Mental Health International (MHI)
REPORT on MENTAL HEALTH in the ERA OF ARTIFICIAL INTELLIGENCE
(full report available to www.mentalhealthinternational.ca)

SERIES OF RECAPS (7)

**AI could help produce dramatic new insights
into brain function and mental illness**

Bill Wilkerson, *LL.D. (Hon) was a former corporate chief and senior executive and a specialist in crisis management. His background ranges across business, government, politics, the arts, broadcasting, and major league sports.*

Bill is MHI Executive Chairman and McMaster University Industry Professor of International Mental Health and in the mental health field, Wilkerson:

- *Co-Founded and led the Canadian-based Global Business and Economic Roundtable on Addiction and Mental Health (1998-2011).*

- *Chaired a business-led Pan-European campaign targeting depression in the workplace (2013-17).*

- *Founded and chaired a five-city (Washington, Ottawa, Boston, Toronto, Denver) US/Canada Forum on Mental Health and Productivity (2007-13).)*

PORT HOPE, ONTARIO, CANADA (June, 2019)- Artificial intelligence will be deployed in ways that could provide dramatic and unprecedented new insights into brain function and mental illness. Following are extracts from the book, 'Artificial Intelligence and Behavioral and Mental Heath Care.'

Mapping the Human Brain
- *There are several research programs underway to capitalize on supercomputing advancements to map and model the human brain to improve understanding of normal/abnormal human brain functioning.*

Modeling Psychiatric Illnesses
- *One future possibility of AI: modeling psychiatric illness to test models of the course of development and outcomes of treatment. University of Texas scientists are modeling the development of schizophrenia.*

Centennial House, 87 Augusta Street
Port Hope, ON L1A 1H1
MENTALHEALTHINTERNATIONAL.CA

Bill Wilkerson, CO-FOUNDER, EXECUTIVE CHAIRMAN AND PRESIDENT
bill.wilkerson@mentalhealthinternational.ca
T. 905.885.1751 | ?. 905.376.9692

The Nature of Consciousness

- *Building machines with human general intelligence has the potential to help us learn about the nature of human consciousness. itself.*

Machine-Brain Coupling

- *Coupling AI technology directly with the human brain through invasive or non-invasive means may permit treatment of non-congenital blindness; improve general cognitive abilities; restore function to a damaged brain.*

Meanwhile:

- Google Accelerated Science is using AI to help make diagnosing diabetic retinopathy easier by accurately interpreting retinal scans, possibly saving the eyesight of millions in India.
- The University of Toronto has put into place a Chair in Robots in Society to help the elderly maintain their independence through and with the help of robots.
- 'Augmented reality" technology --- (described as the super imposition of the elements of a virtual world upon the real one) --- is being developed to use in therapy for children with autism and/or for treating malignant melanoma. (Fraunhofer Institute, Germany).
- IBM reports on new research using AI and machine learning algorithms to identify "instances and severity of schizophrenia with a 74% accuracy.

A new discipline, "computational psychiatry" will help clinicians "access and treat patients more quickly". Interestingly, computational psychiatry can be seen as a tool for psychiatrists to move past reliance on "subjective" evidence of the presence of mental illness.

The overarching goal of the National Institute for Mental Health in advancing computational psychiatry is to "identify and validate biomarkers and novel treatment targets relevant to the prevention, treatment and recovery of psychiatric disorders."

Centennial House, 87 Augusta Street
Port Hope, ON L1A 1H1
MENTALHEALTHINTERNATIONAL.CA

Bill Wilkerson, CO-FOUNDER, EXECUTIVE CHAIRMAN AND PRESIDENT
bill.wilkerson@mentalhealthinternational.ca
T. 905.885.1751 | ?. 905.376.9692

AI and Mental Health Innovations

AI instruments are being developed to improve access to early detection, improved care and treatment outcomes of mental ill health.

Canadian Daniel Martz, CEO of Equinox, has introduced AI programs to expand access to cognitive and mental health therapy through virtual means 24/7 in Canada's both official languages – a first.

California-based **MINDSTRONG,** co-founded by the former Director of the National Institute for Mental Health, Dr. Thomas Insel, has introduced technology that tracks biomarkers of mental illness digitally.

A separate innovation called **MIND.ME** monitors behavior online as well as the user's interaction with the world and the people around them and can predict onset of symptoms.
-30-

bill.wilkerson@mentalhealthinternational.ca

Centennial House, 87 Augusta Street
Port Hope, ON L1A 1H1
MENTALHEALTHINTERNATIONAL.CA

Bill Wilkerson, CO-FOUNDER, EXECUTIVE CHAIRMAN AND PRESIDENT
bill.wilkerson@mentalhealthinternational.ca
T. 905.885.1751 | ?. 905.376.9692