENGAGEMENT

Digital health technologies suit observational evaluation because they generate so much data about themselves. One result that can be measured through observational evaluation is "effective engagement": whether or not users are engaging sufficiently to achieve the intended health outcomes.

The workshop profiled a platform that can mine data from digital health application logs, sensors and manual inputs collected either *passively* — via continuous monitoring — or *actively* from user input. Ideally, e-mh applications would be designed with an evaluation scheme in mind to fulfill a specific logic model and question set (i.e., the right data elements would be pre-tagged for collection). It's also important to visualize the data in a way that's meaningful for people — which the presenters' own Analytics Platform to Evaluate Effective Engagement does.

Q&A HIGHLIGHTS

- On security and privacy: The presenters explained they assign a unique but anonymous identifier to each user when collecting digital health tool data. Any mapping to the user's name is offline.
- On visualizing data: The team said there is no single best practice but, as principles, they advocated for simplicity and usefulness, mentioning traffic lights as a prime example.
- On frequency: The presenters said data should ideally be *updated* in real time though it may only be accessed once a week or over some longer, more manageable period.

"The system must be fluid and grow with new learning and new technology — and we must never allow mental health to be put in second position again."

Hon. Michael Tibollo, Associate Minister of Mental Health and Addictions, Government of Ontario

DAY ONE: CONFERENCING OPENING AND KEYNOTE

The ninth annual E-Mental Health Conference got underway officially with a series of speeches and discussions about the e-mh opportunity, why it matters and what needs to be thought through for it to be realized.

SPEAKERS

Gillian Strudwick, RN, PhD
Independent Scientist, Centre for Addiction and Mental Health

Elder Diane Longboat
Senior Project Manager, Guiding Directions, Centre for Addiction and Mental Health

Louise Bradley
President and CEO, Mental Health Commission of Canada

Hon. Michael Tibollo
Associate Minister of Mental Health and Addictions, Government of Ontario

Susan Abbey, MD
Psychiatrist-in-Chief, University Health Network

Damian Jankowicz, PhD
Vice President of Information Management, Chief Information Officer and Chief Privacy Officer, Centre for Addiction and Mental Health

Welcoming remarks

Mohawk ceremonial leader, teacher and healer Elder Diane Longboat opened the meeting with an invocation and a prayer of thanks, noting that "in challenging times, we need unprecedented solutions." MHCC President and CEO Louise Bradley agreed. After acknowledging the conference was held on traditional Indigenous territory and paying respect to Elders past and present, Bradley noted that the rapid evolution of the solutions made possible by e-mh innovation brings both promise and risk, in particular through the proliferation of apps with misleading or erroneous information.

"What keeps me up at night is not only the fact that the technology is as fallible as the humans that created it," she said, "but that it is a breeding ground for peddling for-profit services that have the potential of doing more harm than good."

Bradley said that while technology-enabled mental health can improve access to services — reaching people who are "slipping through the cracks" — getting it to rural and remote populations (including Indigenous communities) will remain a challenge until broadband connectivity is available to all people living in Canada. She concluded by saying that solving the challenges related to e-mh requires all players at the table, including every level of government.

BRINGING GOVERNMENT TO THE TABLE

The Hon. Michael Tibollo, Associate Minister of Mental Health and Addictions, presented on recent mental health commitments made by the Government of Ontario, including the *Roadmap to Wellness* unveiled on March 3. Using innovative solutions to fill gaps in care is a core pillar of the plan, so the

province also announced the Mindability program, which will give Ontarians free assessments from trained clinicians along with cognitive behavioural therapy (CBT) tailored to their needs, including the use of telephone and online counselling.

Associate Minister Tibollo considered how technology can help build a more streamlined and connected mental health and addictions system. If people can be followed through the system throughout their lives, resources can be allocated based on needs and in a culturally sensitive, developmentally appropriate way.

TAKING AN INTEGRATED APPROACH

For Susan Abbey, MD, a more connected mental health system must be integrated with physical care. She said there is a need for disruptive system change, especially in how care is delivered to people with both mental and physical ailments. Twenty percent of the people treated at UHN for heart, kidney and other diseases develop mental health problems from the medications they're given or the experience of the procedures they undergo — but are largely ignored by the mental health system.

Damian Jankowicz, PhD echoed Bradley's earlier comments, saying that while digital tools can help people receive the care they otherwise would be unable to get through traditional approaches, too few people across Canada are able to fully benefit from e-mh — and that's why this conference matters.

"The digital mental health revolution has already begun and we're behind the 8-ball."

John Torous, MD

Opening keynote: The future of virtual mental health care: The North American experience

Discussant David Gratzer, MD introduced keynote speaker John Torous, MD. Gratzer told the story of how when Torous asks members of a committee what their favourite apps are, he responds by saying his favourite is the one that lets your point your phone at an airplane and get its flight path details. For Gratzer, that was when he realized Torous was someone who was truly thinking about the "beyond" possibilities of digital technology.

SPEAKER

John Torous, MD
Director, Digital Psychiatry Division, Beth Israel Deaconess Medical Center, Harvard University

DISCUSSANT

David Gratzer, MD
Associate Chief, General Adult and Health Systems Division, Centre for Addiction and Mental Health

With that introduction, Torous started his talk on the current state of e-mh apps by noting that people are increasingly taking control for themselves. He told the story of a man with schizophrenia who used a smartphone app to track his auditory hallucinations. By graphing his own data, he was able to determine if the new medication he'd started taking was effective.

HOW DO YOU KNOW IF AN APP IS ANY GOOD?

Torous commented that today's apps tend to have a small effect size, though a meta-analysis has found their effectiveness can double when combined with human interventions such as peer support. He said

there is an opportunity to reinforce the therapeutic alliance by using the two together instead of inserting technology *between* the person and the provider.

He noted that "top app" lists aren't especially reliable and fall out of date quickly. His team has developed a four-part framework for evaluating apps (see Workshop 3 for details).[*] Torous also said privacy and security are two areas where commercial apps often fall short. His team hacked popular smoking cessation and depression apps and found the data was "going everywhere" even though privacy policies were supposedly in place. In his words, "There's a trust barrier to overcome."

ENGAGING USERS AND INTEGRATING APPS WITH CARE

Promoting digital health literacy and involving people with lived experience in app design are key. Torous' team hosts digital health literacy groups that teach basic smartphone skills and has also co-designed an app called mindLAMP with end users. The co-design process revealed that end users wanted to know: a) where their data would be stored; and b) how they were doing relative to other app users. Torous observed that getting any app right is an intensive, ongoing process, nothing that mindLAMP has been updated 20 times in three years.

His team has established a digital clinic where treatments combine face-to-face visits and digital tools customized to patients' needs. They've built a dashboard to visualize different types of data and created a "digital navigator" position to assist patients and clinicians with technology. Torous said the clinic has helped bring patients and providers closer together.'

Q&A HIGHLIGHTS

- **On building trust:** Torous said app creators need processes for quality control and to protect app data. If people are skeptical about data stewardship, they'll walk away. Legally, there are challenges around creating digital communities where information is shared. In his view, peer supporters are likely to step up and take the lead in this area.
- **On digital navigators:** Torous said anyone could be a digital navigator: the key is to consider the competencies and training needed, and the steps to formalize the role. A participant suggested high school students could be recruited as volunteer digital navigators in unionized settings where creating new positions is difficult.
- **On collaboration between the medical community and private sector:** Because the mental health community doesn't have control over the big tech companies, public-private partnerships may be needed to ensure technologies promote wellness and self-esteem.
- **On digital health research:** Devices deliver personalized interventions but clinical trials are group-based. It's important to ask, "Does the clinical foundation make sense?" Getting tools used medically and reimbursed requires large, high-quality studies, but there are not many for digital mental health tools. Anyone who does that research could be a leading force in this world.
- **On technology and prevention:** If technology could shed light on people's personal experiences, apps could push more targeted interventions.
- **On using biometrics to predict difficulties:** Torous said it can be done for people who use their phone as a proxy for behaviour. Some routines can be watched for variances, such as when people regularly charge their phones. "But we have to be careful. We don't want mental health to be creepy, or make people feel watched."

[*] Torous' team holds "app app parties" that involve eating appetizers and evaluating applications, an idea that seemed to resonate with conference attendees.

"Do you care more about your health data or your money? Because if you do online banking, there aren't many secrets, anyway. Privacy has largely been given away."

Andy Greenshaw, PhD

DAY TWO: PANELS, PRESENTATIONS AND KEYNOTE

The second day of the conference featured a packed agenda of presentations and panel discussions on a broad range of topics and concluded with a final keynote presentation on what Canada can learn from the Australian experience with e-mh.

Session 1: Is change coming?

The MHCC's Nicholas Watters introduced the day's first speakers for a rapid-fire session that gave them each five minutes to present on the question, "Is change coming?"

MODERATOR

Nicholas Watters, MBA
Director, Access to Quality Mental Health Services, Mental Health Commission of Canada

PRESENTERS

Andy Greenshaw, PhD
Professor of Psychiatry and Neuroscience, University of Alberta

Sean Kidd, PhD
Chief, Psychology Division, Centre for Addiction and Mental Health

Alisa Simon
Senior Vice President, Service Innovation, Kids Help Phone

DISRUPTION IS ON THE WAY

Andy Greenshaw, PhD predicted the mental health space will be unrecognizable in 10 years, with much of the disruption resulting from machine learning and artificial intelligence (AI). To ensure data are best used for the public good, he urged for "deep discussion" about privacy, equity and access as interconnected issues — primarily because these affect the size of the datasets available and larger datasets yield better results. (Most work today is on small datasets and not generalizable.)

Greenshaw advocated for designing datasets in advance to collect what's most meaningful and championed practical solutions instead of "chasing big questions". He said revolutionizing mental health care depends on treating it as a "big team event" where every voice is important: diversity, inclusion, language and culture all have to factor.

WHAT DOES COMPASSION LOOK LIKE?

Sean Kidd, PhD proposed three pillars for compassionate digital mental health:

1. Equity. Digital mental health today is an "equity disaster" — there are options for people who want to be less anxious or drink less but not for people with schizophrenia, substance use problems, developmental disabilities or who are new to Canada. More has to be done to develop technologies that meet the needs of marginalized people.

2. Compassion. Compassion isn't generic. Technologies need to reflect this through customization and personalization — which makes co-design essential. Kidd wondered if technologies could use AI and machine learning to teach people to be compassionate to themselves.

3. Human connection. There needs to be some focus on the interface between technology and human-led care. For instance, the success of stepped care falls off when applied rigidly and someone who might need to see a person is forced to use an app first. Can technology identify who needs what when? Training is also a consideration: a great psychotherapist might be bad at internet-delivered CBT. How do clinicians stay compassionate when not physically present?

IT'S NOT JUST ABOUT TECHNOLOGY, IT'S ABOUT THINKING DIFFERENTLY

Alisa Simon shed light on how Kids Help Phone brought innovative thinking to meet massive demand. Just a few years ago, at 1.98 million interactions with youth every year, 40 percent of demand was still being unmet. That prompted the 2019 launch of a text-based service staffed by volunteers under professional supervision. Today, Kids Help Phone has more than 2,000 trained volunteers — and trains another 150 every six weeks. The training itself is online and involves practice conversations graded by observers.

AI now analyzes incoming texts to triage based on severity. "We don't make people wait if they are actively suicidal," Simon said. "We get to suicidal conversations in 40 seconds, the rest in five minutes. We're about 93 percent accurate at that." Kids Help Phone is now talking to young people about what to do with the data it collects — the world's largest unstructured dataset of words kids actually use in distress. It is looking to build a data hub with partners to inform policies and other supports.

Q&A HIGHLIGHTS

- **On data sustainability and commercialization:** Simon said Kids Help Phone does not believe in commercializing data (as youth own the data), but it does work with researchers. Questions about where data is stored and who can read it need to be answered before it can build its hub. Greenshaw said some form of commercialization is necessary to ensure data is cared for: currently, datasets are messy and unshareable. Kidd said commercialization may not be the answer because some applications have low business value, but governments could use data to save lives.
- **On gender, racial and other biases in AI:** Greenshaw said bias in AI is the result of the data used to train the AI; therefore, better data will yield better results. Simon agreed. She said Kids Help Phone has a "good percentage" of Indigenous youth users but not enough to be confident that the text chat AI is ready to support them. Kidd said grants today for cultural adaptation are tokenistic. "We need to get serious about investing in co-design with properly funded Indigenous-led efforts."
- **On sympathy, empathy and teaching AI compassion:** Simon said Kids Help Phone is training people with simulations, practicing against AI and having the AI offer real-time prompts. Greenshaw said the key question is, "What's good for me?" People don't want an average solution, they want something personalized, which predictive analytics can provide.

Session 2: Evolving learning and practice for e-mental health

Teaching health-care providers to use the latest digital mental health tools will be vitally important, especially in rural and remote areas — and digital technology itself may be a way to deliver that training by bringing providers together in virtual communities of practice.

MODERATOR

Shaleen Jones
Executive Director, Eating Disorders Nova Scotia

SPEAKERS

Sanjeev Sockalingam, MD
Vice President, Education, Centre for Addiction and Mental Health

Eva Serhal, MBA, PhD cand.
Outreach Director, Telemental Health and ECHO, Centre for Addiction and Mental Health

Lori Wozney, PhD
Health Outcomes Scientist, Nova Scotia Health Authority

A SPREADING ECHO

CAMH's Sanjeev Sockalingam, MD and Eva Serhal presented on ECHO Ontario Mental Health, a virtual training and capacity-building model established in 2015 that supports health-care providers in delivering evidence-based mental health and addictions care in their local communities.

ECHO is built on a hub-and-spoke educational model. CAMH hosts weekly videoconferencing and online chat sessions with health-care providers across the province — virtual communities of practice that discuss real (anonymized) cases and share recommendations and best practices. This helps providers learn new skills and deliver more consistent care while decreasing the isolation felt by those working in remote communities. CAMH also plans to introduce a certificate program to help providers get up to speed with new digital health tools.

ECHO has since grown to nine communities of practice comprising some 1,200 health-care providers. To get the project off the ground, the team relied on implementation science frameworks such as the Consolidated Framework for Implementation Research (CFIR) and Implementation Outcomes (IO).

Serhal said a well-planned roadmap is critical for any digital initiative: "If you don't know where or how to start, having a set of established, evidence-based approaches to implementation can help." She also explained that one of the keys to ECHO's success has been asking for feedback and measuring outcomes to ensure the curriculum always remains relevant to the needs of health-care providers. Other key success factors include a willingness to make improvements post-launch, getting institutional buy-in and incorporating a diversity of perspectives from the very start.

UNTANGLING THE KNOTS IN NOVA SCOTIA

Lori Wozney, PhD discussed the policy challenges related to e-mh readiness in Nova Scotia, a province where many people live in rural communities with unreliable cell coverage and no high-speed internet — and where health-care providers aren't necessarily ready for the digital revolution. The Nova Scotia Health Authority surveyed its own staff and found 74 percent did not know how to evaluate the effectiveness of a digital mental health tool, while 40 percent were not familiar with privacy and security legislation.

"Yes, there are knots in the system," admitted Wozney. "But if we don't think about these struggles, we will not be able to make change." Untangling the knots starts by taking a more strategic approach to e-mh so more service providers will come on board — and by not being afraid of getting into the weeds.

"Big visionary frameworks are nice," Wozney said, "but we really need to drill down into what this will look like and how we will sustain it."

Q&A HIGHLIGHTS

- **On the "a ha" moment for ECHO:** Sockalingam credited engagement with key stakeholders during ECHO's early stages. He also cited the importance of having the courage to be open to feedback and learning in rapid cycles — and having all team members feeling safe in asking, "Can we do this better?"
- **On what does Nova Scotia need to do to scale up e-mh:** "It will be messy and there will be speed bumps, but we need to stick to our guns and learn as we go," said Wozney. As part of that, health-care providers need to recognize areas where they are not the experts, such as systems engineering, and partner with people who are.
- **On the most pressing need for e-mh learning practices:** For Sockalingam, there is a need for a common language and nomenclature on digital mental health. Serhal talked about the need to "boil the ocean" but in a controlled way. "If we try to get everything perfect first, there will something new and different by the time we get around to implementation," she said.

"Leaders have to create a picture of an optimistic future and speak to values greater than self-interest or the organization they serve."
Catherine Zahn, MD

Session 3: Changing the system one disruptive technology at a time

The MHCC's **Ed Mantler, RPN, MSA, CHE** facilitated a discussion that revealed how disruptive thinking and disruptive technologies go hand in hand.

MODERATOR

Ed Mantler, RPN, MSA, CHE
Vice President, Programs and Priorities, Mental Health Commission of Canada

PRESENTERS

Catherine Zahn, MD
President and Chief Executive Officer, Centre for Addiction and Mental Health

Justin Scaini
Director of Consulting, Capitalize for Kids

Shaleen Jones
Executive Director, Eating Disorders Nova Scotia

BUILDING SYSTEM CAPACITY

CAMH President and CEO **Catherine Zahn, MD** linked the need for disruption to the scale of demand for mental health services. At any given time, three million people in Ontario need mental health support. "There's no chance of having the professional human power to address that," she said. "We need to streamline the system and build capacity that's not necessarily physical." She clarified it's not just about expanding care but also system capacity, citing ECHO as an example of how to do that.

Zahn noted that disruption requires collaboration, which is not part of the health sector culture. "There's a lot of "versus" language and a perception that collaborations carry risk," she said. "A number of us are now working to break through that." Governments are also risk-averse, often seeking guarantees that innovation projects will succeed (even though the purpose of innovation is to experiment). She also touched on the importance of data privacy and security, saying her own Twitter account had been impersonated. "We need protective commentary for our patients," she said. "Don't post private information on these platforms."

DISRUPTION BY DOING THINGS DIFFERENTLY

Justin Scaini described how Capitalize for Kids helps mental health organizations do more with less. When the George Hull Centre for Families wanted to reduce last-minute appointment cancellations, Capitalize for Kids proposed a reminder text system similar to those used by dental offices. They worked with clients and clinicians to adapt the model to the mental health context, aiming not to pressure patients but rather to make it easier for them to opt out or reschedule appointments. In a pilot with seven clinicians who had varying degrees of comfort with technology, the reminders reduced no-shows by 35 percent. Scaini also touched on how Toronto's What's Up walk-in clinics are preparing to pilot a load-sharing model so that if one location is busy another with capacity can serve clients remotely.

Scaini advocated for collaboration between mental health and the tech sector. "Every idea someone in here can come up with, there's already a vendor for it," he said. "They can give you 80 percent of what you need." He said solutions don't have to be perfect out of the gate: it's better to get a minimum viable product up and running and then build on it.

USING WHAT'S AVAILABLE

Shaleen Jones said Eating Disorders Nova Scotia is a "tiny 1.2-person NGO". Serving a province of a million people, many in rural communities, the organization has had to be creative about maximizing its reach and impact. When attendance at face-to-face peer support sessions started to decline, the peer support team wondered, "Why not do something online?"

They have since migrated all their programs online, including peer support groups, one-on-one peer mentoring and a twice-a-week chat program. While the online shift went well, Jones said they wanted more depth — a challenge on a $38,000 budget. Eating Disorders Nova Scotia is currently using a patchwork of low-cost apps such as Zoom and Eventbrite. Rather than calling, people reach out by Facebook, Instagram and other social platforms. The program even sends retail-style check-in emails. "We're the Old Navy of peer support for eating disorders," she joked.

Session 4: Addressing the need for disruptive change

Disruptive change can happen only by addressing the needs of many populations. From Indigenous communities to youth to people with substance use problems, digital mental health technologies offer entirely new ways to reach society's most vulnerable and marginalized people.

MODERATOR

Lori Wozney, PhD
Health Outcomes Scientist, Nova Scotia Health Authority

SPEAKERS

Allison Crawford, MD, PhD
Associate Professor, Department of Psychiatry, University of Toronto

John Dick
Patient Council Coordinator, Ontario Shores Centre for Mental Health Science

Mohammadali Nikoo, MD
Resident Physician, Department of Psychiatry, University of British

WISE PRACTICES FOR INDIGENOUS OUTREACH

CAMH's ECHO program (see Session 2 for details) is made up of nine virtual communities of practice, including one dedicated to Indigenous wellness. Allison Crawford, MD, PhD talked about how certain adaptations had to be made to the ECHO model to work for health-care providers in First Nations, Inuit and Métis communities.

First, CAMH embraced a distinctions-based approach to mental health. Given that there are several hundred First Nations communities in Ontario, acknowledging their cultural distinctions is key. Also, all training sessions are led by an Indigenous host and Elder, while the curriculum itself is based on "wise practices": a term encompassing all the Indigenous knowledge and experience that contribute to wellness. When health-care providers in this ECHO group discuss cases, their recommendations focus on not only mental and physical health but also emotional, spiritual, family and community wellness.

"It's not about the technology, it's about the relationships," said Crawford. "It's about community knowledge and community strength and having a sense of cultural humility as we go about our work."

LISTENING TO YOUTH

John Dick stated it plainly: the earlier an intervention is started; the more success people will have in their recovery. He has been speaking openly about mental illness for more than 16 years and is encouraged by the fact that the topic is no longer taboo. But in his experience as a public speaker in schools across Canada and as a co-facilitator for family discussion groups at the Ontario Shores Centre for Mental Health Science, he has realized that we need to do a much better job listening to youth. "Are we designing e-mental health based on what we think works best?" he asked. "Or are we acting on what youth and their families are actually telling us about how we can improve their recovery journeys?"

Dick said digital mental health technologies can help youth feel supported while providing much-needed support to the people around them including family members, caregivers and educators. "They need support in how to support," he explained. "Right now, they feel that they have no options and just white-knuckling through their days."

Dick believes e-mh can help them connect to others who can provide assistance during difficult times — and is the key to ensuring nobody ever feels they are alone on their recovery journeys.

RAMPING UP THE FIGHT AGAINST OPIOID OVERDOSES

Digital innovation can be part of the response to Canada's opioid crisis, said Mohammadali Nikoo, MD. For every six people with a substance use disorder, only one receives any type of treatment — and that

treatment often isn't adequate for their needs. Technology-enabled mental health tools could offer a way to provide psychological interventions in a more consistent, less resource-intensive way.

Nikoo provided an overview of Health Canada's Risk Assessment and Management Platform (RAMP), an online hub that includes tools and guidance for the screening, assessment, prevention and monitoring of problematic opioid use. It's what he calls "a continuity of interventions to address a continuity of needs."

"E-mental health is a powerful but underutilized way to tackle this crisis," he said, adding that there is substantial evidence that standardized, computerized assessments work because people are more likely disclose sensitive information when they can do so anonymously online.

Q&A HIGHLIGHTS

- On how to make technology more compassionate: Crawford said she has actually had deeply emotional moments during ECHO sessions — but the level of emotional engagement ultimately comes down to the relationships that are formed. "If those are going well," she said, "it will come through in the virtual environment." Nikoo noted the use of online assessments and other digital technologies can free up health-care providers to spend more quality time with patients.
- On making RAMP relevant to users who might not want the information being offered: Nikoo explained that co-production is important as a trust-builder. Champions among people with lived experience of substance use will also be needed if RAMP is to be successfully implemented.
- On getting heard by the people in power: Dick explained that it's a lot like the instructions on a shampoo bottle: rinse and repeat. "Because the system is so slow-moving, you have to talk about the same thing over and over again," he said. "Even if I've talked to somebody 10 times, I always go in thinking this is the first time we're having that conversation."

Panel: Who is going to change the world?

A champion of next-generation research talent, David Wiljer, PhD introduced a set of presentations by emerging researchers on what they are working on in digital mental health. Panellists were selected from a call for abstracts and peer-reviewed based on the relevance and importance of their work.

MODERATOR

David Wiljer, PhD
Executive Director of Education, Technology & Innovation, University Health Network

PRESENTERS

Alexander Daros, PhD
Post-Doctoral Fellow, Centre for Addiction and Mental Health

Emma Morton, PhD
Post-Doctoral Fellow, University of British Columbia

Nelson Shen, PhD
Post-Doctoral Fellow, Centre for Addiction and Mental Health

Ellen Stephenson, PhD
Post-Doctoral Fellow, Centre for Research in Family Health, IWK Health Centre

BEYOND BORDERS

CAMH's Alexander Daros, PhD described his planned research on mobile dialectical behaviour therapy (DBT), a treatment developed for people who are highly suicidal and those with borderline personality disorder. He identified two legitimate DBT apps: Pocket Skills (not publicly available) and DBT Coach (which costs $20 a month). Through his work, he aims to study mobile DBT using Pocket Skills in two populations with higher-than-average needs: sexual minorities and people with concurrent disorders. Daros' goal is deliver eight weeks of DBT using different implementation methods: one with coaching and one with regular monitoring.

Daros said he has also had fruitful conversations with the developers of DBT Coach and is exploring possible partnerships with them.

DIVERSITY BY DESIGN

UBC's Emma Morton, PhD talked about the co-design and engagement process behind Bipolar Bridges, an app being developed for people with bipolar disorder. The project draws on CREST.BD's expertise in community-based participatory research and applies user-centred design methods. Stakeholders set the research priorities (quality of life and self-management) and have been engaged in developing personas to help the design team understand users' needs. Those personas will be workshopped across Canada. Once the app is built, a beta version will be evaluated for engagement and efficacy (health-care providers are being recruited for that stage now).

Morton said that co-design takes a long time because trusting relationships need to be built, but it provides assurance that the app is on the right path, lays the groundwork for evaluation and will ultimately speed up impact by creating pathways to user communities.

A CASE FOR PATIENT ENGAGEMENT IN THE PRIVACY DISCUSSION

CAMH's Nelson Shen, PhD said privacy in e-mh is polarized, hard-to-resolve, treats citizens as bystanders and is not well understood. In a review of 1,700 journal articles, he found only 54 that mentioned privacy — and none went into depth on mental health specifically. To learn more, he interviewed CAMH patients with mood and anxiety disorders and found most people believe the advantages of sharing health information outweigh the disadvantages. From his research, he concluded the patient voice is essential to the privacy discussion and while *privacy* can be defined and legislated, *trust* can't: it has to be built through relationships, engagement and transparency.

He put forward a set of patient engagement principles: 1) engage early; 2) involve at least two people; 3) incentivize participation and remove barriers; 4) be clear and transparent; 5) communicate regularly and effectively; and 6) show people their contributions are valued.

USING APPS TO IMPROVE MENTAL HEALTH OUTCOMES IN PRIMARY CARE

Ellen Stephenson, PhD explained her involvement in developing a new app, Health enSuite, that aims to improve mental health outcomes in primary care by creating a one-stop solution for patient education and behavioural management. She and her colleagues are currently developing a research plan, have reviewed the literature and consulted with a patient education committee. They're now working on identifying common conditions in primary care that an app could help address (such as insomnia, depression and anxiety).

She noted that while there are challenges around app development — including pace of change, stakeholder buy-in, limited research and how software is regulated — the benefits are compelling, from compliance with privacy laws to integration with other digital health technologies, suitability for medically supervised treatments and implementability within the publicly funded system.

> *"We need to imagine brand-new things that will have a real, transformative impact on mental health care."*
>
> Ian Hickie, MD

Closing keynote: The future of virtual mental health care: The Australian experience

Canada isn't the only nation looking to use digital technologies to improve mental health care. The former head of Australia's National Mental Health Commission, Ian Hickie, MD, used his keynote address to talk about his country's experience with e-mh and the trends he has observed — and how Canada can learn from Australia's lessons. His rapid-fire presentation touched on many topics, including:

SPEAKER

Ian Hickie, MD
Co-Director, Health and Policy, University of Sydney Brain and Mind Centre

DISCUSSANT

Gillian Strudwick, RN, PhD
Independent Scientist, Centre for Addiction and Mental Health

- Not taking progress for granted. "We've always assumed positive change is inevitable," said Hickie. "We've taken it for granted that, one day, we'll be treated the same as any other part of the health-care system. I don't take that for granted anymore."

- The "Uberization" of mental health. Technology companies are not always involving the experts when developing their apps. "E-mental health is here, but it's not controlled by us," he said. "My fear is that the people in this room are already late to the party. We'll be trying to regulate things after the fact rather than having an active role in their development."

- Making the case for mental health. One way to gain support for e-mh is to focus on "mental wealth". A person's productivity and future earnings are greatly affected by their mental health, so any investments in this area can lead to substantive economic gains for a country.

- Data is key. Being able to predict impact and use collected data to make changes as needed will be vital to new programs like Mindability. “You can put millions into the system and say you did something,” Hickie said. “But if you don’t have the data-collection systems to see what’s happening, you’re wasting your time. You’ll never know if you made things better or worse.”

- Compassionate care isn’t limited to face-to-face therapy. In-person sessions don’t work for everybody, with many people preferring digital methods when engaging with health-care providers. Youth and Indigenous people may not want to disclose fully with “old white people like me” — but they may tell the truth to an app or device.

- Access and quality are equally important. In mental health, too often the focus is on improving access. While that’s important, Hickie said it's not enough to say a lot of people touched the system: there must be an equal emphasis on improving the *quality* of care.

He concluded by saying that technology developers need to stop producing digital versions of analog tools and be more innovative: “We have to throw away the horse and buggy and start thinking in terms of automated airplanes. We can’t solve the issues we're facing by twentieth-century means.”

Appendix A: Conference at a glance

Thursday, March 5, 2020

TIME	WORKSHOP	WORKSHOP
9:00 a.m. - 12:00 p.m.	**Engaging Youth as Active Change for Mental Health Care** Facilitated by: **Ian Hickie**, Brain and Mind Centre, University of Sydney **Joanna Henderson**, Centre for Addiction and Mental Health McCain Centre for Child, Youth and Family Mental Health **Eugenia Canas**, The Centre for Research on Health Equity and Social Inclusion **Alec Cook**, MINDS of London-Middlesex and Western University	**Building Capacity for E-Mental Health: An Introductory Implementation Workshop** Facilitated by: **Nicholas Watters**, Mental Health Commission of Canada **Danielle Impey**, Mental Health Commission of Canada
12:00 p.m. - 12:45 p.m.	*Lunch*	
12:45 p.m. - 3:45 p.m.	**If You Build It, Will They Change? Implementing Mobile Apps to Achieve Clinical Results** Facilitated by: **Sean Kidd**, Centre for Addiction and Mental Health **John Torous**, Beth Israel Deaconess Medical Center, Harvard University	**Will My E-Mental Health Interventions Be Effective? A Practical Guide to Evaluation, Rapid Assessment and Awesome Analytics** Facilitated by: **Quynh Pham**, University Health Network **Brian Lo**, Centre for Addiction and Mental Health **Nelson Shen**, Centre for Addiction and Mental Health **David Wiljer**, University Health Network

TIME	SESSION	SPEAKER(S)
4:00 p.m. - 5:00 p.m.	**Conference Welcome**	**Gillian Strudwick**, Independent Scientist, Centre for Addiction and Mental Health **Elder Diane Longboat** **Louise Bradley**, President and CEO, Mental Health Commission of Canada **The Honourable Michael A. Tibollo**, Associate Minister of Mental Health and Addictions **Susan Abbey**, Psychiatrist-in-Chief, University Health Network **Damian Jankowicz**, Vice President, Information Management, Chief Information Officer and Chief Privacy Officer, Centre for Addiction and Mental Health

5:00 p.m. - 6:00 p.m.	**Opening Keynote: The Future of Virtual Mental Health: The North American Experience**	**John Torous**, Beth Israel Deaconess Medical Center, Harvard University Discussant: **David Gratzer**, Centre for Addiction and Mental Health

Friday, March 6, 2020

TIME	SESSION	SPEAKER(S)
8:30 a.m. - 8:40 a.m.	**Welcome**	**Nicholas Watters**, Mental Health Commission of Canada
8:40 a.m. - 9:10 a.m.	**Session 1: Is Change Coming?**	**Andy Greenshaw**, University of Alberta **Sean Kidd**, Centre for Addiction and Mental Health **Alisa Simon**, Kids Help Phone Moderator: **Nicholas Watters**, Mental Health Commission of Canada
9:10 a.m. - 10:10 a.m.	**Session 2: Evolving Learning and Practice for E-Mental Health**	**Sanjeev Sockalingam**, Centre for Addiction and Mental Health **Eva Serhal**, Centre for Addiction and Mental Health **Lori Wozney**, Nova Scotia Health Authority Moderator: **Shaleen Jones**, Eating Disorders Nova Scotia
10:10 a.m. - 10:30 a.m.	*Health break and poster session*	
10:30a.m. - 11:30 a.m.	**Session 3: Changing the System One Disruptive Technology at a Time**	**Catherine Zahn**, Centre for Addiction and Mental Health **Justin Scaini**, Capitalize for Kids **Shaleen Jones**, Eating Disorders Nova Scotia Moderator: **Ed Mantler**, Mental Health Commission of Canada
11:30 a.m. - 12:30 p.m.	*Lunch and poster session*	
12:30 p.m. - 1:30 p.m.	**Session 4: Addressing the Need for Disruptive Change**	**Allison Crawford**, University of Toronto and Centre for Addiction and Mental Health **John Dick**, Ontario Shores Centre for Mental Health Sciences **Mohammadali Nikoo,** University of British Columbia Moderator: **Lori Wozney**, Nova Scotia Health Authority

TIME	SESSION	SPEAKER(S)
1:30 p.m. - 2:30 p.m.	**Who is Going to Change the World? A Panel of Emerging Researchers**	**Alexander Daros,** Centre for Addiction and Mental Health **Emma Morton**, University of British Columbia **Nelson Shen,** Centre for Addiction and Mental Health **Ellen Stephenson**, IWK Health Centre Moderator: **David Wiljer**, University Health Network
2:30 p.m. - 2:50 p.m.	*Health break and poster session*	
2:50 p.m. - 3:50 p.m.	**Closing Keynote: The Future of Virtual Mental Health Care: The Australian Experience**	**Ian Hickie**, Brain and Mind Centre, University of Sydney Discussant: **Gillian Strudwick**, Centre for Addiction and Mental Health
3:50 p.m. - 4:00 p.m.	**Closing remarks**	**David Wiljer**, University of Toronto **Gillian Strudwick**, Centre for Addiction and Mental Health

Appendix B: List of participants

FIRST NAME	LAST NAME	ORGANIZATION
Pegah	Aarabi	ROYA
Sherab	Aathytsang	Flemingdon Health Centre
Susan	Abbey	University Health Network
Mayse	Abu-Shaaban	Employment and Social Development Canada
Sheila	Addanki	McMaster University
Branka	Agic	Centre for Addiction and Mental Health
Sara	Ahmadzadeh	Learning Disabilities Association, Toronto District
Javed	Alloo	Centre for Addiction and Mental Health
Colin	Anderssen	MindBeacon Group
Ashley	Apland	FIREFLY
Lindsay	Ayearst	MHS
Yousra	Bader	Learning Disabilities Association, Toronto District
Chris	Banks	Royal Canadian Legion
Christina	Bartha	The Hospital For Sick Children
Marie	Bedard	CAS Ottawa
Allison	Bichel	AHS
Wayne	Blampied	Cognit
Byron	Boyd	Central Health
Amanda	Brazil	University of PEI
Glenn	Brimacombe	Canadian Psychological Association
Sheana	Bull	Colorado School of Public Health
Drew	Burroughs	Homewood Health
Cristina	Busila	32 CF Health Services Center
Roy	Cameron	Homewood Research Institute
Sarah	Campbell	Shoppers Drug Mart
Ally	Campbell	Schizophrenia Society of Canada
Leslie	Carmichael	Ontario Hospital Association
Kristin	Carpenter	Bayview Glen School
Tom	Carter	CBI Health
Arduino	Cervoni	St. Joseph's Health Care London
Rebecca	Charow	University Health Network
Owen	Charters	Boys & Girls Clubs of Canada

FIRST NAME	LAST NAME	ORGANIZATION
Ruiping	Chen	Hong Fook Mental Health Association
Nancy	Chisholm	Centre for Addiction and Mental Health, Durham
Christine	Chiu	OCD Toronto Support Group
Jill	Chorney	IWK Health Centre
Matthew	Christie	Centre for Addiction and Mental Health
Karen	Cohen	Canadian Psychological Association
Michael	Cooper	Mental Health Research Canada
Peter	Cornish	Memorial University of Newfoundland
Theresa	Cunningham	Strongest Families Institute
Kristina	Daghlian	George Brown College
Alyse	Dan	Aubrey & Marla Dan Foundation
Scarlett	Davidson	Mind Your Mind
Glenda	Davis	The Salvation Army
Ian	Dawe	Trillium Health Partners
Naushaba	Degani	Canadian Mental Health Association, Ontario Division
Amy	Demone	N/A
Brittany	Di Tommaso	Multi Health Systems
Ke	Ding	University of Florida
Erin	Dixon	Morneau Shepell
Allan	Donsky	Canadian Institute of Natural and Integrative Medicine
Neil	Drimer	CFHI
Sam	Duboc	MindBeacon Group
Melissa	Edwards	CHEO
Harriet	Ekperigin	OTN
Felicia	Fallen	N/A
Alison	Forestall	Canadian Medical Association Foundation
Cyndy	Forsyth	Homewood Research Institute
Michael	Gershuny	Jewish Family Services of Ottawa
Wajiha	Ghazi	Learning Disabilities Association, Toronto District
David	Goldbloom	Centre for Addiction and Mental Health
Lesley	Gosio	ASYR
David	Granovsky	Mental Health Commission of Canada
Seena	Grewal	Hospital for Sick Children
Kanika	Gupta	Learning Disabilities Association, Toronto District
Heather	Hadjistavropoulos	University of Regina
Amané	Halicki-Asakawa	Youth Mental Health and Technology Lab, CRCHUM, Université de Montréal

FIRST NAME	LAST NAME	ORGANIZATION
Jessica	Hamilton-D'Arcey	University of Toronto / Centre for Addiction and Mental Health
Jenny	Hardy	Centre for Addiction and Mental Health
Adina	Hauser	Michael Garron Hospital
Eftyhia	Helis	CADTH
Catherine	Heroux	St Michael Hospital
Leona	Hiebert	Canadian Institute of Natural and Integrative Medicine
Richard	Hill	FIREFLY
Sarah	Hines	Starling Minds Inc.
Katie	Hughes	First Nations Health Authority
Maggie	Inrig	Lynwood Charlton Centre
Akiela	Jackson	Learning Disabilities Association, Toronto District
Sarah	Jarmain	St. Joseph's Health Care London
Murray	Jaynes	Ontario Shores Hospital Whitby
Andrew	Johnson	Centre for Addiction and Mental Health
Bennett	Jovaisas	Health Canada
Sarah	Joynt	The Royal Ottawa Hospital
Dalya	Kablawi	Peer Support Centre, Student Society of McGill University
Csilla	Kalocsai	Centre for Addiction and Mental Health
Navreet	Kaur	Sheridan College
Marla	Kaye	University Health Network
Travis	Kelly	Medavie Bluecross
Jana	Kocourek	CHEO
Kimberley	Korf-Uzan	BC Mental Health & Substance Use Services
John	Labao	Canadian Mental Health Association, National Office
Meredith	Landy	MindBeacon / Ryerson University
Lauren	Lavery	Sheridan College
Tyler	Leary	Centre for Addiction and Mental Health
Jeesoo	Lee	Shoppers Drug Mart
Sarah	Lee	League Inc.
Lisa	Lefebvre	OMA Physician Health Program
Jamie	Lemen	University Health Network
Patrick	Lessard	FIREFLY
Darian	Leung	Learning Disabilities Association, Toronto District
Ameth	Lo	Mental Health Commission of Canada
Brian	Lo	Centre for Addiction and Mental Health
Renee	Longo	Starling Minds Inc.

FIRST NAME	LAST NAME	ORGANIZATION
Leo	Lu	Learning Disabilities Association, Toronto District
Kim Mai	Ly	Starling Minds Inc.
Aoife	Lyons	Centre for Addiction and Mental Health
Rita	MacAulay	Government of Nova Scotia
Sarah	MacGrath	Centre for Addiction and Mental Health
Stephanie	Machel	Morneau Shepell
Asha	Maharaj	Centre for Addiction and Mental Health
Elizabeth	Manafo	Ryerson University
Karen	Mann	Toronto Mental Health and Addictions Access Point
Mona	Mansour	Ryerson University
Silvia	Margarian	Learning Disabilities Association, Toronto District
Krystle	Martin	Ontario Shores Centre for Mental Health Sciences
Chris	McCarthy	Children's Centre Thunder Bay
Maryanne	McCaslin-Gancarz	N/A
Laycie	McConnell	Correctional Service Canada
Jacqueline	McKernan	Northern Bridge Community Partnership
Samantha	McKim	Yukon Aboriginal Women's Council
Rohan	Mehta	Centre for Addiction and Mental Health
Amelie	Meilleur	SSQ Insurance
Jeboah	Miranda	Jeboah Miranda Foundation
Althea	Monteiro	32 CF Health Services Center
Suhail	Nanji	Vancouver Coastal Health
Joni	Nelson	Children's Centre Thunder Bay
Elaine	Nesbitt	Niagara Health System
Jody	Noah	Southern First Nations Secretariat
Candace	Noah	Southern First Nations Secretariat
MaryAnn	Notarianni	CHEO
Mohsen	Omrani	OPTT
Micheal	O'Rourke	University Health Network
Shane	Partridge	Saskatchewan Health Authority
Charmy	Patel	Mind Relief
Alissa	Pencer	Tranquility
Cheryl	Pereira	Centre for Addiction and Mental Health
Susan	Philpott	Mental Health After Hours
Luka	Pike	Homewood Health
Angela	Podmore	Family & Children's Services of Guelph and Wellington County

FIRST NAME	LAST NAME	ORGANIZATION
Irene	Poldolak	GBF Community Services
Alexia	Polillo	Centre for Addiction and Mental Health / University of Toronto
Amy	Porath	Canadian Centre on Substance Use and Addiction
Nita Chochangi	Pun	Dalit Welfare Association
Yuri	Quintana	Harvard Medical School
Aniqa	Rahman	Learning Disabilities Association, Toronto District
Thiyake	Rajaratnam	Centre for Addiction and Mental Health
Raneeshan	Rasendran	York University
Tayyab	Rashid	University of Toronto Scarborough
Claudia	Riveros	Yukon Aboriginal Women's Council
Glenn	Roil	CMHA NCPLE
Natalia	Ronda	Centre for Addiction and Mental Health
Ziad	Saab	Canadian Medical Association
Sherald	Sanchez	Centre for Addiction and Mental Health
Fred	Schmidt	Children's Centre Thunder Bay
Lydia	Sequiera	IHPME Graduate Student Union
Hurmat	Shahid	Learning Disabilities Association, Toronto District
Amir	Shirazi	Queen's University
Christine	Simmons-Physick	Kinark Child and Family Services
Deanne	Simms	Canadian Mental Health Association
Moninder	Singh	BC Nurses' Union
Annette	Smith	Regional Municipality of York
Glenys	Smith Elliott	Mental Health After Hours
Maryam	Sospeter	Learning Disabilities Association, Toronto District
Daniela	Sota	Canadian Hearing Services
Natalie	Steele	Church In The Oaks
Alexa	Sturm	N/A
Shafqat	Suri	Kinark Child and Family Services
Razi	Syed	MettleAI
Danielle	Taubman	University of Michigan Depression Center
Stacy	Taylor	Government of New Brunswick
Alisha	Tharani	Mental Health Partners
Adelaine	Thomas	Manulife
Heather	Thomas	Canadian Institute of Natural and Integrative Medicine
Alex	Thomson	Lynwood Charlton Centre
Gohar	Topchyan	Graham Boeckh Foundation

FIRST NAME	LAST NAME	ORGANIZATION
Karen	Topolinski	Legislative Assembly of Saskatchewan
Carly	Tucker	Government of the Northwest Territories
Kimberly	Watson	WSIB
Cynthia	Weaver	Kinark Child and Family Services
Meredith	Weldon	Sun Life
Charlotte	Wells	CADTH
Tracey	Wells-Stratton	Western Health
Lori	Wheeler	Canadian Mental Health Association of New Brunswick
Que	Whitney	Learning Disabilities Association, Toronto District
Mary	Wiktorowicz	York University
Catherine	Willinsky	Schizophrenia Society of Canada
Ian	Wiseberg	Crossroads Children's Mental Health Centre
Emma	Woodbeck	Aubrey & Marla Dan Foundation
April	Yorke	Mental Health Commission of Canada
Courtney	Young	Centre for Addiction and Mental Health
Ellie	Yu	Canada Health Infoway
Lydia	Zhu	N/A

Appendix C: Presenter bios

Keynote speakers

John Torous

John Torous, MD MBI is Director of the Digital Psychiatry Division in the Department of Psychiatry at Beth Israel Deaconess Medical Center, a Harvard Medical School affiliated teaching hospital, where he also serves as a staff psychiatrist and academic faculty. He has a background in electrical engineering and computer sciences and received an undergraduate degree in the field from UC Berkeley before attending medical school at UC San Diego. He completed his psychiatry residency, fellowship in clinical informatics, and master's degree in biomedical informatics at Harvard.

Dr. Torous is active in investigating the potential of mobile mental health technologies for psychiatry and has published over 150 articles and five books chapters on the topic. He serves as editor-in-chief for an academic journal on technology and mental health, *JMIR Mental Health*, currently leads the American Psychiatric Association's work group on the evaluation of smartphone apps, and is an advisor to the smartphone mood study within the NIH's All of Us research program.

Ian Hickie

Professor Ian Hickie is Co-Director, Health and Policy at the University of Sydney's Brain and Mind Centre. He is an NHMRC Senior Principal Research Fellow (2013-17 and 2018-22), having previously been one of the inaugural NHMRC Australian Fellows (2008-12). He was an inaugural Commissioner on Australia's National Mental Health Commission (2012-18) overseeing enhanced accountability for mental health reform and suicide prevention.

He is an internationally renowned researcher in clinical psychiatry, with particular reference to medical aspects of common mood disorders, depression and bipolar disorder in young people, early intervention, use of new and emerging technologies and suicide prevention. In his role with the National Mental Health Commission and his independent research, health system and advocacy roles, Professor Hickie has been at the forefront of the move to have mental health and suicide prevention integrated with other aspects of health care (notably chronic disease and ambulatory care management).

Presenters and panellists

Alec Cook

Alec Cook is a second-year student at Western University, completing an honours specialization BSc. in psychology. Alec has been a part of the Mental Health Incubator for Disruptive Solutions (MINDS) of London-Middlesex since 2018, starting as a co-op student in his senior year of high school and now in his role as a youth co-researcher. He is currently leading a research project studying youth-centred practice within the mental health-care system, with aims to develop a toolkit for individuals and organizations looking to adopt this approach. In addition to his role as a youth co-researcher, Alec is also one of the two lead facilitators of the London-Middlesex Youth Mental Health and Addictions Council (YMHAC), which works to bring youth voice to mental health initiatives across London-Middlesex.

Alexander Daros

Alex is a post-doctoral fellow at the Centre for Addiction and Mental Health, where he is actively studying the use of smartphone-delivered interventions, experience sampling and mobile sensing in individuals with mental health difficulties. Part of his current research interests involve disseminating dialectical behaviour therapy in briefer and more mobile formats that are less resource-intensive. He was previously a post-doc at the University of Virginia where he used experience sampling to track emotional and cognitive processes in individuals with social anxiety for up to five weeks while delivering a mobile intervention.

Alex is also a licensed psychologist in private practice and a sessional instructor at the University of Toronto. He completed his graduate training at the University of Toronto, where he studied emotion regulation, and completed his clinical rotations at several university counselling centres and hospitals in Ontario and British Columbia.

Alisa Simon

Alisa Simon brings more than 20 years of leadership experience in health-care access and support services to her role as Senior Vice President, Innovation and Chief Youth Officer at Kids Help Phone. Alisa is integral to the organization's development of virtual health solutions for youth, including its Live Chat service, the Always There app, the Resources Around Me community database of 30,000 local programs and services nationwide serving young people, and most recently, a texting service — Crisis Text Line powered by Kids Help Phone — which launched across Canada in 2018.

Alisa also oversees the organization's national counselling program, providing leadership and guidance to more than 100 professional counselling staff working across three national counselling centres. In addition, Alisa leads Kids Help Phone's government relationships activities, working closely with provincial and federal government officials and stakeholders to advance the organization's thought leadership initiatives.

Alisa holds a Master of Public Health degree from the University of North Carolina.

Allison Crawford

Allison Crawford, MD, PhD is a psychiatrist and Associate Chief of Virtual Mental Health at the Centre for Addiction and Mental Health, and Associate Professor in the Department of Psychiatry at the University of Toronto. She is co-chair of ECHO Ontario, a telementoring program, and Medical Director of the Ontario Psychiatric Outreach Program. Her research interests are in the use of technology to increase access to mental health care, particularly in the provision of culturally safe and community-based health services.

Andy Greenshaw

Dr. Andrew (Andy) Greenshaw is a Professor of Psychiatry and Neuroscience at the University of Alberta. He had trained in Europe and Canada, and then accepted a faculty position at the University of Alberta in 1986. He began as an Assistant Professor and Heritage Medical Research Scholar, became a Full Professor in 1996 and served as Associate Vice President (Research) from 2003 to 2010.

Dr. Greenshaw is the Scientific Director of the APEC Digital Hub for Mental Health, a digital hub that will serve the combined APEC population of 2.7 billion people in the Pacific Rim, including Indigenous stakeholders. He is also a director of the Alberta-based node of the national Canadian Depression and Research Intervention Network (CDRIN), which focuses on engagement of people with lived experience of mental disorders as partners in patient-oriented research; he also chairs the CDRIN Depression Hubs National Advisory Panel and is a member of the CDRIN Board.

He is a Fellow of the Canadian College of Neuropsychopharmacology (CCNP), for which he served as President from 2000 to 2002; a Fellow of the Collegium Internationale Neuropsychopharmacologium (CINP); and a Fellow of the Royal Society of Arts.

From 2006 to 2015, Dr. Greenshaw served as Co-Chair of the Alberta Addictions and Mental Health Research Partnership Committee. He has also served on numerous Canadian Medical Research Council and Canadian Institutes of Health Research (CIHR) grant panels for 30 years. He was a member of the Scientific Advisory Board of the CIHR Institute of Neurosciences, Mental Health and Addiction from 2012 to 2016, and a member or the Scientific Advisory Board of The Royal's Institute of Mental Health Research in Ottawa until 2017.

Brian Lo

A doctoral student at the Institute of Health Policy, Management and Evaluation at the University of Toronto, Brian Lo's research focuses on the adoption of consumer digital health technologies such as patient portals. As a research analyst at the Centre for Addiction and Mental Health, he supports several projects exploring the value patient portals provide to clients, providers and family members — and how people can be better supported in using these technologies.

Catherine Zahn

Dr. Zahn is President and CEO of the Centre for Addiction and Mental Health, Canada's leading mental health hospital. She received her MD from the University of Toronto and is a Professor in its Faculty of Medicine. Recognition includes appointment as a Member of the Order of Canada, Doctor of Laws degrees (honoris causa) from the Western University and Ryerson University, the Bryden Award for Outstanding Achievement (York University) and the University of Toronto Faculty of Medicine Lifetime Achievement Award. She has made numerous contributions to advancing health care in Ontario.

Damian Jankowicz

As the leader of the Centre for Addiction and Mental Health's Information Management Group, Dr. Damian Jankowicz is responsible for all aspects of information management and technology at CAMH. Through partnerships with clinicians, researchers and educators, his group leverages technology and information to enrich CAMH's mission to transform lives.

His priorities include fostering a data culture that drives decision-making, advancing CAMH's leading electronic health record system, applying the power of computational methods to enrich research, supporting a safe and smart hospital redevelopment, and innovating for patient engagement.

A PhD graduate of McMaster University, where he specialized in computational modelling, Dr. Jankowicz brings veteran IT leadership experience from within CAMH and from the Ontario hospital sector.

Danielle Impey

Danielle Impey, PhD, is Program Manager, Access to Quality Mental Health Services, at the Mental Health Commission of Canada. Her background is in mental health research and knowledge exchange. She completed her PhD in Psychology at the University of Ottawa. Her thesis research examined cognitive and psychosocial outcomes in clinical populations at the neuroelectrophysiology laboratory at The Royal Ottawa hospital. During this time, she became involved in mental health education and promotion, and has joined several committees and networks to ensure the right people get the right information to improve access to mental health care for all people living in Canada.

David Gratzer

Dr. David Gratzer is a psychiatrist at the Centre for Addiction and Mental Health in Toronto, Canada. He is the associate chief of the General Adult and Health Systems Division for inpatient care and practice innovation. He trained at the University of Manitoba (MD), the University of Toronto (FRCPC) and is presently doing a fellowship through VA. He has published and presented nationally and internationally on digital psychiatry, and serves on the editorial board of *JMIR Mental Health*, and is an associate editor (social media and digital psychiatry) of *The Canadian Journal of Psychiatry*.

David Wiljer

Dr. David Wiljer is a member of the community providing groundbreaking perspectives and inspiring contributions to digital health policy, management, education and evaluation. He is the Executive Director of Education, Technology & Innovation at the University Health Network, and former Senior Director of Transformational Education and Academic Advancement at the Centre for Addiction and Mental Health. Dr. Wiljer is also an Associate Professor in the Department of Psychiatry, Faculty of Medicine and the Institute of Health Policy Management and Evaluation at the University of Toronto. He is a former President of the American Association of Cancer Education, and was the founding chair of a national working group, the Canadian Committee for Patient Accessible Electronic Health Records (CCPAEHR). He was also an inaugural Associate Director of the Centre for Health, Wellness and Cancer Survivorship at the Princess Margaret Cancer Program at the University Health Network.

Ed Mantler

A highly motivated visionary and an expert at building partnerships, engaging stakeholders and inspiring change, Ed Mantler has led innovation and improvement in health care for over two decades. As Vice President of Programs and Priorities at the Mental Health Commission of Canada, Mantler is dedicated to promoting mental health and changing the attitudes of Canadians toward mental health problems and illnesses. By collaborating with stakeholders to improve mental health services and supports, he leads the way for change. Guided by *Changing Directions/Changing Lives: The Mental Health Strategy for Canada*, Mantler pays particular attention to reducing stigma and increasing awareness, promoting psychologically healthy workplaces and schools, improving access to quality mental health services, preventing suicide, and improving understanding of the impacts of cannabis on mental health.

As an Accreditation Surveyor and Technical Committee Co-Chair with Accreditation Canada/Health Standards Organization, Mantler contributes to quality and safety in health care across Canada and internationally. He is a Registered Psychiatric Nurse, holds a Master of Science Administration and is a Certified Health Executive.

Ellen Stephenson

Ellen Stephenson currently works at the Centre for Research in Family Health at the IWK Health Centre in Halifax. Her work uses longitudinal, intervention and daily diary designs to investigate cognitive, affective and social processes involved in promoting better health and wellbeing. She is especially interested in the role of family relationships when managing a chronic or acute illness.

Emma Morton

Dr. Morton completed her PhD and clinical training as a psychologist at Swinburne University in 2018. She was awarded the Iain Wallace Research for the Most Outstanding Doctorate Student for her thesis on include improving the understanding and treatment of quality of life in bipolar disorder, including the evaluation of a web-based self-management intervention. Dr. Morton worked as the project coordinator of the Australian arm of the EMPOWER project, an app designed to help people with experiences of psychosis self-monitor their early warning signs with integrated peer support. In 2019, she was awarded an Institute of Mental Health Marshall Fellowship and moved to join the CREST.BD team at the University of British Columbia.

Eugenia Canas

Eugenia Canas is a post-doctoral associate with the Faculty of Information and Media Studies at Western University. Her professional career and doctoral work have examined participatory research with youth, and the impacts of service-user engagement on the design mental health care. She is a member of the Centre for Research on Health Equity and Social Inclusion. Most recently, Eugenia has been co-editor of an anthology describing social and structural influences upon the health of young people. *Everyday Violence in the Lives of Youth,* published by Fernwood Press, will appear in April 2020.

Eva Serhal

Eva Serhal is the Director of Virtual Mental Health and Outreach at the Centre for Addiction and Mental Health and Director of the ECHO Ontario Superhub, a collaboration between CAMH and the University Health Network that provides training and implementation support to new ECHO telementoring projects throughout Canada. Serhal has an MBA and will be completing a PhD in Health Services Research at the University of Toronto this year, with a focus on outcomes and evaluation in virtual models of health care. Her current research assesses the implementation, adoption and economic factors of telepsychiatry in Ontario. Serhal also has significant experience with leadership and governance; she currently co-chairs the Toronto Telemedicine Collaborative and sits as a board member of the Children's Aid Society of Toronto.

Gillian Strudwick

Dr. Gillian Strudwick is an Independent Scientist at the Centre for Addiction and Mental Health. She is also an Assistant Professor at the Institute of Health Policy, Management and Evaluation at the University of Toronto. Dr. Strudwick is a Registered Nurse.

Joanna Henderson

Dr. Joanna Henderson is Executive Director of Youth Wellness Hubs Ontario and Director of the Margaret and Wallace McCain Centre for Child, Youth & Family Mental Health at the Centre for Addiction and Mental Health. She is also a Senior Scientist in the Child, Youth, and Emerging Adult Program at CAMH and an Associate Professor in the Department of Psychiatry at the University of Toronto. Her work aims to improve access to high quality, integrated services for youth with substance use and/or mental health concerns and their families.

John Dick

John Dick is the Coordinator of the Patient Council at Ontario Shores Centre for Mental Health Sciences (OSCMHS), which provides a consumer's perspective on systemic issues and of services offered at the hospital. He is one of the founding members of the Patient Council, which was established in 1993. He has been employed at the hospital for the past 13 years.

Dick is a former consumer of the mental health system and has been a public speaker for the past 16 years with the (Talking about Mental Illness (TAMI) program, which has spoken to over 60,000 high students about the stigma of mental illness and addictions. He has been featured in a documentary about the stigma of mental illness titled *Extraordinary People*. He is also a recipient of the Attorney General Victim Services Award of Distinction.

Justin Scaini

Justin Scaini is the Director of Consulting at Capitalize for Kids. In his four years with the organization, he has worked with over 25 community agencies, hospitals and government organizations to build capacity in the youth mental health sector. He is the Vice Chair of the Board of a mental health organization in Toronto called Progress Place and is currently doing his Masters of Health Science in Health Administration at the University of Toronto.

Lori Wozney

Dr. Wozney is a Senior Health Outcomes Scientist at the Nova Scotia Health Authority and affiliated Scientist at the IWK Health Centre. She has a PhD in Educational Technology/Human Performance Technology and completed a Fellowship in Psychology. She is the principal investigator on multiple digital health intervention projects and national e-health policy initiatives. Her research program seeks to improve health technology design to reduce inequalities in access to care.

Louise Bradley

Louise Bradley, CM MS, RN, CHE has dedicated her professional life to improving the mental health of Canadians. Her own deeply personal experience with recovery has informed a leadership style that is both compassionate and courageous. Unwavering in her commitment to reimagining a recovery-oriented, person-centred mental health system, Bradley has influenced improved patient care through large-scale hospital administration and pioneered recovery within a forensics and corrections setting.

In her current role as President and CEO of the Mental Health Commission of Canada, Bradley oversaw the development of Canada's first mental health strategy, undertook the signature Opening Minds anti-stigma initiative and created a globally recognized Knowledge Exchange Centre. A tireless advocate for workplace mental health, Bradley has overseen the creation of the world's first workplace psychological safety standard, which has gained international acclaim.

Lauded as a transformational leader by the Canadian Psychological Association, Bradley received the 2017 Humanitarian Award for her work to enhance the psychological well-being of Canadians. She is also the recipient of the Innovation Award for Health Care Leadership, bestowed by the Canadian College of Health Leaders, as well as the Queen's Diamond Jubilee Medal. In June 2019, Bradley was invested as a member of the Order of Canada, the country's highest civilian honour, for her contributions to advancing mental health care for Canadians.

She holds degrees from Dalhousie University and Northeastern University in Boston, and was awarded an Honorary Doctor of Science from St. Mary's University and an Honorary Doctor of Laws from the University of Alberta. Frequently called upon to speak and write nationally and internationally on various mental health topics. Bradley uses her platform to urge increased mental health funding and highlight the need to work inclusively to address the mental health needs of vulnerable and at-risk populations.

Mohammadali Nikoo

Mohammadali Nikoo is a medical graduate from Tehran University of Medical Sciences and is currently a PhD candidate and resident physician in the Department of Psychiatry at University of British Columbia. His main research interests are public health, vulnerable urban populations, substance use and concurrent disorders, and children and adolescent psychiatry. His passion is to improve the health and well-being of the society as a whole with special focus on more vulnerable populations.

Nicholas Watters

Nicholas Watters is the Director of Access to Quality Mental Health Services at the Mental Health Commission of Canada. In this role, he is responsible for e-mental health, increasing access to equitable psychotherapies, and the development of tools and resources for health-care providers. Prior to this role, Watters was the Director of the MHCC's Knowledge Exchange Centre. Before joining the Commission, he served as the Senior Advisor Communications and Knowledge Transfer at the Chronic Disease Prevention Alliance of Canada. He has bachelor's degrees in Political Science and Communications Studies from the University of Windsor, along with an MBA from the Australian Institute of Business.

Nelson Shen

Nelson Shen, PhD, is a CIHR Health System Impact Post-Doctoral Fellow embedded at the Centre for Addiction and Mental Health in Toronto. He is also a sessional lecturer in the Master of Health Informatics Program at the Institute of Health Policy, Management and Evaluation (University of Toronto). His research focuses on patient engagement in the design and implementation of digital health innovations. His research interests include behavioural theory, patient privacy, consumer health, and design thinking.

Quynh Pham

Dr. Quynh Pham is committed to advancing a culturally competent digital health research agenda that champions the use of technology to realize equitable health outcomes for ethnic minority communities. As a digital health services researcher, she conducts collaborative research across the continuum of digital health innovation, from ideation to impact, with the aim to bridge the digital divide in Canada and reflect the transcultural health and social needs of all Canadians.

Her program of research is powered by the use of big data analytics to optimize traditional methods of evidence generation, derive patterns of effective engagement with technology that produce positive outcomes, and create digital health products and services that provide measurable and sustained value. Her clinical interests lie in the digitally-mediated management of chronic conditions, particularly asthma, mental health and cancer survivorship.

Sanjeev Sockalingam

Dr. Sanjeev Sockalingam is Professor and Vice Chair, Education in the Department of Psychiatry at the University of Toronto. He is also Vice President, Education at the Centre for Addiction and Mental Health and the Psychosocial Director for the Toronto Western Hospital Bariatric Surgery Program at the University Health Network. He is currently the co-lead for the Extension for Community Healthcare Outcomes (ECHO) Ontario Mental Health at CAMH, which is a provincial hub-and-spoke knowledge-sharing network model building mental health and addiction capacity in rural Ontario.

Dr. Sockalingam has more than 165 peer-reviewed publications and is a lead investigator on several peer-reviewed clinical and medical education grants. His clinical research interests are focused on increasing access to integrated models of medical psychiatry care, including in the area of obesity and mental health. His research projects include the development of remotely delivered psychological treatments. He has been the recipient of several national and international education awards including the 2018 Academy of Consultation-Liaison Psychiatry (ACLP) Alan Stoudemire Award for Innovation and Excellence in C-L Psychiatry Education and the Association of Chairs of Psychiatry of Canada Award for Excellence in Education.

Sean Kidd

Dr. Sean Kidd is a Chief of the Psychology Division at the Centre for Addiction and Mental Health and a Clinician Scientist in the Complex Care and Recovery Program. He is also Associate Professor in the Department of Psychiatry at the University of Toronto. The focus of Dr. Kidd's career has been on marginality and service enhancement — developing and trialing interventions for homeless youth and

individuals with severe mental illness. His work has included the development of a novel digital health approach for psychosis populations and he is the Chief Scientific Officer of A4i.

Shaleen Jones

Shaleen Jones is an advocate, organizer, educator and all-round rabble rouser in the field of mental health. Over the past 20 years, she has worked with many community organizations, holding leadership positions with Peer Support Canada, Laing House and the British Columbia Eating Disorders Association.

As a person with both lived experience and family experience, Jones is passionate about recovery, the transformative power of peer support, and creating sustainable, systematic changes across the sector. She was recognized with an Inspiring Lives Award from the Mental Health Foundation of Nova Scotia and served on the Mental Health Advisory Council to the Federal Minister of Health. Her work with the Mental Health Commission of Canada includes membership in the Hallway Group, as a mentor with the SPARK Knowledge Translation Program, and as a member of the e-Mental Health Collaborative. As the Executive Director for Eating Disorders Nova Scotia, she works to ensure that no one in Nova Scotia has to face an eating disorder alone.

Susan Abbey

Susan Abbey is a Professor in the Department of Psychiatry at the University of Toronto and the Chief of Psychiatry at the University Health Network. Dr. Abbey completed her MD training and residency in Psychiatry at the University of Toronto, with subsequent fellowship training in the psychiatric care of the medically ill at Massachusetts General Hospital and research training at the Institute of Medical Science, University of Toronto.

Academically, Dr. Abbey's research and clinical interests have been related to the psychiatric care of patients in the medical and surgical setting including the psychiatric and psychosocial aspects of solid organ transplantation, end-organ failure and life-threatening illness (most prominently cardiovascular disease), the psychosocial and psychiatric impact of high tech interventions and mindfulness meditation as a treatment modality in the emotionally distressed medically ill. Dr. Abbey also has a scholarly interest in medical education and continuing professional development.

Appendix D: Poster abstracts

Presentation listing

1. Mental health applications potential in providing equitable access to global mental health care
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2. Sense: An artificial intelligence system for tracking emotional health
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3. Comparing telepsychiatry and in-hospital psychiatric services in reaching youth in underserviced areas: An Ontario experience
Seena Grewal & Tony Pignatiello, Hospital for Sick Children

4. Internet-based cognitive behavioural therapy for post-traumatic stress disorder: What does the evidence say?
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5. Breaking down barriers and optimizing retention: A novel approach to delivering iCBT
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6. Internet-delivered cognitive behaviour therapy for Canadian public safety personnel: Overview of PSPNET
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7. The feasibility and effectiveness of eHealth interventions among people experiencing homelessness: A systematic review
Alexia Polillo, Centre for Addiction and Mental Health

8. Homeless youth, technology, and health care: A scoping review and implications for mental health services
Amané Halicki-Asakawa, Youth Mental Health and Technology Lab (CRCHUM) | Shalini Lal, University of Montreal

9. Using a technology enabled capacity building model to improve access to mental health care
Thiyake Rajaratnam & Sanjeev Sockalingam, Centre for Addiction and Mental Health

10. Validation of a client satisfaction and experience survey for telepsychiatry using clinical quality domains
Eva Serhal, Centre for Addiction and Mental Health

11. Evaluating the efficacy of self-help e-resources for patients on the depression clinic waitlist
Danielle Taubman & Sagar Parikh, Depression Center, University of Michigan

12. Evaluating a customized e-mental health app for healthcare workers
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13. Short message service as a means of engagement for early psychosis
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14. A quest to destress: Promote and support frontline worker mental health in health care settings
Elizabeth Manafo & Dalia Hanna, Ryerson University

15. Cannabis and psychosis: A youth-led harm reduction campaign to increase informed decision making
Catherine Willinsky, Schizophrenia Society of Canada | Jimmy Tan, Youth Advisor

16. A framework for evaluation of digital therapeutics for providing mental health services
Yuri Quintana, Harvard Medical School | Roy Cameron, Homewood Research Institute

17. Building app technology for first responders: Challenges and lessons learned
Krystle Martin, Ontario Shores Centre for Mental Health Services | Rosemary Ricciardelli, Memorial University of Newfoundland

18. Digitally enabled community of care
Wayne Blampied, Cognit

19. Using design thinking methods to develop youth vaping cessation interventions
Sherald Sanchez, Centre for Addiction and Mental Health

20. Improving clinical decision support around suicide
Lydia Sequeira, University of Toronto | Nelson Shen, Centre for Addiction and Mental Health

Abstracts

Poster #1. Mental health applications potential in providing equitable access to global mental health care

Presenters: *Raneeshan Rasendran & Farah Ahmad, York University*

Introduction: There is a recent growth in the development of mental health applications (MHAPPs) yet it remains unclear whether such interventions can address the access to care gap equitably in the global North and South. Methods: Using Arksey and O'Malley's methodical framework, a scoping review was conducted on academic and grey literature published since 2015. The countries of India and China, Taiwan, Hong Kong were selected as exemplar for the global South and Canada and US for the global North. Results: The results reveal that MHAPPs for depression and anxiety are efficacious in improving symptoms across examined regions. Outcome scores improved in 13 studies. Yet, public awareness in the global North and logistical barriers (mental health stigma/discrimination, financial social challenges, user-unfriendliness of apps, and cultural barriers) in the global South inhibit uptake. Conclusion: Awareness of MHAPPs and logistical barriers must be addressed to make MHAPPs more accessible. Future

implementation of MHAPPs should reflect a social determinants of health focus to avoid inequities to access. Relevance and Implications: Policy makers should be cautious in implementing MHAPPs in the disadvantaged communities given several challenges. A broader policy level emphasis is needed to address the logistical capabilities and cultural sensitivity of MHAPPs.

Poster #2. Sense: An artificial intelligence system for tracking emotional health

Presenter: *Pegah Aarabi, ROYA AI*

Introduction: Knowing someone's emotional state on a daily basis provides a unique vantage point for action should there be a rapid change in their emotional state. In this paper, we present SENSE, a mobile-messaging-based Artificial Intelligence (AI) system that engages in daily conversations with a particular person and based on their responses provides a daily tracking metric of their emotional health. By constantly monitoring changes in this tracking measure, SENSE can be triggered to alert family or professionals in cases of sudden drop in emotional health. Furthermore, SENSE provides a graphical dashboard for users to review their emotional health history for self-assessment and review.

Poster #3. Comparing telepsychiatry and in-hospital psychiatric services in reaching youth in underserviced areas: An Ontario experience

Presenter: *Seena Grewal & Tony Pignatiello, Hospital for Sick Children*

Introduction: With many mental illnesses having their onset in childhood access to mental health treatment is important however, youth with mental health issues face many barriers accessing care. Youth in rural and low-income areas are particularly vulnerable. Telepsychiatry, a method of providing services via videoconferencing, is one potential solution. The objective of this study was to examine if a telepsychiatry program operating out of an urban pediatric hospital was more successful in reaching underserviced youth compared to the in-hospital services. Method: A retrospective review of data from 2008-2018 was conducted comparing youth seen in the telepsychiatry vs in-hospital at the Hospital for Sick Children in Ontario, Canada. Results: Over 10 years 20,590 telepsychiatry visits and 45,185 in-hospital visits occurred. The majority of youth seen in telepsychiatry were from underserviced Ontario communities with 58.6% from the 2 most northern communities whereas the in-hospital program had 72.3% of youth coming from the local urban area. 45% of youth in-hospital came from areas with high supplies of psychiatrists compared to 15.6% in telepsychiatry. Conclusions: Telepsychiatry is a service delivery model that can increase access for youth in rural underserviced areas. Relevance and Implications: Telepsychiatry can play an important role in addressing barriers to care.

Poster #4. Internet-based cognitive behavioural therapy for post-traumatic stress disorder: What does the evidence say?

Presenter: *Eftyhia Helis & Veronica Poitras, CADTH*

Introduction: Internet-based cognitive behavioural therapy (iCBT) is increasingly being considered to improve access to treatment for mental health conditions, including post-traumatic stress disorder (PTSD). Evidence to guide the appropriate use of iCBT in the care of patients with PTSD is needed.

Methods: CADTH conducted a Health Technology Assessment (HTA) to review the evidence on the clinical effectiveness and safety, cost-effectiveness, patients' and caregivers' perspectives and experiences, ethical issues, and implementation considerations related to the use of iCBT for PTSD treatment. The Health Technology Expert Review Panel developed evidence-based recommendations on the appropriate use of iCBT for the treatment of PTSD. Results: Although better-quality evidence is needed, iCBT may have a role in the treatment of adults with PTSD. Implementation considerations for iCBT include (but are not limited to): initial diagnostic assessment and referral; use in stepped care or in conjunction with other therapies; the provision of therapist guidance; ensuring the appropriateness of programs (considering symptom severity, culture, context, and type of trauma); and safeguarding of personal health information. Conclusion and Relevance/Implications: There is a potential role for iCBT in treating adults with PTSD, with considerations for implementation. This poster will outline key findings from the HTA and summarize recommendations.

Poster #5. Breaking down barriers and optimizing retention: A novel approach to delivering iCBT

Presenter: *Alissa Pencer, Tranquility | Lori Wozney, Nova Scotia Health Authority*

Introduction: People with anxiety and depression in Canada face significant barriers in accessing care. A robust evidence-base shows internet-based cognitive behavioural therapies (iCBT) can reduce or eliminate many barriers. However, iCBT programs frequently report high rates of drop-out. With self-guided drop out higher than guided versions (74% and 44% respectively). Our primary goal is to improve iCBT outcomes for anxiety and depression by optimizing program retention. Method: Our iCBT platform integrates notifications, routine monitoring and feedback, motivational interviewing (MI) strategies, interactive tools, and in-app messaging. Coaches trained in MI strategies provide brief support. A case-study pilot evaluation was conducted comparing self-guided to coach-guided interventions. Clients completed pre-post- measures of anxiety and depression. Retention rates were monitored for each group. Results: Those that received coaching completed more modules than those in the self-guided version. Completion of a minimum of three modules was related to improvements in anxiety and mood symptoms. Qualitative findings on client satisfaction and perceived change will also be described. Discussion and Implications: Using a combination of cutting-edge technology, trained coaches and machine learning we aim to improve adherence and retention so those most in need complete a full treatment protocol and achieve the best possible outcome.

Poster #6. Internet-delivered cognitive behaviour therapy for Canadian public safety personnel: Overview of PSPNET

Presenter: *Heather Hadjistavropoulos & Hugh McCall, University of Regina*

Background: Public safety personnel (PSP) have elevated rates of mental health problems but limited access to treatment. Internet-delivered cognitive behaviour therapy (ICBT) represents an evidence-based treatment that improves access to care. As part of Canada's Action Plan on Post- Traumatic Stress Injuries, our team has developed and is evaluating ICBT tailored specifically for PSP. This poster describes the process of tailoring ICBT to PSP, key components of service delivery, and evaluation plans. Method: Interviews were conducted with 126 PSP in Saskatchewan and Quebec to inform the adaptation of treatment materials to address PSP concerns. Transdiagnostic ICBT is now being offered to PSP in

Saskatchewan and will soon be offered in Quebec. Varying levels of therapist support are offered depending on clients' needs. Outcomes: Outcomes to be assessed include symptom severity (e.g., depression, anxiety, and post-traumatic stress), disability, health care use, treatment engagement, and treatment satisfaction. Conclusion: PSP face unique barriers to treatment that ICBT can help overcome. We have developed and are evaluating tailored ICBT for PSP. Implications: ICBT is well positioned to help address mental health problems among Canadian PSP. Research can help to optimize its content and delivery.

Poster #7. The feasibility and effectiveness of eHealth interventions among people experiencing homelessness: A systematic review

Presenter: *Alexia Polillo, Centre for Addiction and Mental Health*

Background: eHealth interventions are being developed to meet the needs of diverse populations. Despite these advancements, little is known about how these interventions are used to improve the health of people experiencing homelessness. The aim of this systematic review was to examine the feasibility and effectiveness of eHealth interventions for the homeless population. Methods: Following PRISMA guidelines, a systematic search of PsycINFO, PubMed, Web of Science, and Google Scholar was conducted along with forward and backward citation searching to identify relevant articles. Results: Nine articles met eligibility criteria. All articles were pilot or feasibility studies that used modalities, including short message service, mobile apps, computers, email, and websites, to deliver the interventions. The accessibility, flexibility, and convenience of the interventions were valued by participants. However, phone retention, limited adaptability, a high level of human involvement, and preference for in-person communication may pose future implementation challenges. Conclusion: eHealth interventions are feasible and usable for people experiencing homelessness. These interventions may have health benefits by augmenting existing services and if implementation challenges are addressed. Implications: Further evaluation of the effectiveness of eHealth interventions is needed before widespread implementation. Those with lived experience should also be engaged in developing and evaluating these interventions.

Poster #8. Homeless youth, technology, and health care: A scoping review and implications for mental health services

Presenter: *Amané Halicki-Asakawa, Youth Mental Health and Technology Lab (CRCHUM) | Shalini Lal, University of Montreal*

Introduction: This review synthesizes knowledge on access and use of information and communication technologies (ICTs) among homeless youth; describes how technology has been used to provide health services to this population; and discusses the implications for mental health care. Methods: Using scoping review methodology, we search 4 databases (Medicine, Embase, PsycInfo, and CINAHL) and retrieved 2045 titles and abstracts. Results: 32 articles were included in the review. A significant proportion (47% to 87%) of homeless youth owned a cell phone or accessed ICTs through community organisations. ICTs were to search for housing, employment, and health information; to communicate with relatives, health-care professionals, employment agencies, housing workers, and friends; and for leisure. Intervention studies focused on testing he feasibility and acceptability of delivering health services (i.e., CBT, emotion regulation strategies, case management, information) through ICTs. Conclusions and Implications: Preliminary research suggests that homeless youth perceive technology-enabled health interventions as positive, indicating that this should be explored further in relation to the delivery of mental health

services. These results can be used to inform future research and practice on the use of technology-enabled mental health care for the homeless youth population.

Poster #9. Using a technology enabled capacity building model to improve access to mental health care

Presenter: *Thiyake Rajaratnam & Sanjeev Sockalingam, Centre for Addiction and Mental Health*

Introduction: In Ontario, primary care providers in rural and under-serviced areas deliver majority of the mental health care; however challenges in access to care exist when providers have limited training, and/or few local options for psychiatry referrals. **Methods:** CAMH implemented the Extension for Community Healthcare Outcomes Ontario Mental Health (ECHO-ONMH), a technology enabled capacity building program. ECHO is a tele-mentoring model that uses videoconferencing technology to connect a specialist team at CAMH with providers across Ontario to share knowledge, learn best practices and discuss complex patients. ECHO-ONMH has nine projects: First Nations, Inuit and Métis wellness, mental health, addictions medicine, OCD, Trans and gender diverse health care, psychotherapy, complex care, adult intellectual and developmental disabilities, and early psychosis. To measure impact, the ECHO-ONMH team adopted the use of Moore's evaluation framework for CPD programs. **Results:** Since 2015, ECHO-ONMH has had 1243 participating health-care providers from 462 organizations. Mean satisfaction ratings for all projects have been consistently high. Pre and post ECHO program self-efficacy and knowledge questionnaires have shown improvements after participation. **Conclusion and Implications:** Findings from our ECHO-ONMH program evaluation have provided evidence for ECHO as a model to improve access and build capacity in mental health care in rural and underserved regions.

Poster #10. Validation of a client satisfaction and experience survey for telepsychiatry using clinical quality domains

Presenter: *Eva Serhal, Centre for Addiction and Mental Health*

Background: Telepsychiatry is an effective model of mental health and addiction care that connects patients with psychiatrists at a distance via videoconference. **Methods:** The primary objective of this research was to develop a validated survey tool to measure patient experience and satisfaction with telepsychiatry based on clinical quality domains. This study uses commonly used health service outcomes to evaluate patient experiences across four domains: access/timeliness, appropriateness, effectiveness, and safety. This survey was developed and validated with a panel of subject matter and process experts, and piloted with 274 patients that received clinical consultations through the TeleMental Health Program at the Centre for Addiction and Mental Health. Factor analysis was used to determine correlations between questions and clinical quality domains, and was used to assess model fit. **Results:** The study provides a validated survey to measure patient satisfaction and experience with telepsychiatry. **Conclusion:** This approach to survey design and development ensures that patient experience is collected through a clinical quality lens and facilitates targeted quality improvement efforts that address patient-identified gaps. **Relevance:** This research addresses a gap with respect to validated measures of satisfaction and experience with telepsychiatry.

Poster #11. Evaluating the efficacy of self-help e-resources for patients on the depression clinic waitlist

Presenter: *Danielle Taubman & Sagar Parikh, Depression Center, University of Michigan*

Introduction: Major depression is a prevalent and disabling condition, but timely access to treatment is problematic. Internet- or smartphone-based applications or programs (e-resources) are cost-effective and efficacious interventions for depression, alleviating demands on clinician time and resources. We wish to evaluate patient preferences and efficacy of several digital self-help resources for patients on a waiting list for treatment. Methods: Sixty adults, immediately after scheduling a face-to-face initial evaluation (usually 2 months later) at a depression clinic, will be recruited to a 1-month study. Participants will be introduced to i) a web-based depression program; ii) a mobile app; and iii) an informational website, and choose one. Each individual will also receive four, once-weekly phone guidance and support calls from a trained peer support worker. We will assess satisfaction and utilization through self-reports, tool use metrics, and patient outcomes via (1) The Patient Health Questionnaire 9 (PHQ-9) and (2) The Work and Social Adjustment Scale (WSAS), a self-report instrument gauging level of impairment in functioning, at baseline, post-intervention, and 1-month follow-up. Results and Conclusion: Study recruitment has not yet begun. Relevance and Implications: Results from this study will generate e-resource recommendations for all patients on waiting lists for depression/mental health clinics.

Poster #12. Evaluating a customized e-mental health app for healthcare workers

Presenter: *Sheila Addanki & Sandra Moll, McMaster University*

Background: The challenging nature of health-care workers can increase their risk of mental health issues. Innovative strategies need to address the unique needs of this critical workforce. Mental health apps are one such leading-edge approach that can provide customized, accessible, on-demand mental health information and support. Despite the increasing number of apps available, limited evidence exists on mental health apps designed for the workplace. 'Beyond Silence' is a smartphone app designed to promote mental health awareness and support for health-care workers. A non-randomized user testing study was conducted to evaluate the quality, feasibility and impact of the app. A purposive sample of 25 health-care workers used the app for 4-6 weeks. A 'chat bot' feature that navigates the user through different pathways such as information articles, wellness monitoring and connect with crisis resources or trained peer mentor. Impact on mental health literacy, stigmatized beliefs, help outreach behaviours and perceptions of using the app itself were evaluated through pre/post surveys and a series of focus groups. Findings revealed a significant increase ($p<0.001$) in mental health literacy. Next steps are to scale-up implementation across organizations and study the implementation and impact at an organizational level.

Poster #13. Short message service as a means of engagement for early psychosis

Presenter: *Jessica D'Arcey, Centre for Addiction and Mental Health, University of Toronto | George Foussias, Centre for Addiction and Mental Health*

Background: Clinical disengagement of youth in early psychosis clinics continues to be a significant barrier to recovery, with rates of treatment non-adherence (up to 60%) and clinic drop- out (30%).

Approaches to improving engagement have typically hinged on efforts to increase access to clinicians, however financial and human resource limitations often undermine these efforts. SMS, however, is a low cost and feasible option as 95% of youth in North America send and receive SMS messages daily. Methods: The current single-blinded randomized controlled trial sought to evaluate the efficacy of a weekly SMS intervention delivered over nine months to improve engagement in early psychosis services. Sixty participants between the ages of 16 and 29 receiving treatment in an early psychosis clinic were recruited for this study. Participants were randomized to either active or sham SMS intervention arms. Results: Final study visits were completed in January 2020. Results presented will include analyses of efficacy of the active versus sham SMS intervention for medication adherence, therapeutic rapport, and attendance rates. In addition, feasibility data collected indicates a high degree of interest and acceptance by participants for SMS as a means of engagement. Further, there have been no tolerability difficulties reported to date.

Poster #14. A Quest to destress: Promote and support frontline worker mental health in health care settings

Presenter: *Elizabeth Manafo & Dalia Hanna, Ryerson University*

Background: The Occupational Health, Safety and Prevention Innovation Program of the Ontario Ministry of Labour and The G. Raymond Chang School of Continuing Education, Ryerson University, have partnered together to develop interactive e-learning courses to support workplace mental health for front line workers in health-care settings across Ontario. Methods: Two interactive courses to promote and support frontline worker mental health in health-care settings were developed. The courses consist of a total of 15 weekly quests, requiring the equivalent of 1½ hours of instruction and engagement per week. Results: 22 students enrolled in the two courses. Course learners were front line health-care workers, support health workers, management of health-care workers and nursing and/or occupational health undergraduate students. Discussion: Utilizing gamification to address organizational challenges around complex topics, like mental health is promising; At the same time, it is increasingly challenging to promote the advantage of continuing education in workplace settings with competing for workplace demand. This includes the ongoing barrier of stigma and mental health. Implications: The workplace mental health course series offers participants with a flexible and safe learning environment to protect and promote their mental health and those of their staff and colleagues.

Poster #15. Cannabis and psychosis: A youth-led harm reduction campaign to increase informed decision making

Presenter: *Catherine Willinsky, Schizophrenia Society of Canada | Jimmy Tan, Youth Advisor*

Introduction: Explore the Link is a youth-led harm reduction campaign providing balanced information to Canadian youth about the link between cannabis and psychosis. This program is especially relevant in the current context of cannabis legalization. Approximately 25% of high school students report using cannabis, with the majority of first episodes of psychosis and schizophrenia diagnoses occurring in late adolescence/early adulthood. Methods: This program is develop by youth for youth, and led by a Youth Advisory Committee, composed of young people across Canada who spearhead the digital, research, and evaluation components of the project. Youth Advisors hold a wealth of expertise spanning across mental health advocacy, harm reduction and lived experience. They are supported by Scientific Advisors and a leadership team. Results: The project has created an interactive information hub,

cannabisandpsychosis.ca. By using social media and technology in innovative ways, the website empowers youth to reflect on their cannabis use and their personal risk of experiencing psychosis through evidence-based knowledge translation products. **Relevance:** Developing effective youth-oriented health promotion campaigns requires authentic youth partnership, effective use of technology and harm reduction. This approach empowers youth to make informed decisions.

Poster #16. **A framework for evaluation of digital therapeutics for providing mental health services**

Presenter: *Yuri Quintana, Harvard Medical School | Roy Cameron, Homewood Research Institute*

Introduction: There is a need to rigorously evaluate tools designed to provide mental health services. With funding from the RBC Foundation, Homewood Research Institute, in collaboration with Harvard Medical School and international researchers are developing a framework for rigorous evaluation of mental health apps. **Methods:** A team of international leaders are reviewing existing evaluations of digital therapeutics to develop a more comprehensive approach to evaluating mental health apps. **Results:** While there are a large number of mental health apps, few have scientific evaluations or reliable evidence to support their claims. The current assessments that exist are limited in the number of patients, have short intervention periods, and limited follow up periods needed to be able to assess for sustained changes. A new framework has been developed to scientifically evaluate efficacy, effectiveness, safety, security, and sustainability. It is currently being refined for global dissemination. **Conclusion:** The Framework is intended to spur and guide the rigorous evaluation of digital mental health and has implications for future research and sets the stage for developing a regulatory framework.

Poster #17. **Building app technology for first responders: Challenges and lessons learned**

Presenter: *Krystle Martin, Ontario Shores Centre for Mental Health Services | Rosemary Ricciardelli, Memorial University of Newfoundland*

Background: First responders regularly face occupational stressors that put them at risk for mental health issues. In 2018, the Ministry of Labour funded a project between Ontario Shores and Durham Regional Police Service (DRPS) aimed at developing an App to promote workplace mental health amongst police. **Methods:** We conducted an assessment of help-seeking behaviour, barriers to care, mental wellness needs, and App preferences from DRPS members. We used this information to co-design an App to support the mental wellness of DRPS staff. **Results:** We faced challenges in collecting data such as groupthink and trust; however, participants identified some specific design elements they wanted in the technology. Barriers to help-seeking included stigma, perceived impact on career, and time. Differences between sworn and civilian staff emerged. **Conclusion:** We used this data to develop an App that will best suit end-users. **Implications:** Caution is warranted about how understanding the true mental health needs of first responders is constrained making it difficult for organizations to provide support and create technological solutions that actually meet their needs. Furthermore, baseline data revealed barriers and app design elements that were deemed important as relevant information for innovators but also that speaks to the acceptability and longevity of e-products.

Poster #18. Digitally enabled community of care

Presenter: *Wayne Blampied, Cognit*

Background: I am a person with lived experience, or as I call it "living experience." In 2006, I dedicated my life to changing treatment and how it is delivered. Methods: A digitally enabled, fully integrated system connecting a national community of patients, service providers and programs: Wellness programs; Community sourced programs; Culturally specific programs; A single access point to a suite of integrated wellness programs for mental health and substance use challenges; App, web, remote and offline access; Pre-treatment, no wait lists; Self-directed care; Peer/Assisted support; Virtual/Remote care; Compliance and treatment planning tool; Metrics, individual and anonymized data; Patient/population insights. Results: An integrated community of care for life long challenges; A suite of free turn-key programs for service providers; A suite of programs, supports and providers for patients; Community members develop and/or participate in the development of all community programs. Conclusion and Relevance/Implications: I am proposing the creation of a national community of care that supports itself and those in need regardless of age, creed, sexual orientation, religion, location or ability.

Poster #19. Using design thinking methods to develop youth vaping cessation interventions

Presenter: *Sherald Sanchez, Centre for Addiction and Mental Health*

Background: As the public health community struggles to address the rapid rise of e-cigarette vaping among young people, Design Thinking offers a human-centred approach for developing and implementing interventions to support vaping cessation. We engaged young people using the five steps of Design Thinking: empathize, define, ideate, prototype, and test. Findings from steps one through three are described here. Methods Empathize: We conducted a series of focus groups and interviews with adolescents and young adults who vape e-cigarettes. Define: Findings resulted in the development of 10 unique personas. Ideate: Personas guided the development of design charrettes engaging young people to develop solutions to the vaping problem of their generation. Results: Findings resulted in the development of 10 personas representing adolescent and young adult e-cigarette vapers. Each persona highlights unique demographic characteristics, behavioural identifiers, motivations and goals, and preferences in vaping cessation interventions. Conclusion: This study provides new insights into the vaping behaviours of young people and the process of vaping cessation that can serve as a guideline for the public health community in addressing this emerging issue. Implications: With high rates of use and uncertain health consequences, innovative and evidence-based vaping cessation interventions for this at-risk population are needed.

Poster #20. Improving clinical decision support around suicide

Presenter: *Lydia Sequeira, University of Toronto | Nelson Shen, Centre for Addiction and Mental Health*

Background: Suicide accounts for 800,000 deaths every year. Risk assessment and intervention are important since a large proportion of those who die by suicide visit health professionals prior to their death. Best practice guidelines for suicide risk assessment emphasize the importance of clinical interviews and prioritize the clinician's final judgement. This presentation will focus on the barriers and facilitators

that influence a clinician's assessment of suicide risk. Methods: A scoping review was conducted to identify studies that discussed factors that affected a clinician's suicide risk assessment process. Results: Our review found >100 studies that focused on the barriers and facilitators of clinical decision making around suicide, ranging from (1) system level factors (e.g., an ill-equipped system, lack of policy) (2) organizational-level factors (e.g., documentation requirements, training and education, team dynamics), and (3) individual-level factors (e.g., ability to connect with a patient, cultural issues, clinician's confidence level). Implications: With a better understanding of factors affecting clinical decision-making around suicide, we can move towards building better clinical decision support systems to provide intelligently filtered information to clinicians, to ultimately improve outcomes around suicide.

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