



# The Future of Mental Health

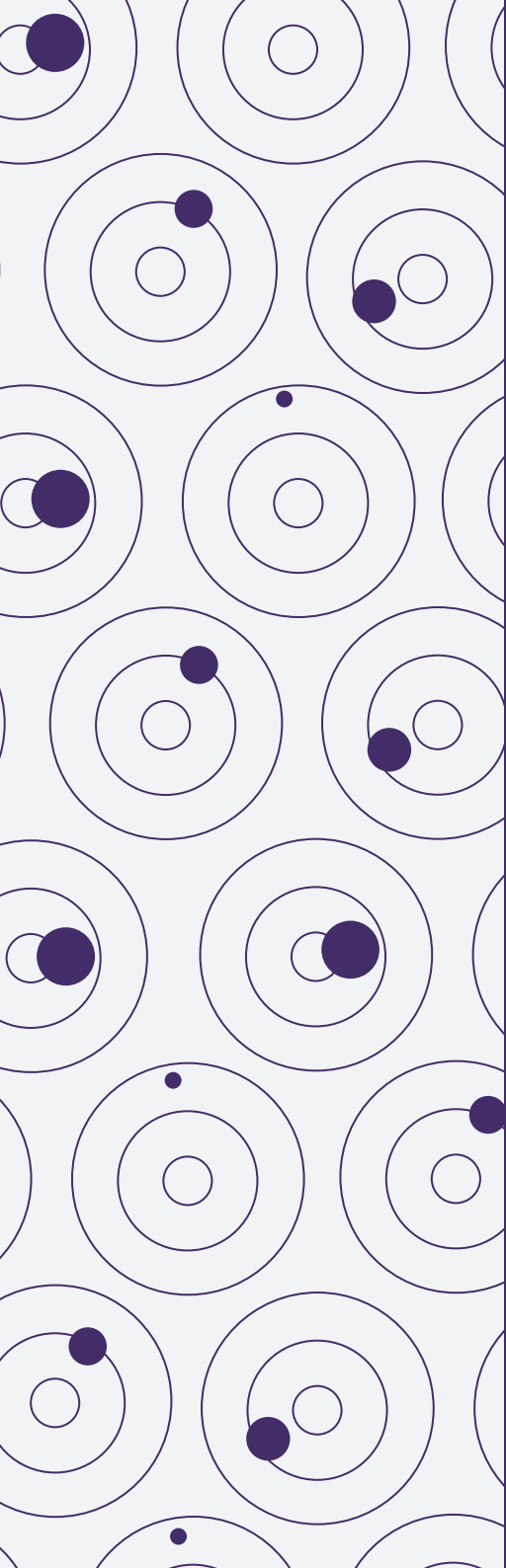
Scan Club output for February 2022



Employment and  
Social Development Canada

Emploi et  
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Canada



In February 2022, the Human Resources Innovation Foresight Team (“HRI”) hosted its monthly Scan Club on “The Future of Mental Health”. Participants from across the Government of Canada participated in the hour and a half activity. HRI provided participants with three specific “Weak Signals”:

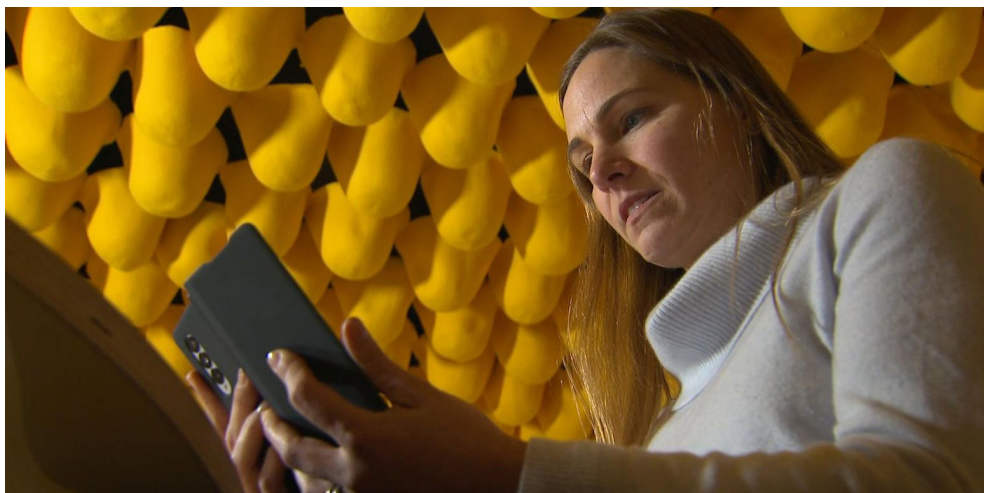
- [AI based video games that diagnose, monitor and treat depression developed by scientists](#)
- [More than a third of all Canadians reporting burnout](#)
- [Northern Saskatchewan high school testing limits of virtual reality for mental health support](#)

Participants then discussed the importance of these signals and their potential impact on the Federal Public Service. The following infographics summarize each Weak Signal and organizes the participant’s’ insights and discussions into various areas of implications using a [STEEPV framework](#).

Visit HRI at:

GC-wiki: [https://wiki.gccollab.ca/EDSC\\_Innovation\\_RH\\_-\\_HR\\_Innovation\\_ESDC](https://wiki.gccollab.ca/EDSC_Innovation_RH_-_HR_Innovation_ESDC)

GC-collab: <https://gccollab.ca/groups/profile/928221/esdchuman-resources-innovation-innovation-en-ressourceshumaines-de-edsc>



## AI based video games that diagnose, monitor and treat depression developed by scientists

Scientists have developed an online platform, called Thymia, that uses video games to diagnose, treat, and monitor patients' mental health. It is the first system that offers an objective analysis of mental health disorders. The platform uses several types of data in order to create an accurate and robust model of depression. While playing the games, the software analyses patients' voices, eye gazes, and micro-expressions as well as behavioural actions such as reaction times, memory, and error rates.

To train their AI model, the company gathered user data from over 2,000 patients and people without mental health disorders. Experts are currently divided on whether the system will have the desired impact on

patients. Later this year, clinical trials for the system will start.

## Impacted groups:

- People with diagnosed Mental Health challenges
- People with undiagnosed Mental Health challenges
- Medical and therapy/counseling services
- National and provincial health systems
- Healthcare professionals

## So what?

## How might this impact us in the future?



### Social + Cultural

- **So long Stigmas!:** Bringing mental health diagnoses into popular culture, such as using video games, makes diagnoses and treatments more acceptable amongst peer groups and general society.
- **Patient Parler:** Children and others unable to accurately express their feelings verbally or physically will now be able to do so passively.



## Technological + Infrastructural

- **AI Accuracy?:** There are risks of misdiagnoses with the AI misunderstanding the biological information produced by patients or failing to understand as a result of bias, prejudice, etc. Like all AI programs, the data feeding its decision-making algorithms (i.e., lack of diversity of race, ethnicity, gender, etc.) might affect peoples' diagnoses.
- **What Else Do We Got?:** Such a passive way of diagnosing “invisible” disabilities could open the door to more accurate diagnoses, and by extension, better supports and programming for people challenged by chronic fatigue or by pain disorders that are not physically identifiable.



## Values + Ethics

- **Privacy versus Health:** Tracking personal health information is a fraught challenge, particularly, when that data might be used to improve the Artificial Intelligence and applied to other patients. Resistance to sharing personal information might also render the program less effective.



## Policy + Government

- **Removing Barriers:** These types of “approachable” techniques enable different groups of people (i.e., younger populations, lower-income groups, other people unable to access therapy, counseling, or psychologists, etc.) to access therapy and do so in the privacy of their own space. People might also find diagnoses without realizing anything is affecting them.
- **Liability Issues:** What happens when there is a misdiagnosis or when a self-harm event occurs because of the program?



## More than a third of all Canadians reporting burnout

A new study – commissioned by Workplace Strategies for Mental Health and conducted by Mental Health Research Canada in December 2021 – revealed that more than 35 per cent of all working Canadians feel burnt out. The study measured a wide range of factors relating to how employees feel at work.

Those factors included everything from engagement and recognition to workload and safety. Burnout is often characterized by emotional exhaustion, cynicism, negativity and reduced efficiency in the workplace. Industries that showed burnouts rate of more than 35% included: Health and Patient Care (53%), Transportation (40%), Finance, Legal and Insurance (39%), Education and Childcare (38%), and First Responders (36%).

## Impacted groups:

- Everyone

Acutely Impacted:

- Low-income earners
- Frontline workers
- Employees of services that facing constant or growing pressures (education and medical systems, First Responders, etc.)
- Children of parents suffering from burnout
- People unable to access services to offset burnout (financial, medical, mental, etc.)

## So what?

## How might this impact us in the future?



### Social + Cultural

- **Innovation Solutions:** Ideas that, at one point, seemed far-fetched - four-day work weeks, hybrid work opportunities, extended sick and vacation leave, additional benefits and services, new social initiatives (childcare, dental care, free transportation, free

education) to alleviate external costs and pressures, etc.- are becoming more popular as the burnout epidemic spreads.

- **Innovative Change:** Solutioning might be band-aids. If these challenges transcend industry, perhaps, a radical change to systemic standards (legislated work hours in a day, minimum wage, workdays in a week, vacation/sick days in a year, universal base income, etc.) will be the best way to affect widespread amelioration.
- **Workplace Culture:** Employees need to feel empowered to say “no”. Internally, organizations can look at ways to alleviate pressures and expectations such as constant, tight deadlines, high-volume clients, onerous evaluation and measurement, and inequitable pay structures to reduce stress.
- **Management Culture:** Possibly, a growing emphasis on emotional intelligence and social interaction with employees at management and executive level. For example- Defining leadership as compassion and patience and; implementing values that reflect employees, their families, their communities and the environment.



## Values + Ethics

- **The End of Grind Culture:** Such a work ethic incentivizes and rewards people who push past their limits or who have thresholds much higher than others. As a result, those people burn out or those attempting to keep up burn out. They also are promoted and propagate a similar expectation to the people they oversee or their colleagues who do not receive the promotion.



## Policy + Government

- **Me, Them, or You?:** The responsibility is systemic. Burnout transcends industry and sector. While management systems and employment perks can offset some of the challenges of burnout. The growing trend suggests that pressures are at a global level and not one that is remedied by acute solutions.
- **Finances Pipeline:** Burnout has a myriad of financial implications for individuals, organizations, and communities. Employers experience less productivity, families expend more resources to offset burnout (food services, childcare) or can't and sink further in frustration and exhaustion or, inevitably, quit or go on extended

leaves of absence. Health care and other social welfare systems experience an increased burden for people suffering from acute mental health challenges or physical ailments as a result of enduring burnout for too long.

- **Finances Pipeline Compounded:** More pressure on these systems causes more burnout creating a feedback loop that perpetuates the challenges individuals and the systems faced to begin with (i.e.: nurses burning out and taking time off puts more pressure on nurses who have yet to burnout, but will then burnout more quickly, and so on, and so on).





## Northern Saskatchewan high school testing limits of virtual reality for mental health support

The community of La Loche, northern Saskatchewan and researchers from Saskatchewan Polytechnic college have begun an applied research project investigating the creation of innovative mental health supports for Indigenous youth. The project, called Sekwe'ha ("for the children" in Dene), uses virtual reality to fully immerse users in an environment customizable to their needs when experiencing mental health challenges. High school students and community members are not only participants in the research but are also actively co-creating alongside the researchers. The project is in its early stages and is starting trials in the summer.

*"This is a unique project as we are looking to balance*

*the traditional knowledge of the elders, along with what the students see as their own pathways to wellbeing using new technologies,"*

*"This has never been done before. Somebody from outside the community will not be providing the solution. It will be developed by the local community, so they feel ownership of what's happening and the outcome." - Lindsey Boechler, a researcher for the project.*

## Impacted groups:

- Rural areas
- Indigenous communities
- Children and other groups of people unable to empathize or understand their own mental health or the mental health of others.
- People unable to afford appropriate therapy or medication
- Western medicine practitioners who can understand and explore Indigenous ways of healing



## So what? How might this impact us in the future?



### Social + Cultural

- **Empowerment in Tech:** VR enables Indigenous communities to share and apply successful programs, like Sekwe'ha, with other communities interested in the tool. Additionally, the tool makes Indigenous led practices more accessible to non-Indigenous communities unfamiliar with an Indigenous approach to managing mental health challenges.
- **Tradition Preservation:** Virtual reality provides an alternative way to preserve and teach traditions to newer generations.



### Technological + Infrastructural

- **Accessibility All-Around:** Virtual Reality, assuming internet and technology availability, makes mental health treatment more available to Indigenous and rural communities. Resources expended on travel – by way of mobile professionals or patients having to travel to larger communities – can be reinvested directly towards treatment and infrastructure.



### Values + Ethics

- **Inclusive Design:** Projects, like these, emphasize the importance of using multi-disciplinary and user-centred approaches when developing programs and policies for complex issues. Incorporating community elders and co-creating alongside high schools, for example, maintains connections important to a community's and individuals' health.

*“The future is already here –  
it’s just not evenly distributed.”*

*— William Gibson*

