

## **REPORT on MENTAL HEALTH in the ERA OF ARTIFICIAL INTELLIGENCE**

(full report available at [www.mentalhealthinternational.ca](http://www.mentalhealthinternational.ca))

### **SERIES OF RECAPS (10)**

#### **Closing in on Clearer Understanding of What Mental Disorders Are**

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*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)- Through scientific knowledge, it is becoming clear that to prevent the deadly and disabling effects of mental illness means reducing social and economic environmental risks.

One interesting note: disease can now be seen as “epigenetic marks” that may, in fact, potentially, be undone or removed. This presumably raises the possibility that new treatments, lifestyle adjustments or environmental changes may reduce the risk of developing mental illness.

Scientists have learned that the brain does not operate outside of influence from the environment and, therefore, by de-stressing the environments we live in, we can promote brain health and protect brain skills against brain-based mental disorders.

## **Boundaries of Mental Disorders**

Prevention of the disabling and deadly effects of mental illness is likely the most promising course for the future. We know that in mental health disorders, there is a genetic component, but the environment contributes to risk as well.

The results of numerous studies have made strong arguments that the boundaries among mental disorders are more fluid than psychiatric guidelines have recognized up to now. It is now known that many symptoms assigned to a single disorder may occur, at varying levels of severity, in many other disorders.

The preamble to the Diagnostic Statistics Manual (DSM-V) says “it is anticipated that future clinical and basic research studies will focus on mental illnesses as “dimensions” or spectrums of symptoms rather than the more narrowly-defined and exclusively-labeled “disorders.”

## **New Research Domain Criteria**

The US National Institute of Mental Health has concluded that the current designations of mental disorders for diagnostic purposes do not represent “valid disease entities”.

In a dramatic move, the NIMH has re-written its rules for funding mental health research, introducing new “Research Domain Criteria” (RDoC) to incorporate genetics, neuroimaging, and cognitive science into future diagnosis based on neural systems.

One compelling reason for this change is that the diagnostic guidelines for mental illness show almost no influence of the remarkable advances in new technologies and knowledge in neuroscience since 1994.

On this basis, one might conclude that a new classification system will be based on this key discovery, that illnesses such as depression, bipolar disorder and schizophrenia will no longer be considered watertight compartments. The reason being: science has found common genetic variances.

Signs point to mental illness as a “neurodevelopmental disorder with changes occurring in fetal or early post-natal life” but “with symptoms that may not manifest for years or decades.” This means the ideal time for intervention may precede symptom onset by years.

An accelerating body of literature over the past decade calls for a “new clinical system” for mental illness based on biology as well as (clinical observations.) This would demand an



overhaul of conventional thinking of health care providers, government and regulatory agencies, granting agencies and so on.

Nonetheless, the NIMH Research Domain Criteria opens the door to “new thinking” about what mental illness is, and what it isn’t – to wit: serious mental disorders are brain circuit disorders resulting from a wide variety of problems in the maturing of the human nervous system from conception.

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