

WILSON + WILKERSON 2011

BRAIN HEALTH  
+  
BRAIN SKILLS =  
BRAIN CAPITAL

FINAL REPORT

Global Business and Economic  
Roundtable on Addiction and  
Mental Health 2011

GREY PAPER

NEW Workplace of the 21<sup>st</sup>  
Century – toward a productivity  
revolution through mental  
health & innovation

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The authors wish to express our sincerest gratitude to The Great-West Life Assurance Company and Great-West Life Centre for Mental Health in the Workplace for their invaluable support of the Roundtable over the past eight years, and for funding for this Report.

We extend our deep appreciation to the Homewood Health Centre for its long-standing friendship, and key role in the production of this Report, and to Bell Canada, we extend our warmest thanks for its generous financial contribution to this project.

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## FINAL REPORT

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Global Business and Economic Roundtable on Addiction and Mental Health 2011

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## GREY PAPER

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NEW Workplace of the 21<sup>st</sup> Century – toward a productivity revolution through mental health & innovation

*Special Report*

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## HOPE FOR DEPRESSION

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Recent Innovations  
and Future Prospects

**Gary Woodill, Ed.D and  
Stephanie Wright, M.I. Sts.**

[mentalhealthroundtable.ca](http://mentalhealthroundtable.ca)



THUS IT  
BEGAN...

“A striking rise in mental illness in the global economy means it is crucial for business executives and health experts to learn what they can do together to confront the medical and non-medical causes of mental illness in the workplace.”

Tim Price

ROUNDTABLE CO-FOUNDER, 1998

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## Earliest Supporters of the Roundtable

The Roundtable enjoyed the support and guidance of many individuals who gave their time and energy at formative moments and at every stage of our journey.

We thank the founding members of the Roundtable's Board of Directors: Co-Founder and inaugural Chairman, Tim Price; former Chairman, Honorable Michael Kirby; Vice-Chairs, Maria Gonzalez and Rod Phillips; Treasurer, David Henry; and Chief Administrative Officer, Donna Montgomery.

Sincerest thanks also to our founding directors: Arnold Cader, Dr. Shitij Kapur, David Steele, Don Tapscott, and Dr. Franco Vaccarino.

Very special thanks for significant time and mentoring in the early days to Dr. Robert Swenson, Ottawa Hospital and Ottawa Heart Institute; world-renowned Dr. Philip Seeman and Dr. Mary Seeman, both of University of Toronto and Centre for Addiction and Mental Health in Toronto; and Dr. Edgardo Pérez, author of this Report's Introduction.

Our special thanks to Torys, the distinguished Canadian international law firm, for serving, pro bono, as corporate secretary and host of many board meetings.

We owe a significant debt to Great-West Life for the gift of office space, computers, administrative and financial support.

We benefitted greatly from the time and support rendered by leaders in research including the famed Dr. Ron Kessler of Harvard University, Dr. Rémi Quirion, now Chief Scientist for Quebec, Dr. Anthony Phillips of the University of British Columbia – both international figures in their field – and Joseph Ricciuti, now Managing Director of Buck Consultants in Toronto.

McMaster University, a world-class university and medical school, was instrumental in the Roundtable's first major program initiative, 'The Business Plan to Defeat Depression,' which brought credibility to the Roundtable on both sides of the Atlantic. We also gratefully acknowledge Dr. Simon Davidson, Dr. Richard Guscott, and Dr. Jean Wittenberg for the advice and counsel on children's health matters.

We also wish to acknowledge the extraordinary work of the many who are advancing mental health in the workplace including:

Heather and Lloyd Craig, Co-Founders and Co-Chairs of the BC Business and Economic Roundtable on Mental Health, peerless in their dedication and leadership in a cause in which they bear the special burden of personal loss;

Major General Walter Semianiw of the Canadian Armed Forces for recognizing the authenticity of battle wounds caused by operational stress and depression;

LCol Stéphane Grenier, now bringing his pioneering concept of peer support to the civilian workplace;

RCMP Assistant Commissioner Keith Clarke, RCMP Deputy Commissioner Steve Graham and RCMP Superintendent Richard Boughen for bringing Canada's national police force into our quest;

Edgar Kaiser, distinguished business executive and philanthropist and his special leadership in the fight for mental health and against addictions;

Mary Ann Baynton for bringing to life many of the Roundtable ideas through her leadership of the GWL Workplace Strategies for Mental Health website;

Jan Belanger of Great-West Life – an unsung hero of the Roundtable – and a fine strategic thinker and wise influence on the work of the Roundtable.

Our thanks to each of them is unlimited.

Many others played instrumental, early and on-going roles for the Roundtable and deserve our sincerest appreciation. We cannot name everyone in this limited space but we thank you one and all.



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## To a Cause

The Roundtable has benefitted from the financial and 'in kind' support of many large institutions over the past decade, including the generosity of Great-West Life, Homewood and Bell Canada in the production of this Report.

## The Great-West Life Assurance Company. The Great-West Life Centre for Mental Health in the Workplace.

### **An Extraordinary Commitment to Education and Research**

The Great-West Life Assurance Company, The Roundtable's key, long-term partner and supporter, has consistently turned 'knowledge into action' by launching the Great-West Life Centre for Mental Health in the Workplace in 2007 as part of the Great-West Life commitment to public responsibility.

Great-West Life's corporate citizenship philosophy specifies that corporate giving and social responsibility be focused on education, health, social services, culture and community – and be linked to sustainable value and a real contribution to the community.

The Centre has enhanced the work of the Global Business and Economic Roundtable on Addiction and Mental Health, and for that we are grateful. The Centre achieves its vision by identifying gaps, commissioning research and getting new knowledge into the hands of those that need it.

The Centre supports bridging 'silos' of expertise to foster collaboration, demonstrated by the creation of the Guarding Minds at Work concept and hosting initial meetings that set in motion the development of psychologically healthy workplace standards.

The Great-West Life Centre for Mental Health in the Workplace is a virtual organization. Its website, [www.workplacestrategiesformentalhealth.com](http://www.workplacestrategiesformentalhealth.com), is a free public service where executives receive guidelines for leadership, managers learn new skills, and employees find reassurance and guidance. This site organizes material by roles (HR, unions, management or employee), facilitates easy access and incorporates on-line video-based training to improve skill transfer.

Research and education to increase awareness and turning knowledge into practical strategies and tools for employers continue to be the Centre's priorities.



## Homewood Health Centre

### Founding Partner of the Roundtable

Homewood is a founding partner of the Roundtable thanks to the vision and leadership of Dr. Edgardo Pérez during his tenure as CEO and President of the Homewood organization.

Dr. Pérez is a leader, humanitarian, and innovative clinician with many unique ideas, particularly when it comes to organizational health. He co-authored with Bill Wilkerson ‘MINDSETS: Mental Health – The Ultimate Productivity Weapon,’ a book hailed by the World Federation for Mental Health as a ‘publishing milestone’.

Homewood is Canada’s unparalleled specialty provider of mental health and addiction expertise, both in-community and in-hospital. Homewood is owned by Schlegel Health Care, an organization that also provides long-term-care to seniors through Schlegel Villages.

Schlegel Villages offers innovative continuum of care campuses for seniors designed in a unique village format to promote socialization and quality of life. Homewood’s various entities enhance the investment in people, by helping companies maintain a healthy and productive workforce.

Homewood has helped thousands of Canadians for more than 128 years to cope with mental illness and addiction from its renowned mental health and addiction hospital – Homewood Health Centre – in Guelph, Ontario.

For the past 30 years, Homewood has built a successful employee assistance program business – Homewood Human Solutions. More recently, Homewood has focused on workplace disabilities due to mental illness and addiction through its disability services.

Homewood’s interdisciplinary team of more than 3,000 clinicians nationwide are all dedicated to improving lives through the practice of evidence-based methods that show results. They are the only Canadian provider that reviews and supports all facets of an individual’s life providing a deeply integrated spectrum through which employees flow.

These include:

- Prevention and wellness.
- Treatment for illnesses both in the community and in hospital.
- Tailored stay-at-work and return-to-work strategies that focus on functioning.
- Family education and support because these illnesses are family illnesses.

## About The Roundtable

The Global Business and Economic Roundtable on Addiction and Mental Health was a business-led enterprise from 1998 through 2010 which helped employers become familiar with and defend their stake in the mental health of their employees. It had no precedent in Canada, or, likely, anywhere else. CEOs and senior business executives were our first constituency.

The Roundtable defined ‘mental health in the workplace’ not only as ‘wellbeing within four walls’ but in the unconventional workplaces of police, the military, fire and emergency response, nurses, teachers, judges, lawyers, doctors.

The Roundtable functioned first as an informal initiative then as a federal not for profit Canadian corporation. We had no permanent staff, no organizational structure, but we had hundreds of volunteers and researchers and supporters.

Our meetings were hosted by corporations at no cost to us and we remained loyal throughout to the mantra that the Roundtable was a voice to, not a voice for business in the advancement of mental health in the workplace.

## Edgardo Pérez, MD, MPH

This Report does not simply recite Roundtable activities but builds on the original business case for mental health that evolved from the Roundtable’s work. Hundreds of people and organizations were involved in this process. In 1998, the Roundtable was a ‘beginning.’

At that time, there was no Mental Health Commission of Canada, no ‘cause of choice’ decisions by major employers and no conferences on ‘mental health in the workplace’. In fact, the phrase did not yet exist.

The Roundtable’s self-appointed mission was not to build a brand name but to generate information that improved public and employer acceptance of mental illness as an objective health issue.

In the end, the authors of this Report – **Bill Wilkerson and Michael Wilson** – encouraged us to dream bigger dreams, not pipedreams but pragmatic visions to resolve, not merely contend with the ‘limitless complexity’ of mental illnesses in the workforce.

From the beginning, the Roundtable was a voice ‘**to**’ business, not a voice ‘**for**’ business. That is important to remember. And the Roundtable was absolutely unambiguous in its advocacy of human decency as a cornerstone of the healthy workplace.



## Colum Bastable

*Mr. Bastable, a Founding Member of the Roundtable, is the Canadian Chairman of the international commercial real estate firm, Cushman Wakefield and is Past Chairman of the Board of Governors of McMaster University.*

I was ‘from Missouri’ when I first learned of the Roundtable’s mission in 1998. But that changed quickly after I ‘signed up.’ I was invited to take part in the Roundtable’s first major announcement in 2000: a ‘Business Plan to Defeat Depression’. The news conference attracted TV, radio and newspaper reporters, and the story was covered coast to coast. The news of this report also reached Europe.

Media coverage of the Roundtable’s work grew steadily one week, one month and one year to the next. Business leaders responded with real interest in the Roundtable’s business arguments for paying attention to these issues. The integrity of the Roundtable’s message never wavered.

Among other events over the years, one of the most memorable for me was the Roundtable’s 4-part US/Canada Forum on Mental Health and Productivity. My assignment was to introduce a slate of CEO guidelines for mental health and productivity that we worked on for a considerable time.

The Guidelines urged CEOs to build mental health into their vision of a healthy workplace, to champion that vision unrelentingly, and to give employees every opportunity to learn about mental health.

The Guidelines counselled business leaders to create a sound threshold of knowledge about their organization’s disability experience, audit each file not to ‘persecute’ those off work, but just the opposite, to ascertain what support they needed to get well and return to work.

CEOs should set tangible, achievable financial targets and create incentives for managers to assume accountability for disability practices and the job accommodations needed to facilitate employees’ healthy and safe return to work.

The Guidelines go further, but these points illustrate the fundamental message: leaders must be engaged to promote mental health in the workplace. Leaders must lead in the interest of the organization and the people working there.

## ‘Hope For Depression’

*Dr. Gary Woodill and Stephanie Wright prepared a separate volume for this Final Report using a unique internet-based scan of published materials, proceedings, blog posts, videos and other sources. Here are the highlights:*

Dr. Woodill finds ‘HOPE for Depression’ as the biological, genetic and societal risks associated with this disorder come more clearly into view. Depression is ‘highly inheritable,’ the Woodill Report finds.

But which genes pose the greatest risk, and why, remains unknown.

What is known is that no single gene is the culprit. Most likely, there are molecular disturbances linked to many genes. Depression, it appears, is a ‘brain systems’ problem involving brain circuits which are a team of cells that work together.

Stress is a risk factor in all forms of mental illness including depression, and in response to externally-induced stress, certain brain cells release a cascade of hormones that stimulate the adrenal glands, producing cortisol, a powerful steroid which, over time, may kill some brain cells altogether.

The brain region under attack is called the hippocampus. When healthy, it dampens cortisol secretion, and ‘shuts off that valve’ but when damaged by chronic stress, it no longer performs that important function.

Before the year 2000, scientists thought the brain could not produce new neurons (brain cells) in adults but, then, researchers made a remarkable discovery: the human brain can create new cells to heal itself. This is good news for those living with depression – re-birth and new hope.

The full report is available at:  
[mentalhealthroundtable.ca](http://mentalhealthroundtable.ca) or from [billwilkerson@sympatico.ca](mailto:billwilkerson@sympatico.ca)

## The Way Travelled

While, we discuss these and other themes at length in the pages that follow, let us turn to Part I of the Report: how the Roundtable began, how we progressed, and what are the priorities that define the future course of ‘mental health in the workplace.’ We turn to ‘The WAY Travelled.’

## Roundtable Final Report Executive Summary

This report has many authors. Scientists, clinicians, family members, employers and employees – hundreds of people and more who have guided the Roundtable over the years and, therefore, have guided us in writing this Report.

We interviewed some of the world's top clinicians and neuroscientists specifically for this Report and are grateful for their unparalleled expertise. Our principal recommendations are drawn from the Roundtable's 4-part US/Canada Forum on Mental Health and Productivity in Washington, Ottawa, Boston and Toronto.

This is not a scientific report, it is a report about science. It is not a business report, it is a report about business. It is not a research report, it is a report about research as a pragmatic tool to find answers to the complex problems of depression in the workforce.

All along, our role has been to translate, interpret, seek-out and study scientific data from the world's great research institutions and leading scientists and to learn from the real-life workplace experience of employees in jobs ranging from the retail and manufacturing sectors to the military and police.

We have no power except that of persuasion to make our recommendations happen. We will publicize this report, distribute it widely and encourage business, government and science to come together to achieve a big but plausible goal: finding a cure for depression.

### Getting Here, Going There

We have reached a point where talking about finding a cure for one of the most significant forms of mental illness is plausible and acceptable to many scientists, funding organizations and leaders in other fields. As co-author Michael Wilson says 'we've come a long way, baby.' Indeed we have.

The International Action Plan set out in this report draws on what the Roundtable has learned, found, done and advocated for more than a decade.

To determine what we can realistically say about the momentum created, doors opened, and the Roundtable we canvassed a large number of supporters. This is what they told us:

### Highlights of Roundtable 'Deliverables'

- Original concept: mental health in the workplace.
- Original strategy: brain health, brain skills in a brain-based economy.
- Credible 'business case' for mental health in the workplace.
- Strong voice to business not for business.
- Securing place for mental health in the corporate boardroom and executive suite.
- CEO summits, first-ever CEO survey on mental health.
- CEOs taking real action.
- Canadian insurance industry guidelines for mental health in the workplace.
- 'Great West Life Centre for Mental Health in the Workplace'.
- On-going national and international speaking tour on mental health in the workplace.
- High level US/Canada Forum for mental health and productivity.
- Profile for mental health in the workplaces of teachers, nurses, police, military, fire and rescue.
- Several tools and programs for employers.
- Unprecedented, large scale public opinion research focused on employees in Canada and US.
- Dramatically higher profile for mental health in the news media as a business issue.



## Priorities (and concerns) Going Forward

- ‘No going back’ – we must maintain the momentum.
- Boards of directors must embrace mental health as a governance matter.
- CEO leadership must grow across international borders.
- A ‘Breakthrough Business Case’ for decisive workplace-based research must take hold.
- Mental health must be enshrined in occupational health and safety rules and standards.
- The ‘asset value’ of employees on disability leave must be protected.
- Scientists, business must develop common language and shared goals.
- Research capacity to fund and find a cure for depression must grow.
- National standards for psychologically-healthy workplaces must be adopted.
- Employers must push for better mental healthcare for children.
- Workplaces must become venues to prevent suicide.
- Joint community/workplace-based models of treatment and support must broaden access to care.
- Governments as employers in their right must engage.
- Concerns:
  - Productivity gains exclusively through job cuts.*
  - Meager advances in new treatments.*
  - Harsh work environments prevail.*
  - Hyper-connected workplace compounds anxiety levels.*
  - National system reform efforts in Canada and us run out of gas.*

## In Search of a Cure

We cannot address all of the priorities and concerns noted above, but we have a base upon which to embark on an international effort to lessen the grip of depression on so many lives.

And by taking the long view of what society as a whole needs to do to reduce the social and economic effects of mental disorders, we feel comfortable openly using a four-letter word not often heard in mental health circles – the word ‘cure.’

This Report is a clarion call for leaders in the three countries where we suggest the initiative proposed here be launched – US, UK and Canada – to come together and stimulate a revolution in productivity through mental health and innovation in a **NEW NeuroEconomic Workplace**. This **NEW Workplace** will fuel and nourish employee wellbeing and productive capacity.

Most new jobs today demand cerebral not manual skills defining what we call a brain-based economy where brain-based mental disorders are the leading causes of workplace disability.

This Report visualizes this revolution in productivity stemming from investments that promote mental health as a means to stimulate innovation on a major scale. In this light, workplace innovation becomes the principal deliverable of investments in the brain-based mental health of working populations.

Depression is concentrated among men and women in their prime working years. The landmark Global Burden of Disease Study foresees depression and ischemic heart disease becoming the leading cause of work years lost through disability and premature death.

### No Health Without Mental Health

In the workplace, *'there can be no health without mental health.'* These are the words of the World Health Organization, a suitable mantra for the initiatives proposed here and a real incentive for employer action to defend their investments in their own people.

Finding a cure for depression, in our judgment, qualifies as a strategic business and economic objective in light of the asset value that can now be ascribed to cerebral skill sets and the cognitive capacity of working people.

A cure for mental disorders is a stated objective of the largest government mental health funding agency in the world, the US National Institute of Mental Health. The same goal guides NARSAD, the largest private charity for mental health research in the US.

The 1<sup>st</sup> US/Canada Forum in Washington in 2007 achieved a consensus among leaders of business and science in declaring that the goal of finding a cure for mental illnesses was a prudent and powerful incentive to attract broader public support and new funding sources for mental health research.

A European Community report in 2005 declared that mental health is a logical and preferred instrument to achieve social goals. Especially, one would think, in the face of grave financial uncertainty which will grip the world for years to come.

### Constellation of Issues

This report sets out a constellation of issues that stubbornly resonate from what Harvard researchers call an 'unheralded world mental health crisis.' This constellation represents a universal agenda for broad international action.

Some of the propellants of the insurgency of mental illness across the globe are found in major international trends unfolding over the past decade; these influential trends include:

- Infectious disease is giving way to chronic non-infectious disorders as the world's principal public health concern.
- Life expectancy is giving way to disability as the principal component of the global burden of disease with depression and anxiety as major contributors to disability.
- Depression not only has disabling but lethal consequences through suicide, cardiovascular disease and 'excess deaths' among those living with diabetes.
- Depression wields a powerful influence on the course and outcome of co-occurring chronic conditions, all of which are susceptible to workplace stress.
- Workplace depression now afflicts 18-25% of employees and the annual prevalence of all mental disorders has risen to 25% in the US and a reported 30% in Europe, according to US Centre for Disease Control, EEC and Roundtable data.
- The spread of depression and anxiety disorders exacts an economic toll of \$1 trillion a year in the European Community and North American Free Trade Area combined based on 4% of GDP.

### The Great Depression MATRIX

The Roundtable's first public event in 1998 focused on the connections between depression and heart disease. The objective was to promote employer understanding of the links between our greatest disabler, depression and greatest killer, heart disease.

This is a consistent message delivered by the Roundtable from then to now. We expand on that proposition in this Report. Depression is a common disabling and deadly form of mental illness that influences the course and outcome of a roster of chronic conditions beyond cardiovascular disease.



The vast implications of this for the health, wellbeing and productive capacity of hundreds of millions of people in the free market economies (and elsewhere) means that finding a cure for depression is a moral and economic imperative for society and its leaders.

The forward-looking portion of this report is called the ‘Grey Paper’ and proposes strategies to protect the ‘grey matter’ of our employees and their children from the debilitating and deadly effects of the brain-based and body-wide disorder we call depression.

## International Action Plan

*This report’s Grey Paper calls for:*

An ‘**International Public/Private Partnership of Employers and Science**’ to fund and find a cure for depression and to end the era of psycho-social work hazards emerging as a major occupational health risk.

The Partnership will consist initially of global corporations as well as governments, unions and NGOs as employers in their own right, drawn from UK, US and Canada.

The partnership will build a \$10 Billion investment plan to finance this decade-long, 3-country, workplace-based research, education and prevention campaign.

**The Designation of 2012–2022 as the ‘The Decade of the Brain in the Workplace’** to galvanize business and public awareness of this campaign and to seek applications of the ground breaking discoveries of the 1990s ‘Decade of the Brain’.

‘The Decade of the Brain in the Workplace’ will focus on the transfer of known and new brain knowledge into clinical practice and workplace applications.

**A start-up roster of 30 workplaces in three countries – us, UK and Canada – will serve as ‘pilots’** for an integrated workplace-based brain, genetic, clinical and organizational research regime to find a pathway to depression through its links with chronic illnesses.

*And*

**A new approach to promote the funding and design of depression research publicized and conducted as a means to:**

- Save lives from heart disease and stroke.
- Prevent suicide.
- Prevent depression/heart disease from becoming the leading causes of work years lost by 2020.
- Reduce cardiovascular risks among those living with diabetes;
- Improve the outcome for diabetes itself.
- Prevent depression from impacting negatively on the prognosis for some cancers.
- Reduce the health risks associated with obesity.
- Lessen the grip of chronic pain on millions of people.
- Protect gains in life expectancy. (Severe mental disorders can shorten life spans by 25 years.)
- Prevent onset of depression and anxiety in childhood and adolescence.
- Reduce economic losses and restore productive capacity in the workplace.
- Sustain psychologically-healthy workplace standards (now in development).
- Promote innovative and resilient workforces.

*And*

**Building the business case for and treatment excellence** through accelerated investments in and deployment of:

- Bio-markers (blood, saliva, other) for diagnosing depression.
- Brain imaging technology to customize treatments of depression.
- Screening tools for routine use by primary care physicians and clinicians specializing in heart, stroke, diabetes, pain, cancer, obesity, respiratory, bone and other conditions.

*And*

**Building a workplace-based suicide prevention model** to educate employees and families, and provide crisis avoidance training to managers, disability case managers, occupational health and safety physicians and personnel;

Workplaces will work with community groups such as schools and sports leagues, and sponsor the mobilization of youth through a Peace Corps to prevent adolescent suicides.

Suicide prevention must have targets. In Canada, we propose reducing the annual number of suicides from 4,000 to 1,000 by 2022, and in so doing, save 31,000 lives over a decade. This would also mean preventing 150,000 to 200,000 suicide attempts and self-inflicted injuries.

*And*

**Building from the workplace a business case for new investments in children's mental health** as a logical extension of employer investments in employee and family assistance programs.

Mental health care is scattered in most countries and the 'rule of thumb' is that such care is inadequate or non-existent. This is unconscionable.

A business case will justify investments in children's mental health on economic grounds and will promote access to specialized care networks

for children through a new generation of workplace-based, anxiety and depression-focused employee and family assistance plans.

*And*

**Pilot projects for new national standards for psychologically-healthy workplaces.** We call this the **NEW NeuroEconomic Workplace** where CEO leadership is the first imperative.

No amount of science will change the way workplaces function without executive leadership and a willingness to adapt. Therefore, the Report proposes the rapid infusion of psychologically-healthy workplace policies and practices.

### **Mental Health and Innovation**

At the heart of this model is employers learning how to make innovation thrive in a brain-based economy, foster the cognitive capacity of their employees, and adopt the equation that **'brain health + brain skills = brain capital'** as a practical business formulation.

The **NEW Workplace** will require a 'modern model of leadership' where **CEOs** recognize the link between a healthy culture /environment and healthy employees and take an investment approach to employee health benefits and to reforms needed to create psychologically-healthy workplaces.

The **NEW CEO** will bring mental disabilities from 30%–40% of their total disability experience down to 10% and implement strategies to ensure that long-term disabilities due to depression are virtually obsolete. Employees on disability are affirmed, consistently, as assets with continuing value.

In the **NEW Workplace**, disability case management will be anchored by an 'Employee Asset Renewal Process' which progresses from illness/disability, through symptom-remission, to recovery of functional health and gradual return to work – all as a form of asset protection.

### **A Clearinghouse of Depression Research**

The international action plan proposed in this report must embrace the latest internet-based technology for active public engagement. The pace of technology innovation and change will continue unabated, and may even accelerate.

To keep up with relevant developments in the treatment and cure of depression Dr. Gary Woodill, co-author of the companion volume to this Report, advocates for the creation of a web-based clearinghouse of new information to alert researchers and practitioners when information first becomes available.

Information, gathered through a monthly environmental scan of research literature as it is published – or as it shows up on blogs, magazines, conferences and student work – will always be current. Professionals in the field can be both users and contributors to such an information source, as well as rate the importance of items as they are posted.

Such a ‘crowdsourced’ resource on depression would be invaluable and an efficient way to keep up with new research. Automatic tools could create a weekly newsletter of all new items posted, or users could search a database of topics.

Maintaining a clearinghouse of information on depression requires a few staff to keep it up to date, but could be of value to thousands of professionals worldwide.

### **Avoiding Trouble Ahead**

Tom Insel, Director of the US National Institute for Mental Health, speaks of a lack of progress in adapting brain scientific discoveries into new methods of care. The Canadian Institutes of Health Research is concerned that Canada may lag other nations in the translation of scientific evidence needed to inform clinical, health care decisions.

The Chief Medical Officer for Canada, Dr. David Butler-Jones, says chronic illnesses are the principal public health challenge facing Canada and the world. Depression is part of this. Demands on primary care are unavoidable, and predictable.

Yet also emerging, are challenges to Canada’s capacity to develop and transfer the scientific evidence needed by clinicians to manage these very same issues. The Grey Paper will speak to these issues. In Canada’s case, the country may awaken in the next few years to a severe structural flaw in its capacity to predict, let alone manage, the stormy weather ahead.

This Report is not a final word. It is an attempt to stimulate a lot of new discussion about the future role of mental health in the workplace as a defined, authentic business asset. We hope our proposals serve the purposes of the unified engagement of employers and science in a critical common cause.

The time has come to attract the next generation of leaders to take the steps needed to wrestle to the ground those questions which stand between society, the economy and victories over mental illnesses – victories at long last and, some day, once and for all.



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PART ONE: ROUNDTABLE FINAL REPORT

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# THE WAY TRAVELLED

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1998–2011

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*‘We’ve Come A Long Way’*

Michael Wilson, Transforming Lives Campaign Report,  
Centre for Addiction and Mental Health, Toronto, Canada



The Roundtable set sail June 4, 1998. Like an explorer's ship, it followed a course only vaguely mapped out, guided by what we learned – as we learned it. The earliest lesson: mental health and mental illness constitute subjects of limitless complexity.

Over the past decade, the Roundtable's efforts have produced encouraging signs that mental health is becoming accepted as a bona fide workplace concern. The wider public is tuning-in. Even unconventional workplaces of police, fire, first response and military service were now part of the mix.

## Signs of Progress

*In our home country of Canada there are now encouraging signs of progress:*

The Great-West Life commitment to mental health in the workplace, and to the Roundtable, was a remarkable breakthrough for the cause. One of Canada's historic companies, its roots dug deeply into the early years of Confederation, Great-West made an explicit commitment to the public interest.

Other members of Canada's insurance industry, to their great credit, have demonstrated support for mental health in the workplace. The country's major insurers came together to co-fund Roundtable research and were active players in the CEO Summits.

The Canadian Health and Life Insurance Association, in 2007, adopted a strategy to establish benchmarks for mental health in the workplace – this, for their own members. The centrepiece was a set of guiding principles to improve the industry's knowledge and awareness of these issues.

Canada Post Corporation adopted mental health as its 'cause of choice' and Bell Canada made an historic commitment to research and education and, wisely, both companies engaged their senior management in learning about mental health issues.

Bell Canada emerged with a major commitment to mental health broadly, and the workplace in particular. The major chartered banks have proved innovative in adapting disability management and diversity policies to mental health concerns among their own employees.

The Government of Canada, teachers and nurses associations, and financial industry groups all demonstrated a growing interest in mental health in the workplace. All very encouraging.

## THE DIALOGUE

In the dialogue that follows, Michael Wilson and Bill Wilkerson discuss how the Roundtable emerged, and what the future holds in further advancements of mental health as an economic asset in a world economy that puts such a high premium on brain-based skills.

Moderator Christopher Dawson, Executive Vice-President, Growth and Development, of Homewood Corporation led the conversation. The following is an edited transcript:

## From Silence to Awareness

### **Dawson:**

You took us from silence on mental health ten years ago, to budding awareness and action today. How did the Roundtable get started? Why did you decide to bring business people together with psychiatrists around a corporate boardroom table?

### **Wilkerson:**

In 1997, we found evidence that more and more employees were taking time off work for imprecise medical reasons: can't sleep, stress, ill-defined pain, that kind of thing.

Then, we read the 'Global Burden of Disease Study' authored by Harvard School of Public Health researchers and became acquainted with the stark new truths that began to emerge about the links between heart disease and depression, and the projections through to 2020 of disability and premature death due to mental illness.

So, that year, 1997, Tim Price took the lead by inviting a dozen senior executives from several corporations in the financial services industry to come and talk about 'depression and work'.

We met at resource giant Noranda Inc., then a Brascan (Brookfield) company. Former Ontario Premier Bill Davis chaired the session and clinicians from Homewood and Centre for Addiction and Mental Health brought their expertise to the table.

Understand that this was an experiment. Who would show up – would we have enough to say to fill 90 minutes over breakfast? Well, we had plenty to talk about.

The business people were shaken by the number of working people felled by depression, by the skimpy access to care and treatment for employees, and no apparent government strategy in place to deal with this. That meeting led directly to the creation of the Roundtable.

*Dawson then asked Michael Wilson about his own involvement in the Roundtable. A fond recollection followed.*



**Wilson:**

I got a phone call out of the blue, from Bill. He asked if I would agree to get involved. I was intrigued; I said sure. About two weeks later a news release arrived in the mail saying that Michael Wilson had agreed to become Chairman of the Roundtable.

That was the first I heard of agreeing to serve as Chair. (chuckling) But that was Bill's style, to ask forgiveness for what he did, not permission to do it. At the time, I had a copy of the book that Bill and Edgardo Pérez wrote, and it rang a bell for me.

Our son had great difficulties in his job before he really became sick. So I had seen the effect of workplace pressures on him, and I had also seen people – some of whom I worked with, some I knew in other ways – who struggled with mental illness but would not discuss it.

They were in denial, embarrassed or concerned about how it would affect their career. I still remember one fellow, easily a seven figure salary, who kept putting it off, putting it off, putting it off. Finally he took a leave of absence.

Ultimately, he left the firm, a great loss to him, a great loss to the company. So, when I first heard from Bill, I was aware of the impact of mental illness and the problems that people had talking about it – particularly when it was they who suffered.

I had no difficulty getting involved, even though I was shocked by Bill's methods, (more chuckling), which, by the way, have never changed.

## Talking About It

**Dawson:**

Among those you saw struggling in the workplace, were these struggles not observed by their leaders, colleagues or co-workers?

**Wilson:**

I think CEOs were aware of some people in their organization who struggled. Whether they grasped the breadth of the problem, I'm not sure. But as time went by, as the Roundtable continued, senior business people began to see what was going on.

I remember my conversation with one fellow who was probably number 2 or 3 in a very large organization – very large – and I told him about the Roundtable and he said, 'fortunately we don't have problems with mental illness in our company.'

I said, 'that's very interesting – if that's the case, you're a statistical aberration.' He looked at me – surprised – and I said, 'ask a few questions, then let's talk about it some other time.'

So he came back to me about two or three months later and said, 'you were right – we do have significant problems. We also have programs in place and now I have taken a personal interest.'

This kind of insight spread among senior people, awareness grew, and ultimately there were breakthroughs like Canada Post adopting mental health as a 'cause of choice.'

**Dawson:**

Did executives think the Roundtable was a way of setting the table for conversations they couldn't otherwise have in their organizations because the topic was taboo?

**Wilson:**

I remember a meeting we had with Gord Nixon (CEO of the Royal Bank) and he was very receptive to exposing his senior management to a presentation from Bill and me – and we had easily 60 of his top managers, a good hour with them.

Both Bill and I talked to them about the issue and Gord was very supportive – he understood instinctively the importance of giving senior management some sense of what they – not just the HR department – could do as leaders of the organization to support their employees.

*Dawson then asked how business people reacted when first approached.*

**Wilkerson:**

Once we gave senior business people a prevalence figure, a dollar number or disability rate, they would understand why employers should pay attention to mental health in the workplace.

Later, I discovered many – maybe most – of the executives I spoke to had experience with mental illness in their own families. They knew these conditions happened, but were taken aback by how far and deep they penetrated the working population.

In some cases, stories were unfolding right there in the office. In one case, a senior manager had told a colleague he was thinking about suicide; in another, a CEO was witness to the distress of his very successful head of sales who refused to talk about what was wrong.

Later, we learned he was struggling with his wife's post-partum depression – he found her hiding in the closet each morning. We helped find appropriate professional help for both of them. And both regained their health.

Another senior banking executive who got involved with the Roundtable spoke of his brother who lived with schizophrenia, his admiration of him. This banker became a major force in the Roundtable's work and influential in how his own organization tackled the issue.

**Dawson:**

What was one of the key messages the Roundtable communicated in those early days?

**Wilson:**

That it takes more than doctors and nurses and hospitals or clinical care to manage the effects of mental illness. We need other tools in the workplace and in the community – peer and family support. The instruments of recovery go beyond medical care and prescription drugs.

This means we need to define recovery not only in terms of reducing symptoms but in terms of getting back to work, lowering the risks of relapse, fighting stigma, and achieving a critical mass of success in the prevention of mental disability. The workplace is an ideal venue for all that.

## Voice TO Business Not FOR Business

**Dawson:**

What was the operating model you developed for the Roundtable?

**Wilson:**

I really want to emphasize one thing in particular. First and foremost: the Roundtable was a voice **TO** business not a voice **FOR** business. This was critical to our model of operation.

We had a board of directors but avoided the conventional trappings of the typical organization. We didn't hire staff; our meetings were hosted by corporations at no cost to the Roundtable; just two people in the office – Bill and Donna Montgomery – and they got paid when we could afford it.

We wanted to stay flexible, focussed externally at all times. Now, that said, I always believed one day the Roundtable had to become properly funded and stabilized as an on-going enterprise rather than so heavily dependent on two individual people.

**Wilkerson:**

We always worked in office space in the downtown core, gifted to us thanks to the generosity first of Hershell Ezrin, CEO of a large public affairs company and then, in spectacular fashion, by Great-West Life who gave us administrative and systems support, space and significant annual funding for 7 years.

Senior people at Great-West like Executive Vice-President David Johnston were personally engaged and led by example. Mr., Johnston took personal charge of the development and implementation of the Great-West Life Centre for Mental Health in the Workplace.

**Wilson:**

On a day to day basis our mantra was 'homework, homework and more homework.' Bill worked with scientific and business people and the news media extensively and we reached out to engage government – not as government, per se – but as an employer in its own right. Administration was smooth and efficient thanks to Donna, and Bill led the charge publicly.

**Wilkerson:**

Our model was really designed to articulate the possibilities of change in dealing with mental health issues in the workplace which meant we had to stake out positions contrary to conventional business wisdom – and be comfortable doing that.

We really tried to communicate the ‘big picture’ such as the 2020 forecast by Harvard that ischemic heart disease and unipolar serious depression would emerge as the leading causes of work years lost through disability and premature death globally.

**Wilson:**

By taking a long view in terms of what society as a whole needed to do to reduce the social and economic effects of mental disorders, we felt comfortable openly using a four-letter word not often heard in mental health circles – the word ‘cure.’

We believed that science, business and advocates should openly aspire to this kind of plausible dream and to spell out objectives like cancer and heart advocates do. A cure is not some kind of miracle drug. It is the pathway to treat and prevent this disease.

## Forging New Ground

**Wilkerson:**

The Roundtable was the first national business group to talk about ‘psychosocial conditions’ as work hazards – with examples like chronic job stress and frustration. These ‘new’ work hazards were creating serious health risks for depression and heart disease.

**Wilson:**

Around this time, CAMH (Centre for Addiction and Mental Health) started a public service advertising campaign. I remember one particularly powerful ad: a young woman receiving a negative job performance review, distressed, knowing her previous reviews had all been positive.

But this time, the symptoms of her undisclosed mental illness were the source of the performance problems that were criticized most. She was withdrawn and lacked energy. This ad hit very close to home for many. The changes in her performance all pointed to some form of mental illness.

In 2002, the Roundtable held the first of a series of CEO Summits – a ‘Boardroom Series’ we called it – in the boardrooms of each of the five major banks – with no cost to us thanks to their generosity.

Dr. John Evans, (Chairman Emeritus of Torstar Corporation), who has great standing in the medical, business and educational communities, made a powerful statement on directors becoming involved in employee health and mental health. Otherwise, he said, ‘they are not fulfilling their governance responsibilities.’

**Wilkerson:**

We then published the Roundtable’s Board of Directors and Investor Guidelines for ‘mental health and productivity,’ which were endorsed by the Chairmen/Directors of Alcan, Royal Bank, Torstar, and other corporations. There was a lot of publicity and business really started to pay attention.

**Dawson:**

It sounds like ‘peer to peer’ communication ‘around the Roundtable’ was a key to success, business people communicating to business people, peers communicating to peers. Is that correct?

**Wilson:**

Generally, yes, but it wasn’t so black and white. Getting business people to put aside a whole morning to talk about mental health demanded a certain amount of peer group pressure – CEO to CEO – but also a very solid agenda of meaningful information.

It also helped that when they came into the room – they probably knew 90% of the people around the table.

## Reducing the Economic Costs of Mental Illness

### Dawson:

Did the two of you see the identification and reduction of economic costs as part of the Roundtable mandate?

Wilkerson: Absolutely! Without a believable number to target, it was hard to make the case for mental health as a business and economic issue. In 1999, Mike did a calculation that mental disorders represented 14% of the net operating profits of Canadian companies. Powerful stuff.

## The 'Multiplier Effect' on Health Care Costs

### Wilson:

These costs may well be the tip of the iceberg. Certainly it is one of the reasons why government has been reluctant to tackle mental illness through the health care system – in the broadest sense. They recognize it would mean a significant level of 'new' cost for taxpayers.

### Wilkerson:

Yet, dramatically improving access to and quality of 'medically-necessary' mental health care in Canada could in five to ten years have quite a beneficial effect on the cost structure of health care in this country. The reasons are well documented.

According to US data that we reviewed, persons living with depression use medical services 4 to 16 times more than the general population – that is, to get relief for the surface symptoms of depression such as pain and sleep loss.

These symptoms get treated without reference to the underlying cause – which continues to go untreated – and continue to result in even more symptomatic illness. The result is a 'multiplier effect' on health care costs. Getting this under control would reap large health care savings.

## Physical and Mental Health: Indivisible

### Dawson:

How did the Roundtable break down the barriers between physical and mental health?

### Wilkerson:

Early on we examined research done mostly in Canada which linked the risks of heart attack, diabetes, cancer and other so-called physical chronic conditions to depression. We reported this to business consistently over the next ten years.

This information provided a new perspective on mental illness for business people. There is a 'physical' nature to mental illness, in this case, depression. The diagnostic manual for mental disorders says there is 'much that is physical about mental disorders and much that is mental about physical disorders.'

The 'Global Burden of Disease Study', taught us stark new truths: depression and heart disease were emerging as the greatest source of work years lost through disability and premature death, and disability, driven by mental illness, was now the biggest part of the disease burden.

## International Agenda

### Dawson:

Over the next decade, what would you hope successor organizations would accomplish?

### Wilson:

We must continue to get mental health into the workplace and onto the agenda of the boards of directors of major companies – and government workplaces. These large organizations could be a testing ground for best practices and policies.

And we must reach out to employers in other countries. I have said consistently, that every major issue Canada faces today must have an



international solution and this is one of them. We need to share experiences, develop international standards, and build a global research agenda.

We want to draw on the work of Dr. Ron Kessler and develop a database in Canada which documents the cost/benefit of investing in improved identification and treatment of mental illnesses among Canadian working families.

About 85% of all new jobs demand cerebral not manual skills. This is what we called the advent of a brain-based economy and it converges with an era wherein brain-based disorders are the leading source of disability. This attacks the primary skillset most in demand today.

Mental health in the workplace has strategic importance for employers, private and public sector alike. All this, in my judgment, still requires a roundtable-type organization.

**Dawson: (to Wilkerson):**

Your thoughts on the next 10 years, and a second question: how would you describe the world as you see it now versus the world that you saw 12 years ago?

**Wilkerson:**

12 years ago there was no basis upon which to have a conversation on the subject of mental health in the workplace, no point of reference, no compass. So we had to build a basis for discussing the matter in economic terms with business and health professionals.

Looking ahead, we need greater literacy in the population about the way the brain works. After more than a decade working on mental health and mental illness, I sense that one of the reasons people recoil from mental illness is their belief that it attacks one's personal identity.

I suspect that, in turn, comes from a real 'blind spot' on 'what and who' we are between the ears.

When we help people understand that mental illness shows up in their brain and that it impacts a person's thinking, learning, concentrating and other brain-based skills, then we can help each other have a better sense of what is happening when something goes wrong.

## Past Ten Years

**Dawson:**

What were some of the most important milestones of the past 10 years?

**Wilkerson:**

One was the '2000 Business Plan to Defeat Depression.' This plan was the earliest 'take' on what employers could do in response to the rising rates of mental illness in the labour force. The media interest was intense and the coverage extensive right across the country.

We also announced the 'Business Plan to Defeat Depression' in Geneva soon after the Canadian launch and, again, newswire coverage was extensive across Europe and Canada, and parts of the us. Media coverage of our work continued for 10 years.

Another turning point was a speech in 2002 by Nancy Hughes-Anthony, the CEO of the Canadian Chamber of Commerce, validating mental health as a business and economic issue. That speech was significant in that she was the first CEO to speak publicly about mental health in the workplace.

The decision by Great-West Life to create the Great-West Life Centre for Mental Health in the Workplace is another big one. The positive implications of this long-term commitment cannot be over-stated – and are still going strong today.

Canada Post's decision to make mental illness a cause of choice was also a most memorable milestone. While not a Roundtable initiative – I believe we helped create the environment where this was possible.

The explosion of conferences on mental health in the workplace produced, for us, what amounted to a 'speaking tour' for nearly the whole decade – from Halifax to Vancouver, Rome to San Diego, Albany to Washington and Chicago.

**Wilson:**

What we said the Roundtable was going to do – we did.

**Wilkerson:**

And, all of these public engagements, all of our travel, were done without cost to the Roundtable. Every single one. That's one part of our model I would recommend as a goal for others.

Our work with the RCMP in the final couple of years ranks as a major highlight as we worked with Canada's national police force to build a psychologically healthy workforce for the most unique law enforcement agency on the planet.

## Next Ten Years

**Wilson:**

In the next 10 years, we've got to find a cure for depression – a cure in the form of long term remission rates. It might be best to pursue that cure through research into heart disease, diabetes and other conditions that depression is linked to.

This could lead to new treatments, objective criteria to confirm a diagnosis of mental illness – a blood test in the form of saliva, for example – or brain imaging to help customize treatment.

We need a critical mass of successful treatment, greater awareness of scientific fact, and tough disincentives, to defeat stigma. That's the purpose of this Report: to encourage organizations to tap into the real 'Power Source' of mental health in the 21<sup>st</sup> century.

We must engage government, as the largest employer, over the next ten years. We have made some progress with several departments including National Defence and the RCMP – and Canada Post, a Crown Corporation.

The federal workplace could be a best practices test bed with the results distributed among other employers. That said, let me go back to your question about the Roundtable model. We have developed some very good ideas, we have traction, and we need to find another Bill Wilkerson – someone who will commit a period of his or her life to providing leadership in this very important work.

## The dialogue ends. Its conclusions resonate.

Future advances in mental health in the workplace demand corporate leadership and bolder goals. Science and business must come together to lead the search for a cure for depression using workplaces and workforces as sites and subjects for this critical research.

Governments as an employer in their own right must take on a lead role in this partnership. Not only is it the largest employer, its workplaces provide varied perspectives: office managers, park rangers, law enforcement, military personnel, parliamentary staff and tax collectors.

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RETROSPECTIVE

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# TIMELINES IN REVIEW

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*“The shadows of doubt about the staying power of this great cause are gone.”*

23

1998

## Pre-1997

Mental health in the workplace was an unknown concept. The wider public, and certainly business and government as employers, were more or less unaware of the subject.

## 1997

### Global Burden of Disease Study

Harvard School of Public Health publishes the Global Burden of Disease for the World Health Organization & the World Bank. Roundtable interprets results for business and reported that disability was a leading component of disease burden and mental illness a leading cause of disability.

### First Report on Depression at Work

Tim Price, a principal of the Edper Group (now Brookfield Assets Management) brings together senior business leaders and psychiatrists in a ground breaking meeting to discuss the findings. Wilkerson and Dr. Pérez report on 'depression in the workplace.' A consensus of the importance of this issue emerged.



# 1998

## Canadian Roundtable Formed

Bill Wilkerson and Tim Price form the 'Canadian Business and Economic Roundtable' in response to the findings of the Harvard Report and the support of the business leaders and psychiatrists in attendance at the meeting held a year earlier.

Bill becomes the CEO of 'The Roundtable', as it is instantly called by all, and is soon joined by Donna Montgomery as the Chief Administrative Officer. They become the only 2 staff the Roundtable will ever have.

Roundtable reports to business that depression will grow faster than cardiovascular disease and wield greater powers of disablement than AIDS, war and traffic accidents combined (GBD).

Roundtable begins building a case for mental health in business, economic and scientific terms to convince business leaders that they have a major stake in the mental health of their employees.

## MINDSETS (Wilkerson, Pérez, 1998),

Wilkerson and Dr. Edgardo Pérez write 'Mindsets' a book in which mental health is first positioned as the 'ultimate productivity weapon.' This conclusive work identified the issues of the time and set the agenda for the work of the Roundtable.

## Global Projects = Global Roundtable

Roundtable brings the 'World Mental Health Day' to Canada at a town hall meeting in Markham, Ontario, focused on the link between depression and heart disease. The council chambers filled to capacity – a great success.

The Roundtable and World Mental Health Federation produce the 'Mental Health and Work' report for 60 countries. The response is huge, reflecting the universality and global reach of the issue. This prompts the Roundtable to change its name from 'Canadian' to 'Global'.

# 1999

## First Economic Estimates

The Roundtable releases first estimates of the economic costs of mental illness in Canada at the second World Mental Health Day celebration held at Ottawa City Hall.

The findings show that mental disorders cost Canada \$16 Billion a year or 14.5% of the operating costs of all Canadian companies. One CEO, Eric Newall of Syncrude, translated that into 11 million lost barrels of oil production. The business case has taken its first major step.

## Chamber of Commerce Comes on Board

The Calgary Chamber of Commerce brings business leaders together to hear Bill Wilkerson speak on the Business Case for Mental Health. Media coverage is extensive. This event leads directly to the establishment of the 'Bottom Line Conference' for Mental Health in the Workplace.

## Warning: Email Overload

The Roundtable makes the original argument that email overload presents a mental health risk and releases another report forecasting – accurately as it turned out – that the number of stress-related disability insurance claims would double as a percentage of all claims in the next 10 years.

## 2000

### First Business Plan to Defeat Depression

The Roundtable produces the first comprehensive ‘Business Plan to Defeat Depression’ distributed widely among business organizations and launched on both sides of the Atlantic – in both Toronto and Geneva – to extensive international media attention.

The Royal Bank of Canada hosts the first launch and the International Labor Organization, a United Nations agency, hosts the second by way of a new conference which attracted BBC and European television.

The ‘Business Plan to Defeat Depression’ connects employee mental health to workplace practices, email overload, office politics, and the cross-over effects of depression and heart disease. The message is getting out.

This plan is included in the official publications of the Employee Assistance Society of North America and CAMH (Centre for Addiction and Mental Health). Copies continue to be distributed on-line throughout North America.

### Tradition Begins: Christmas Gifts of Affirmation

The Roundtable begins a 10-year tradition with the first annual publication of the ‘Twelve Gifts of Christmas for Support and Affirmation in Stressful Times’ – the Gifts of Listening, Helping Out, Reaching Out and Human Decency, among others. Corporate and media attention is attracted both inside and outside of Canada.

This becomes the year that the World Mental Health Organization, influenced by the Roundtable, focuses on mental health in the workplace with its 25 member countries.

## 2001–02

### Economy of Mental Performance

Royal Bank of Canada CEO, Gordon Nixon, speaks at an executive briefing held by the Roundtable. He states that “the competitive success of organizations, including my own, depends on the ability of our people to think, to be creative, and to have perspective.”

His remarks changed the course of events in moving mental health in the workplace forward. Mr. Nixon described an ‘economy of mental performance’ by ‘linking thinking’ to corporate performance. Mr. Nixon vested a strategic value in the mental health of his employees.

### CEO Summits Begin

The Roundtable launches a series of CEO Summits called ‘The Boardroom Series on Mental Health and Productivity.’ Each meeting is convened by senior business people on behalf of the Roundtable, hosted by the big banks, and covered by the media.

### Economic Analysis: \$33B Canadian Costs

At the inaugural meeting in the boardroom of the TD Bank Financial Services, the Roundtable unveiled for this elite audience a detailed analysis of the economic impact of mental disorders and priced that impact at \$33 Billion a year.

The figure drew headlines in Quebec, Ontario, Atlantic Canada and parts of Western Canada and quickly became a mainstay point of reference for mental health researchers and writers.

2001–02 CONTINUED...

## Psycho-Social Risks

The report also introduced ‘psychosocial workplace environments’ as an emotional work hazard and published the first ‘top ten list’ of management practices likely to precipitate or aggravate mental health problems in the workplace. Obvious now, the point made big news then.

The Chairman of Torstar Corporation, Dr. John Evans, saw ‘mental health in the workplace’ as a governance issue and declared that “any board of directors that doesn’t insist on having a discussion of environment, health and safety – with a special emphasis on mental health – is not discharging its governance responsibility.”

In response, the Roundtable developed a ‘Board of Directors Guideline for Mental Health and Productivity,’ endorsed by CEOs and senior corporate directors.

## Workplace Mental Health Goes Global

The Roundtable website is created by Roundtable’s Chief Administrative Officer, Donna Montgomery, and significantly expands the Roundtable’s reach and effectiveness.

The website is the first of its kind and in time becomes the most often-visited site in the world for information on mental health in the workplace. All Roundtable documents, original research, analysis and speeches are made available to everyone at no cost to users.

# 2003

## Charter for Mental Health in the Knowledge Economy

The second CEO Summit is held at the Scotia Bank and is chaired by the bank’s Vice-Chairman, David Wilson, later Chairman of the Ontario Securities Commission. The Roundtable tables the first ever ‘Charter for Mental Health in the Knowledge Economy’ signed by business leaders.

The Charter sets out depression and heart disease as ‘clear and present’ dangers to productivity in the global economy. Again, this is an obvious point to-day but it was new information less than 10 years ago. Bill Wilkerson does a series of CBC Radio local interviews from coast to coast.

The CEO Summits are transcribed verbatim, and from this, the Roundtable publishes the views of some of the most senior people in business on their thoughts concerning mental health problems, lack of adequate care, and workplaces as a source of health risks.

## CEO’s Speak Out

The result is a widely distributed, on-line report called ‘In their Own Words’ published by the Roundtable and made available to HR and health professionals to use as testimonials from senior business people.

Later that same year, the 3<sup>rd</sup> CEO Summit was held at the world headquarters of the Canadian Imperial Bank of Commerce hosted by CIBC CEO John Hunkin who spoke of ‘The Culture of Silence’ around mental illness, and the urgency to break down the barriers to employees seeking help.

2003 CONTINUED...

### CEO Guidelines for Mental Health and Productivity

The Roundtable's 'CEO Guidelines' were presented in draft form and the multi-country 'Depression and Work Performance Study,' led by Harvard's Dr. Ron Kessler, was launched for the first time to a Canadian business audience.

The Roundtable fields the first-ever 'CEO Survey on Mental Health' sponsored by the Bank of Montreal with results pointing to middle managers as the most vulnerable to mental distress in the workplace. The executives agreed that it is the CEO who must champion mental health, reduce job stress and fight stigma.

## 2004

### Business Years for Mental Health

The Roundtable launched the 'Business Years for Mental Health' – a 2-year program of business communications and the introduction of mental health into the National Quality Institute (now Excellence Canada) criteria for its prestigious Healthy Workplace Award.

### The Mental Disability 'Roadmap'

The 'Roadmap for Mental Disability Management' introduces tools for disability management: 'The Green Chart' – a tool for physicians and case managers, peer reviewed by medical directors and adopted by at least one major insurance company.

The 'Rule out Rule' – a performance management tool for managers and executives to help employees distinguish between garden variety performance problems and personal health concerns that might be interfering with their job.

The 'Re-Entry Interview' – a tool to help employees return to work when they are medical cleared to do so. Roundtable experience found that the re-entry process is an awkward, poorly managed, ill-prepared for, and often hostile experience for employees recovering from depression.

### Economic Summit on Mental Health

The Ontario Chamber of Commerce convenes an 'Economic Summit' on mental health and productivity. The Roundtable releases its 3rd strategy paper: 'Summer Draft – A Business Plan for Mental Health and Productivity' and a report: 'Economic Burden of Mental Illness in Canada.'

2004 CONTINUED...

### 'Depression Kills'

In another of its series of commentaries on mental illness in the workplace, the Roundtable publishes a candid statement on the co-morbidity of depression and heart disease called 'Depression Kills.' Bill Wilkerson comments for CBS Radio in San Francisco.

### MBA Program: Mental Health and Sustainability

The Roundtable, through Maria Gonzalez, designs a compulsory MBA seminar called 'Sustainable Performance in a Brain-Based Economy' for the McGill School of Management. A full-house of PhD students and professors participate in an extended and lively Q&A.

### Great-West and the Roundtable

Great-West Life becomes a home for The Roundtable at its headquarters in Toronto. This begins a relationship through which Great-West Life gifts space and administrative support plus funding on annual basis to the Roundtable. Senior executives become active in the Roundtable's activities.

In the next couple of years, the Great-West Life Centre for Mental Health in the Workplace is founded, the first of its kind in the insurance industry, dedicated entirely to public education, research and its practical application in workplaces, at arm's length from the company's businesses.

## 2005

### International Forum on Children's Mental Health

The Roundtable convenes an international forum to examine mental health issues facing children and working parents in Canada and the UK hosted by the RBC Financial Group.

Business people are stunned by the lack of mental health services for kids. Roundtable guidelines, 'Protecting the Mental Health of Children,' are issued to help working parents protect their children against suicide.

### Investors Guidelines for Mental Health

On the heels of its CEO and Board of Directors' mental health guidelines, the Roundtable introduces 'Investor Guidelines for Mental Health and Productivity' to encourage investors to inquire into the mental health policies and practices of companies in which they have an interest.

### Business and Science – Together for a Common Cause

In a speech to a 'mental health in the workplace' conference staged by the Canadian Institutes for Health Research, Jan Belanger, Assistant Vice-President, Community Affairs, Great-West Life, London Life and Canada Life, set in motion the Roundtable's efforts to bring leaders in business and science together in common cause.

This led ultimately to the four-part US/Canada Forum on Mental Health and Productivity. Ms. Belanger says, "Mental health is a bottom line issue that goes beyond the bottom line – directly or indirectly affecting all of society, whether child or adult, working or unemployed, union or non-unionized."

"If business and science can come together, under an overarching set of objectives, the results will be powerful."



## 2006

### Why Stigma Sticks

The Roundtable Boardroom Series examines ‘Why Stigma Sticks’ in Great-West Life’s Boardroom, and a few months later, at TD Centre, Robert MacLellan, Executive Vice-President, hosts a debate on ‘Finding a Cure for Schizophrenia: Dream or Pipe Dream.’

### Business and Economic Plan for Mental Health and Productivity

The Roundtable makes good on earlier promises and delivers ‘The Final Draft – 2006 Business and Economic Plan for Mental Health and Productivity’ – the most comprehensive treatment of the subject yet.

A Roundtable innovation called the ‘Green Chart’ is introduced to provide a treating physician and case manager with unified criteria for assessing progress toward symptom reduction and return to work.

### Stakeholders’ Roundtable

A ‘Critical Stakeholders Roundtable’ – an extraordinary assembly of employers, insurance executives, physicians and researchers – is in prelude to the annual general meeting of the Canadian Psychiatric Association.

CIBC’s innovative medical director, Dr. David Brown, reports that “employee health has everything to do with their relationship with their manager.” This reinforces Roundtable findings that ‘psychosocial’ issues are a significant threat to employee mental health.

### International Research Gap Analysis

Canada’s five largest insurance companies funded, and the Roundtable commissioned, a special analysis of the gaps in research on mental health in the workplace and contributed these findings to the Canadian Institutes for Health Research. This special committee was led by Joseph Ricciuti.

## 2007–08

### Four-Part US/Canada Forum

The Boardroom Series culminates in an extraordinary 4-part US/Canada Forum for Mental Health and Productivity in 2007 and 2008. Meetings are convened by the Ambassadors to Canada and the United States and bring business leaders together with a ‘common cause.’

In fact, the Forum brought science and business together in a unique way. The Co-Chairs of the series included the distinguished humanitarian and business leader, Edgar Kaiser, and Roundtable founding member, Colum Bastable, as well as senior US and Canadian scientists.

Brief summaries of the 4 Forums follow here:

#### **The 1<sup>st</sup> US/Canada Forum, hosted by Ambassador Michael Wilson at the Canadian Embassy, in Washington, DC, February 15, 2007**

Famed epidemiologist Dr. Ron Kessler of Harvard University unveils his landmark, 4-country ‘Depression and Work Performance Study’ to identify the cost/benefits of the early and effective treatment of depression in the workplace.

John Wright, Senior Vice-President of Ipsos-Reid, reveals the results of an opinion survey commissioned by Great-West Life. He finds the stigma of mental illness receding ‘a bit’ but the number of people suffering mental illness still staggering: ‘a country within a continent.’

As host, Ambassador Wilson sets a future direction: “Every significant challenge we face - economic, demographic, security, energy and health – has international dimensions. I would absolutely include mental health in this.’ He calls on business and science to find a ‘cure’ for mental illness – a term he uses ‘very deliberately.’”

Moya Greene, President and Chief Executive Officer of Canada Post Corporation, and now CEO of the Royal Mail in the United Kingdom, says, “Solving the problems of early onset, finding cures and achieving remission – that gives people hope.”

## 2007–08 CONTINUED...

**The 2<sup>nd</sup> US/Canada Forum hosted by the US Ambassador to Canada, David Wilkins, Ottawa, Canada, November 14, 2007***Special Guest: Laureen Harper, wife of Prime Minister Harper*

At this 2<sup>nd</sup> Forum, Colum Bastable, then President and CEO – now Chairman – of Cushman and Wakefield LePage unveils the Roundtable’s ‘New CEO Guidelines for Mental Health and Productivity.’

Mr. Bastable then undergoes a ‘depression screening’ interview backstage with prominent psychiatrist Dr. David Goldbloom to demonstrate that the process is ‘blameless and shameless’ – and also ‘very useful.’ He received a standing ovation from the 200 present.

The Roundtable’s CFO Task Force delivers a ‘CFO Framework’ to stimulate measure and manage investments in the mental health of the working population.

Harvard’s Dr. Ron Kessler delivers ‘Part II’ of his ‘Depression and Work Performance Study.’ His ‘profit of care’ report states that screening employees for depression and ensuring access to appropriate care will save employers money.

John Wright, SVP, Ipsos Reid, and Mike Schwartz, Senior Vice-President, Group Benefits, of Great-West Life and head of the Great-West Life Centre for Mental Health in the Workplace, reveal the results of pioneering research funded by Great-West Life surveying 6,000 US and Canadian employees on their opinion of the impact of depression in the workplace.

A principal finding: 84% of this huge sample believes CEOs should make helping employees with depression a key human resource priority. Based on the CEO survey noted earlier, CEOs seem to agree.

**3<sup>rd</sup> US/Canada Forum hosted by Dr. Steven Hyman, Provost, Harvard University and Dr. Ron Kessler, Harvard Medical School, held at Harvard Medical School, Cambridge, Mass., May 29, 2008**

The New England-Canada Business Council joins the roster of business leaders supporting bilateral cooperation in the international advancement of mental health in the workplace.

This Forum focuses on the ‘mental health of working parents and their children’ and a panel of parents and children re-live vivid experiences that for the business leaders present are evocative, instructive and unforgettable.

High-level diplomatic representation continues with Canada’s Consul-General in Boston, Neil LeBlanc, as he underscores the complexities facing working parents caring for troubled children merits employers’ attentions on both sides of the border.

Dr. Mary Jane England, former President of the American Psychiatry Association and now President of the prestigious Regis College, outlines plans for a study by US Academies of Science into the links among early child development, childhood depression and parenting.

University of Portland researchers report that parents of children suffering mental illness often quit their jobs due to employer inflexibility in work hours at this time of family crisis. Parents, they found, sometimes feel blamed for the mental health problems of their kids.

**The 4<sup>th</sup> US/Canada Forum hosted by Robert McLellan, Executive Vice-President, TD Bank Financial Group, held at TD Centre, Toronto, Canada, November 19, 2008**

The fourth and final Forum is ‘Mental Health in the Workplace of Heroes.’ Police and military personnel attend in full uniform talking about mental health problems in their own ranks and in their own lives. Individuals tell their personal stories as participants are completely enthralled.

The Deputy Commissioner of the RCMP, Steve Graham, sees this Forum as a time for the military and police to finally go public with their serious concerns about mental illness in their own ranks.

## 2007–08 CONTINUED...

The Chief of Police of York Region in Ontario, Armand LaBarge, says “mental illness has been a taboo subject in law enforcement but that is now changing. This topic is especially relevant for those of us that have chosen the profession of policing.”

Major General Walter Semianiw, then Chief of Military Personnel, now the Commanding Officer of the Army in Canada, makes a clear commitment to the mental health of his people by declaring that “mental health and mental illness are a major strategic priority for the Canadian Forces.” He says:

*“The Forces aim to maximize the psychological fitness of service members throughout their service career, while aiding members who develop psychological injuries and illness. Getting people back to work is clearly the foundation of our program.”*

In short, military people are not ‘damaged goods’ as a result of PTSD and depression. They can continue to serve their country. Civilian employers need to hear this message.

Law enforcement and the military recognize – more naturally, perhaps, than civilian employers – that non-medical mental health support and care are just as important as medical care.

In both law enforcement and the military, peer support training is critical to the success of any kind of mental health program. “Not only must the Chain of Command facilitate support and care, we need the ‘buddy system’ to do the same.” General Semianiw said.

When queried by Justice Edward Ormston, Ontario Superior Court and Chair of the 4<sup>th</sup> Forum, Major-General Semianiw responded:

*“We do not distinguish between physical and mental military injuries when it comes to compensation or recognition – even in the awarding of The Sacrifice Medal.”*

The 4<sup>th</sup> Forum also features a briefing on clinical studies led by Harvard and McGill researchers to find ‘a cure’ for PTSD.

## 2009–11

## Mental Health in the Workplace of Law Enforcement

The Roundtable officially closes its doors in March, 2009. However, the Roundtable web site remains active and Bill Wilkerson continues to advise executive leaders on public and private mental health strategies and delivers keynote speeches at conferences in Canada and the United States.

In 2010, Bill Wilkerson becomes heavily engaged in the advancement of mental health policies in the workplace of law enforcement.

Wilkerson is named mental health adviser to the Royal Canadian Mounted Police and develops a series of guidelines for the national police community aimed at promoting and protecting the mental health of front line police personnel.

## Report to Canadian Prime Minister

The Roundtable reports to the Prime Minister’s Office on the ‘Cubic Health Study’ of the utilization rates of anti-depressant medication in the Canadian population, and releases a discussion paper on ‘The Human Capitalization of a Brain-Based Economy’ in the face of the financial crisis.

## The 2010 Charter for Mental Health

The Charter for Mental Health in a Global Economy, initially launched in 2003 is published once again and signed by a number of senior business leaders.

The four objectives of advancing research, reducing job stress, promoting mental health as a workplace asset, and fighting stigma through education, constitute what we call Vision 2020.

# Summary

## The 'Global' Roundtable

The Roundtable didn't have offices or staff posted around the world. We did, however, live up to the 'global' part of our name by reaching across international borders to develop and deliver a message for 'Mental Health in the Workplace.' Samples of that include:

- The 4-part US/Canada Forum on Mental Health and Productivity bringing leaders in business and science together to explore bilateral approaches to the containment of mental illness, held alternatively in US and Canadian cities with senior diplomats from each country participating fully.
- The formation of a 'Business Forum on Mental Health' in New Zealand based on the Roundtable model and mantra of 'awareness to action.' Bill Wilkerson spoke online to the launch of the New Zealand Forum in 2010.
- The Roundtable's original Business Plan to Defeat Depression which was unveiled at the International Labor Organization (UN) conference in Geneva, Switzerland, attracting media attention in Europe and Canada (2000).
- The 2-year World Mental Health Day international educational program focused on mental health and work which spurred projects and activities in some 60 countries.
- The Roundtable's relationships and activities with leading scientists outside of Canada at Harvard University, Johns Hopkins University, Maastricht University and the State University of New York.
- Wilkerson's series of commentaries on the CBS Radio affiliate in San Francisco on mental health in the workplace and the links between depression and heart disease.
- Participation in a 'by invitation only' US Government forum on suicide and men in Washington D.C. Keynote speeches in several US locations including two focused on the 'Business State of Mind' immediately following 9/11, and an address to the Employee Assistance Society of North American in San Antonio, Texas.
- Michael Wilson's Roundtable message by letter to the Under-Secretary of the United Nations (2001), and the Roundtable's affiliations with Canada's World Health Organization Collaborating Centers. The Roundtable, as featured presenter, at a conference in Rome, Italy hosted by Canada Life – Rome.
- Editorial input into the World Health Organization's policy guidelines for mental health in the workplace. The project was led by Dr. Gaston Harnois at the Douglas Institute for Mental Health, Montreal.
- Presentation to board of directors of American Psychiatric Association in Chicago; keynote speeches to government conferences in Greece in 2005 and 2007; address to 'Dutch Consortium Centre for Public Mental Health' and paper on the 'Worldwide Mental Health Crisis' in Geneva, Switzerland.
- Michael Wilson's open letter to G-7 finance ministers urging host Canadian Finance Minister Paul Martin to incorporate workplace mental health into their agenda, saying 'if I knew then (when Wilson was Canada's Finance Minister) what I know now, mental health would have been on Canada's economic agenda.'
- The Roundtable's capacity for innovation was bolstered considerably by its relationships with both the Canadian and American Psychiatric Associations through its ten-year history.

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PART TWO – A BETTER-MARKED ROAD

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# CONSTELLATION OF ISSUES

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## 01: THE CRISIS OF CO-MORBIDITY

The road to advancing mental health in the workplace is a long but better-marked road than it was 10 years ago. There's more science and more engaged employers, more conferences and more interest. Mental health in the workplace is 'hot,' frankly, but that's dangerously close to 'flavour of the month.' We must vigilantly guard against the latter.

For this very reason: A constellation of issues continues to form a night's sky worth of concerns and barriers which must be reined-in and cleared away to allow for accelerated progress to give mental health in the workplace a permanent location in the global economy.

Depression is at the centre of this complex constellation through its co-occurrence with a wide range of common and big name chronic illnesses. There is ample evidence that depression's alliance with cardiovascular disease, diabetes, addictions and other major chronic illnesses alters the course and outcome of these conditions.

Knowledge of this phenomenon sprang from two streams of groundbreaking research over the past 15 years:

**I) The findings of legendary epidemiologist, Dr. Ron Kessler of Harvard University who broke new ground chronicling the disabling effects of depression on several chronic disorders through influential studies at the end of the 20<sup>th</sup> and early in the 21<sup>st</sup>.**

The first Kessler study established the fact of co-morbidity between 'mental and physical' conditions and the second documented the impact on work performance of depression co-morbid with bone and joint disease, respiratory disorders, chronic stomach ailments and other conditions.

The Kessler study also found that when co-occurring with asthma, arthritis and hypertension, depression was the decisive reason why there was any measure of work days lost attributable to these chronic conditions.

This study was among the first to evaluate the effects of depression on work performance, leading to a multi-national study by Dr. Kessler years later through which he found that all the chronic conditions studied – depression, ulcers, asthma, hypertension among them – were under-treated.

Dr. Kessler was one of the first scientists to link the under-treatment of depression and its disabling effect on other conditions to 'the loss of human capital' in the world economy. He stressed the importance of nations to collect data on the impact of depression compared to other chronic illnesses.

## II) Clinical research in Canada found depression increasing the risk of sudden, fatal heart attacks by 500%.

Drs. Francois Lespérance and Nancy Frasure-Smith, then at the Montreal Heart Institute, conducted clinical studies revealing that co-occurring depression increased the risks of heart attack and sudden death. Dr. Robert Swenson in Ottawa expanded on those findings and tutored the Roundtable extensively.

Dr. Paul Dorian, a cardiologist at St. Michael's Hospital in Toronto was among the first in his field to facilitate psychiatric care to treat depression among his heart patients (psychiatric cardiology) while Dr. Susan Abbey, Toronto General Hospital, led research into depression and heart disease among women.

Each of these all-star pioneers took part in the Roundtable's inaugural event in 1998 that focused on depression 'at the heart of the matter.' How and why the roots of depression wind around the human heart, immune, endocrine and glucose-handling systems, and other organs, is still not well-understood.

But research has found cellular and experiential commonalities between depression and other chronic conditions. King's College researchers in London, England say "depression can no longer be described as only a (brain) disorder; it is a series of changes spanning the brain, genes and body."

In 2006, the European Union's Consultative Report concluded that "evidence of co-morbidities is persuasive" and all health services and research institutions should reach out and cooperate with the mental health scientific community.

Depression wields a nasty influence.

Depression kills – through suicide, cardiovascular disease and even conceivably, some forms of cancer. Therefore, by investigating the cause and course of depression, science is shedding light on how to prevent complications for other serious conditions.

In effect, improving the treatment of depression – and increasing the rates of remission – through patient-oriented, clinically-relevant and applied research will advance the fight against heart disease, stroke and diabetes among other major, big name, well-funded health problems.

According to the Director of the US National Institute of Mental Health, mental illnesses including depression are believed to reduce life expectancy by 25 years. This is not a scare tactic. It is a wake-up call. Less depression research command adequate funding and political appeal, efforts to contain chronic illnesses are doomed.

For generations, health authorities split health research into two distinct silos: infectious and non-infectious disease. A global shift from the communicable or infectious disease to non-communicable disorders as the premiere public health issue is underway.

The World Health Organization expects depression to be the 'leader of the pack' as this historic transition accelerates. Serious depression and ischemic heart disease are projected to become the leading cause of lost years of work in the global economy through disability and early death by 2020.

Dr. Don Milliken, then President of the Canadian Psychiatric Association, launched a Roundtable of Stakeholders in 2006 by declaring that "*untreated depression will significantly shorten the life span of patients with diabetes or cardiac disease.*"

He said "*when these patients die the reported cause of death is the cardiac or endocrine abnormality. The effect of depression is missed.*" Canada's Chief Medical Officer of Health, Dr. David Butler-Jones, says chronic disorders are the most important health issue facing the world today.

## 02: THE GREAT DEPRESSION MATRIX

UK scientists say depression can influence the onset and transmission of infectious disease, presumably due to its oppressive blanketing of the immune system.

The 'co-morbidity crisis' noted earlier is a network of conditions allied within what we will unveil here as The Great Depression MATRIX.

The Great Depression MATRIX figures prominently in this report's proposals outlined in Part Three. What needs to be known is the impact of the MATRIX on public health and the economy – and is ignored at our peril. Depression is also known to co-occur with other conditions not represented here.

# The Great Depression Matrix

THE GREAT DEPRESSION MATRIX IS AN ORIGINAL CONCEPT AND DESIGN PRODUCED SPECIFICALLY FOR THE FINAL REPORT OF THE GLOBAL BUSINESS AND ECONOMIC ROUNDTABLE ON ADDICTION AND MENTAL HEALTH.





### 03: THE RISE OF CHRONICITY

The Depression MATRIX embodies the complexity of an epidemic of chronic illnesses while public health leaders prepare to respond effectively.

In a New York Times column August 21, 2011, Yanzhong Huang of the Council on Foreign Relations in the US writes:

“With globalization, urbanization, and economic growth, non-communicable diseases are the major cause of death and disability, even in the developing world. About 85% of deaths in China, 81% in Russia, 75% in Brazil, and 53% in India are caused by chronic diseases.”

He describes a ‘global explosion of diseases like diabetes’ and while the UN General Assembly met on the subject this year, ‘there is little evidence of a paradigm shift in disease prevention and control’ and one US official said his country will hold fast to international goals focused on infectious disease.

Wrong-headedly so.

### 04: THE DEATH VALLEYS OF RESEARCH

Meanwhile, Canada’s principal research funding agency, the Canadian Institutes for Health Research (CIHR), has called for a ‘pan-Canadian patient-oriented research effort’ to improve clinical research lest the country lack the necessary tools to meet the challenge of mental illness and the rise of chronicity.

In a 2011 report, CIHR says that investments in biomedical discoveries have produced only ‘limited uptake of these results into clinical practice.’ Critical data for the development of preventative, diagnostic and treatment interventions are routinely lost in two ‘Death Valleys:’

One ‘Death Valley’ is Canada’s failure to transfer basic research into clinical knowledge at a sufficient clip, and volume, and the second ‘Death Valley’ is a similar ‘failure to transfer’ clinical science and knowledge into clinical practice and health care decisions on the front lines.

Canada has ‘significant deficits’ in the leadership and coordination of clinical research directly related to patient needs and is ‘rapidly falling behind other industrial countries,’ according to the CIHR.

In the next few years, CIHR says Canada will be unable to generate the scientific evidence needed to meet the needs of its people in mental health care, primary health care and chronic disease management – a deficiency that stalks the country sight unseen by the public, politicians and health professionals.

Should Canada slip significantly behind other industrial countries in our capacity to deliver science into health care that directly benefit people, we will be witness to – and victims of – a breakdown in public policies governing the health sciences. A most unwelcome shift.

## Hyper-Connected World

Meanwhile, the world more broadly is going through a series of historic changes that are relevant to the mental health of working populations. Social and economic change continues to produce major non-medical determinants of mental health. Stress pollution foremost among them.

The Great Depression MATRIX – in its entirety – is susceptible to the trigger-like effects of chronic stress and social environments in the workplace that can affect healthy brain function. An era of psycho-social stress is upon us. Why so? The world we have created for ourselves.

Today's hyper-connected world produces chronic stress like fossil fuels degrade the air we breathe. Dealing effectively with chronic conditions on a large societal scale means coming to grips with the culture of chronic stress that tends to define contemporary work environments.

The Internet has created a global economy where the interests of investing and trading countries are inter-dependent. Within this configuration, we see the advent of what the Roundtable has called the brain-based economy.

In this brain-based economy, **cognition is the ignition** of productive work, mental energy is key to innovation and innovation is hailed by governments and economists as the key to future prosperity.

The European Union's 2006 Consultative Report says this:

*“The mental health of the European population is a resource for the attainment of some of the EU's strategic policy objectives such as putting Europe back on the path to long-term prosperity ... and bringing practical benefits to the quality of life of (our) citizens.”*

The EU treaty enshrines the concept of a ‘high level of human health protection’ and Europe, along with the United States and Canada have launched transformative mental health initiatives. But where is the transformation? Where is real change? When will we see concrete reforms and a cause for real hope.

Like all the major contemporary issues – energy, security, trade, economic development – mental health in the workforces and workplaces of nations merit an international response.

Recapping the reasons for this:

- The research needed to realize needed breakthroughs in our knowledge of genetic, epigenetic and brain-based features of mental illness will be carried out in many countries. The key is to build international networks to ensure this new knowledge is pooled and used globally.
- Sources for global funding for this research must, over the next ten years, include global corporations to defend their investment in the productive capacity of their people.
- Progress in finding a pathway to depression specifically will require international cooperation among scientific organizations and public and private sector employers.
- The World Health Organization expects depression ‘to lead the pack’ of chronic disorders that pose the greatest risk to historic gains in life expectancy, child mortality and occupational health and safety. These are matters of universal concern in free market economies.
- The economic costs of mental disorders flow freely across regions of the world and the borders of sovereign states. The means to manage, and reverse these costs must be developed, shared and leveraged internationally.

Let us examine the cost picture in greater detail as it has unfolded across the world's two greatest trading blocs – the European Community and North America.

“Every significant challenge we face – economic, demographic, security, energy and health – has international dimensions. I would absolutely include mental health in this.”

*Honorable Michael Wilson, Canada's Ambassador to the United States, February, 2007.*



## 05: SURGING COSTS OF MENTAL DISORDERS

A special analysis of the North American Free Trade Area and the European Community was commissioned for this Report based on the assumption that the economic costs of mental disorders are representatively distributed as four per cent of the Gross Domestic Product of these regions.

This analysis found a tsunami of economic loss hitting these free market economies, a ONE TRILLION DOLLAR A YEAR PROBLEM. Displayed in Figure (1): NAFTA and EEC.

### The Trillion Dollar Mental Health Challenge

(MILLIONS)	GDP (US\$)*		4% OF GDP
<b>NAFTA</b>			
Canada	\$	1,281,064	\$ 51,243
United States	\$	14,256,275	\$ 570,251
Mexico	\$	1,465,726	\$ 58,629
<b>Total</b>	<b>\$</b>	<b>17,003,065</b>	<b>\$ 680,123</b>
<b>EUROPEAN ECONOMIC COMMUNITY</b>			
Belgium	\$	389,518	\$ 15,581
Denmark	\$	204,060	\$ 8,162
France	\$	2,108,228	\$ 84,329
Germany	\$	2,806,266	\$ 112,251
Greece	\$	341,688	\$ 13,668
Ireland	\$	188,112	\$ 7,524
Italy	\$	1,740,123	\$ 69,605
Luxembourg	\$	40,025	\$ 1,601
Netherlands	\$	658,228	\$ 26,329
Portugal	\$	235,904	\$ 9,436
Spain	\$	1,360,605	\$ 54,424
United Kingdom	\$	2,139,400	\$ 85,576
<b>Total</b>	<b>\$</b>	<b>12,212,157</b>	<b>\$ 488,486</b>
<b>Total Combined:</b>	<b>\$</b>	<b>29,215,222</b>	<b>\$ 1,168,609</b>

\* GDP BASED ON IMF 2009 DATA

These numbers compare to independent estimates of \$51 Billion a year in Canada, and as of 2003, \$300 Billion a year in the US. And while significant, these dollar numbers are not the whole picture. A wide range of 'hidden costs' contribute to a total burden not yet established.

We discuss this later. Meanwhile, prevalence rates are another indicator of cost. A word on that.

## Higher Prevalence Rates

Up to now, the annual prevalence rates of depression have been estimated in the range of 5 to 10 % of the population. But these estimates of annual depression rates appear to be low. The largest workplace public opinion survey ever done presents a different picture.

Commissioned by the Roundtable and sponsored by Great-West Life, Ipsos Reid polled 6,000 Canadian and US employees and found ‘a country within a continent’ of depression in the workplace. Some 30% of those surveyed knew someone who was diagnosed with depression, 18% were themselves diagnosed.

A 2005 report by the European Economic Commission suggests that current estimates of the prevalence of mental disorders is low, contending that nearly 30% of adult Europeans experience at least one form of mental ill health during any given year.

The disability incidence of depression is stubbornly high. The landmark Kessler Co-Morbidity Study found that 17–21% of the working population with depression went on short-term disability in a given year. The table below compares prevalence of depression in the workforce and general population.

Recent US data published by the US Centre for Disease Control estimates that 25% of US adults will experience a mental illness in a given year and one half of the population will do so over a lifetime.

The Ipsos Reid and European data suggest that the annual and lifetime prevalence assumptions should be re-examined. It is more likely that the annual prevalence rate of depression in the workforce is between 18% and 25% and the general population about half that. Figure (2) demonstrates this.

**Figure (2)**  
**The Prevalence of Depression as only one form of Mental Illness**

	CANADA	US
<b>POPULATION</b>		
Working Population*	16.9M	141.3M
Total Population **	34.0M	307.0M
% of Total Population	49.7%	46.0%
<b>PREVALENCE OF DEPRESSION</b>		
Working Population	18% – 25%	18% – 25%
Total Population	9.0% – 12.5%	8.3% – 11.5%
<b>MEDIAN AGE ***</b>		
Working Population	40.5 yrs	41.2 yrs
Total Population	40.1 yrs	36.7 yrs

SOURCES: \* HRDC/US CENSUS \*\* WORLD BANK; \*\*\*STATSCAN/US LABOR DEPT

### Perspective: How Common are Mental Disorders?

Schizophrenia is one of the rarest (and most serious) forms of mental illness yet it is diagnosed twice as often as Alzheimer’s disease, five times more than multiple sclerosis, six times more than insulin-dependent diabetes, 60 times more than muscular dystrophy.

([www.schizophrenia.com/szfacts.htm](http://www.schizophrenia.com/szfacts.htm) – adapted from J.A. Lieberman)

## 06: SUICIDE: SPECIAL BURDEN OF THE YOUNG

Dollars and cents are one measure of the cost of mental disorders. The loss of human lives is another. Depression is present in 7–9 out of 10 suicides. In addition, the face of suicide is disturbingly young.

Suicide is an especially deep ravine in human experience and is now the leading source of violent death in the world today. The authors commissioned an analysis of the suicide death toll across NAFTA and EEC through most recent data available.

According to this analysis, 74,000 persons in EEC and NAFTA took their lives in the year 2000 and 76,000 in 2005. If we project across the ensuing decade ending in 2010, it is conceivable nearly three quarters of a million people took their own lives in North America and Europe in that period. A deadly decade.

Figure (3) depicts this international tragedy.

**Figure (3): 1990–2005 Suicide Rates by Country**

	1990		1995		2000			2005		
	Total Suicides	Total Suicides	% Change Population	% Change Suicide	Total Suicides	% Change Population	% Change Suicide	Total Suicides	% Change Population	% Change Suicide
<b>NAFTA</b>										
Canada	3,529	3,933	5.6%	11.4%	3,600	4.8%	-8.5%	3,651	5.0%	1.4%
United States	30,953	31,687	6.7%	2.4%	27,693	0.0%	-12.6%	32,533	11.1%	17.5%
Mexico	1,831	2,825	9.5%	54.3%	3,429	7.5%	21.4%	4,227	5.2%	23.3%
<b>Total</b>	<b>36,314</b>	<b>38,446</b>	<b>7.2%</b>	<b>5.9%</b>	<b>34,722</b>	<b>2.1%</b>	<b>-9.7%</b>	<b>40,411</b>	<b>9.1%</b>	<b>16.4%</b>
<b>EUROPEAN ECONOMIC COMMUNITY</b>										
Belgium	1,894	2,159	1.7%	14.0%	1,866	1.1%	-13.6%	N/A	N/A	N/A
Denmark	1,228	925	1.7%	-24.7%	726	2.1%	-21.6%	628	1.5%	-13.4%
France	11,347	11,916	2.0%	5.0%	10,837	1.8%	-9.1%	10,714	3.4%	-1.1%
Germany	14,139	12,899	2.8%	-8.8%	11,098	0.7%	-14.0%	10,226	0.3%	-7.9%
Greece	366	372	4.7%	1.7%	382	2.7%	2.7%	400	1.7%	4.6%
Ireland	333	404	2.9%	21.4%	464	5.4%	14.9%	403	9.3%	-13.1%
Italy	4,311	4,548	0.2%	5.5%	4,043	0.2%	-11.1%	3,692	2.9%	-8.7%
Luxembourg	68	63	7.0%	-7.4%	63	6.8%	-0.2%	82	6.6%	31.0%
Netherlands	1,450	1,515	3.4%	4.5%	1,497	3.0%	-1.2%	1,567	2.5%	4.7%
Portugal	871	822	1.3%	-5.6%	522	2.0%	-36.6%	1,213	3.2%	132.6%
Spain	2,913	3,190	1.4%	9.5%	3,382	2.2%	6.0%	3,385	7.8%	0.1%
United Kingdom	4,637	4,293	1.3%	-7.4%	4,417	1.5%	2.9%	4,035	2.3%	-8.6%
<b>Total</b>	<b>43,557</b>	<b>43,108</b>	<b>1.8%</b>	<b>-1.0%</b>	<b>39,297</b>	<b>1.4%</b>	<b>-8.8%</b>	<b>36,346</b>	<b>-0.1%</b>	<b>-7.5%</b>
<b>Total Combined</b>	<b>79,870</b>	<b>81,554</b>	<b>4.6%</b>	<b>2.1%</b>	<b>74,019</b>	<b>1.8%</b>	<b>-9.2%</b>	<b>76,757</b>	<b>4.8%</b>	<b>3.7%</b>

## Burden of Suicide

Tana Nash, Coordinator of the Suicide Prevention Council of Waterloo Region, west of Toronto, in Canada's largest province, Ontario, reports that in their region alone there is on average one suicide a week.

Across Canada, there is an average of 10 suicides a day, nearly 4,000 a year. But the burden of suicide is reflected not only in the number of deaths, but in the injuries and suffering of suicide attempts: 17,500 Canadians were admitted to hospital in 2010 for self-inflicted injuries.

The Canadian Medical Association Journal reports that 45 Canadians enter hospital daily for treatment of self-inflicted injuries, and when combined with 10 deaths from suicide each day, the suicide burden for Canada is 20,075 lives lost or hurt each year.

The highest concentration of admissions to hospital was among young women 15–19 years of age with men 50% fewer but more than 3 times more likely to die from suicide than women. The CMA report says 70% of those who attempt suicide suffer a mental disorder (probably depression) but 30% do not.

Several countries, communities and institutions have embarked upon suicide prevention strategies. In England, (not the whole UK), suicides dipped significantly. This is in line with a goal set in 2002 to reduce suicide deaths by at least 20% by 2010.

## 'Let the Kids Live'

Worldwide, suicide is one of the three leading causes of death among young people 15–24 years of age. In the US, an estimated 5,000 teenagers take their lives each year, about 14% of the total. In Canada, suicide is the second leading cause of death of children.

In the US and Sweden, suicide rates declined since the 1980s except in this younger age group and in Ireland, 40% of all deaths among young men 30 years of age and under are due to suicide.

In Europe, 22.2 per 100,000 young boys take their own lives compared to 4.8 per 100,000 young girls. In 2006, co-author of this Report, Michael Wilson, then Canada's Ambassador to the US, spoke to the Pan American

Health Organization in Washington:

*"In North America, suicides outnumber homicides. Suicide has global reach. Perhaps as much or more than global warming or the threat of terrorism on human life, suicide poses a fundamental risk to the rights of citizenship and opportunity."*

*"It is important that we see suicide not as an expression of the weak but as a choice of the desperate – desperation often prodded and deepened by major depression. We must embrace prevention. Advocacy is important to that."*

*"Prevention is possible if we invest in research to track down and determine the pathway to major depression. Let us see in suicide ... not a lost cause ... but a just cause."*

## Suicide Postscript

By the 'Brain and Behavior Research Foundation (formerly NARSAD, the National Alliance for Research in Schizophrenia and Depression):

"Abundant evidence suggests changes in one of the brain's neurotransmission systems may occur among people who attempt suicide. Researchers are looking at one version of one gene in particular ('serotonin transporter protein') which appears to increase this risk.

"In fact, researchers are already looking at treatment options for those who carry this vulnerable gene, using brain imaging technology to trace neural circuitry associated with suicidal ideation. Notably, studies are now assessing the impact of suicide on family survivors including children."

*(cont'd)* "Parental suicides heighten the risk that a child will follow suit – not all do. But what are the factors that make this life and death difference, what are the treatment options, conceivably by adopting cognitive behavioural therapy or anti-depressant use to treat those at risk for suicide?"

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PART THREE – GREY PAPER

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# NEW WORKPLACE OF THE 21<sup>ST</sup> CENTURY

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TOWARD A PRODUCTIVITY REVOLUTION  
THROUGH MENTAL HEALTH & INNOVATION

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## 01: THE END OF DEPRESSION

“Mental health is the only area of medicine today in which we are not talking about cures or working on preventative vaccines. This needs to change.”

*Dr. Tom Insel, Director of the us National Institute of Mental Health*

### Plausible Goal

Turning, then, to the decade ahead, we see the need for a vigorous global campaign of workplace-based research, education, and primary (reducing risk) and secondary (improving care) prevention. We must galvanize business and scientific leaders to take real action in real time to fund and find a cure for depression. This will define the decade ahead.

We propose, in outline, the components of such a campaign blending new research, cataloguing and transferring existing science into clinical and preventative action and forging a new leadership paradigm among global employers and international science.

The Roundtable opened a ‘new front’ (the workplace) in an old war (against mental illness). Surely, the time has come to say when and how that war will be won. There is urgency to this. If the Roundtable had a material impact or benefit, the effect will be lost without a breakthrough visible to all.

### Tracking the Tractable

We propose a series of workplace-based initiatives in three countries – US, UK and Canada. The idea of advancing these objectives through business and science is applauded by Harvard Provost Dr. Steven Hyman.

In a message to the Roundtable Dr. Hyman says *“building cooperation between leaders in business and science, between Canada and the United States, has great significance to the advancement of research, improved care and greater productive capacity in the labour force.”*

Finding a cure for depression is a common-sense candidate for this initiative, as Canadian neuroscientist Dr. Tony Phillips says, because it is tractable, prevalent and economically significant.

The prestigious research journal LANCET says estimates of the costs of mental disorders neglect their impact on so-called ‘physical’ health issues including both communicable and non-communicable disease as well as accidental and non-accidental injuries.

Science has proven the physicality of mental illness. The American Psychiatric Association: *“There is much that is physical about mental disorders and much that is mental about physical disorders.”* Historically, health has been described as ‘physical.’

But a paradigm shift is underway. The ‘mental’ and the ‘physical’ must merge into a single construct of human health wherein the brain and the body are indivisible. Period, full stop.

### The Addictions Factor

The end of depression is a new chapter for the advancement of mental health in the workplace – to neutralize depression as a principal source of disability and premature death. And in setting forth this objective, we wish to emphasize this.

Addictions are part of the Great Depression MATRIX, part of the Roundtable name and mission, and when we discuss ‘depression,’ it is suitable to note that we are inherently referring, at all times, to the implications of self-medication and the two-way street between addiction and depression.

The Centre for Addiction and Mental Health (CAMH) is Canada’s largest mental health and addiction teaching hospital and was formed and named through the merger of pre-eminent mental health and addiction treatment and research facilities.

In arguably, depression and substance abuse must be treated concurrently when they occur concurrently, and that presumption applies to this report, recognizing that the ‘silo effect’ separating the clinical specialties in addiction and mental illness continues to confound.

The opportunity, though, is to create an integrated depression/addiction model of the nature embodied by CAMH through depression research channelled via the MATRIX into several areas where concurrent disorders must be diagnosed and treated on an integrated, concurrent basis.

Notably, it is the workplace where the early signs of both substance abuse and depression most evidently occur and co-occur. It is also through employee assistance plans where early intervention in these matters is available. Workplace screenings for ‘Depression Plus’ makes sense.

All in all, when we speak of depression, implicitly, we refer to the Addictions Factor.

## Thousands of Lives, Billions of Dollars

*A campaign to end depression:*

- Will herald the beginning of the end of the world’s fear and stigmatized aversion to holistic public dialogue and personal acceptance of mental disorders as part of the human experience.
- Has real promise as brain and genetic research converge with certain environmental factors as the dynamics that are most likely behind mental disorders such as depression. The timing is good.

A cure for depression is bound to save thousands of lives and billions of dollars. Suicide is a case-in-point. A vigorous suicide prevention effort for Canada could save 31,000 lives in the decade ending 2022 by reducing the annual suicide rate by slightly more than two-thirds by that time.

But our goal must go beyond that to prevent suicide attempts, which may outnumber the number of suicides that are actually completed by 10 to 20 times. Preventing 31,000 suicides over ten years would also mean preventing in the order of 300,000–600,000 injuries from suicide attempts.

Meanwhile, Canadian scientist and lawyer Dr. Martin Shain estimates that between \$2.97 billion and \$11 billion per annum could be saved in Canada by ‘discretionary modifications’ to the organization and management of work to make it less injurious to employee mental health.

The wide range of this estimate reflects the reality of the Canadian workplace. Variations in the prevalence of avoidable ‘psycho-toxic’ (mentally injurious) workplaces in Canada range from 10% to 25% of the total.

## Costs of Youth:

Depression, anxiety, bipolar disorder and schizophrenia take hold early in life, and young people are often blocked by inadequate access

to timely treatment. A significant portion of the ‘hidden costs’ of mental disorders are embedded in the experience of young people.

For example, we find that in 2009, US researchers calculated an estimated \$2.3B in tax revenue lost as a result of lost work time among young adults living with depression. In 2005, Statistics Canada found that Canadians 18 years of age, or older, lost 10% of their annual income (on a base of \$40K) to depression.

## 02: GLOBAL CORPORATE LEADERSHIP

Twenty nine of the world’s largest ‘economic entities’ are global corporations. This implies, very strongly, that a workplace-based, international initiative to find a cure for depression and to save lives from heart attack and other conditions by treating depression more effectively, logically, is led by corporations.

*For this, and other purposes we propose that leaders of business and science:*

- Create an **International Public/Private Partnership of Employers and Science** to build ‘Networks of NEW Workplaces’ to serve as sites and subjects for 10 years of research, education and prevention to rid workplaces and workforces of the costs and effects of major depression.
- Designate 2012–2022 as the ‘**The Decade of the Brain in the Workplace**’ during which the Partnership demonstrates that curing depression:
  - Saves lives from heart attack, stroke, suicide and other causes;
  - Significantly mitigates economic loss;
  - Restores lost productive capacity;
  - Fosters innovation in the contemporary workplace.

### ‘No Health Without Mental Health’

*World Health Organization*

The mantra – ‘there can be no health without mental health’ – was articulated by the World Health Organization and we propose that it serve as the Partnership’s ‘call to arms.’

## Re-Thinking Depression

As a first order of business, the Partnership will re-activate ‘**The Roundtable’s US/Canada Forum on Mental Health and Productivity**’ and include representatives of science and business from the United Kingdom. This Forum will ‘re-think’ depression as the basis for finding the best way to end it.

The Forum will develop principles for building and sustaining the Partnership, for strategic action, scientific inquiry and knowledge transfer. The Forum will examine ‘state of the art’ brain, genetic and clinical science shedding light on the causes and effects of depression.

This dialogue will be critical. A debate among scientists has emerged challenging established conventions about what depression is and is not. The authors of this Report came upon this debate through a series of exclusive interviews with top neuroscientists and clinicians.

Highlights of those interviews are summarized here but their impact is felt throughout this report.

### Should Depression Be Classified as more than a Mental Disorder?

Dr. Carmine Pariante of King’s College in London, England, says depression can result in such drastic hormonal changes that it becomes an ‘endocrine illness or immune disorder’ where cortisol, our stress hormone, is flowing for much longer than biology intended.

Dr. Pariante and his colleagues remind us that *“depression can no longer be described as a simple disorder of the brain, but rather must be understood to be a series of biological changes that span mind, brains, genes and body – affecting both psychology and physical health.”*

LANCET, the prestigious scientific journal, reports that depression alters the course of infectious disease, and is associated with an ‘excess number’ of deaths of all causes. Depression kills – through suicide and fatal heart attacks. Depression robs people of 20–25 years of life.

Dr. Roger McIntyre of the University Health Network in Toronto, says depression is a killer as it shortens life expectancy of those who live with this condition, but the actual cause of death is more likely to be cardiovascular disease than suicide.

Depression flows into our metabolism, cardiovascular system, pancreas, bones, joints and muscles, blood and immune system through the excessive production of hormones. It is prudent not to tackle depression as an isolated condition as it is part of a greater complex.

Since 1999, the Roundtable has pushed for the ‘re-positioning’ of depression as a ‘physical disorder’ with physical and psychological symptoms to distance the concept of depression from the stigma of ‘mental illness’ but, more to the point, to represent it more accurately.

**This perspective of depression as a physical, brain-based disorder which penetrates almost the entire physical body changes, fundamentally, the assumptions that science and society must make about the nature of the condition and what the search for a cure really must entail.**

For example, if curing depression is said to mean lifting one’s mood, relieving sleeplessness or renewing one’s capacity to concentrate on work then that is clearly an incomplete description of what finding a cure for depression really means to society and to working populations and their employers in particular.

Dr. McIntyre says depression should be re-classified medically from a mood disorder to a metabolic disorder and that research into the co-morbidity of depression is needed to uncover new and novel approaches to treating depression. For example, Dr. McIntyre is testing insulin as a treatment for depression.

Dr. Helen Mayberg spoke to us from Emory University in Atlanta, Georgia: *“Depression is a disorder of brain circuits. Thinking in this manner could one day lead us to treatments targeting the abnormal brain wiring and the failure of communication between regions communicating thru those connections.”*

She says, *“Scientists have learned that different groups of depressed patients display different brain scan patterns.”* This might lead us to understand why some respond to talk therapy, others drug therapy, and others, both.

Dr. Georg Northoff is a neuroscientist and brain imaging expert at the Royal Ottawa Health Care Group, and he sees depression as a ‘social injury’ – a confluence of biology and social experience. Depression is like a fever signalling that something is wrong.

In his special analysis for this Report, Dr. Gary Woodill acquaints us with higher levels of scientific knowledge of brain and genetic issues that are linked to the development and onset of depression.

Depression is a problem of brain circuitry with biological and genetic dimensions and there is consensus that it is ‘not a single entity with a single cause’ but most likely a ‘combination of genetic, biochemical, psychological, environmental and life experiences.’

### Rational Problem

Dr. Rémi Quirion is the newly-appointed Chief Scientist for the Province of Quebec in Canada, a world authority on Alzheimer’s disease and a leading advocate for closer scientific ties between brain science and psychiatry – and science and business.

*“Mental illness has natural causes and must be treated rationally,”* Dr. Quirion says. *“The brain is the main instrument of mental life. We need more information on key genes and interaction with the environment, and we must replace the ‘trial and error’ approach of current treatments.”*

Dr. Quirion calls current treatment methods *“a result of happy accidents and the focus must be shifted to the scientific causes of depression.”* Unchecked, symptoms will progress to dangerous levels, patients will become more treatment resilient, and general health will fail.

*“Biomarkers will be needed for this,”* Dr. Quirion said. *“And biomarkers may come from brain imaging, or blood, skin and saliva tests.”*

Doing a brain briefing for business leaders as part of the Roundtable’s series of CEO Summits, Dr. Rémi Quirion said *“we realize more and more that the brain, all through life, is very plastic and will change depending on the environment. The link between genes and the social environment is very, very important.”*

Dr. Phillips, current Scientific Director of the CIHR Institute of Neurosciences, Mental Health and Addition (INMHA), subscribes to a *“bold international initiative that brings business and science together as equal partners to defend the greatest economic asset the world has, the human brain. Mental illness diminishes that asset,”* he said in an interview for this Report.

Dr. Phillips believes efforts to ‘solve depression’ are well-placed because ‘depression is tractable’ and business has a real stake in the issue. Depression is concentrated among men and women in their working years and reaches into many facets of our economic lives.

Ending the grip that depression has on productive capacity, lives and quality of life for millions of working people, would represent a major global public health breakthrough with enormous social and economic upsides.

Depression must be approached rationally. This means building a coherent ‘fact base’ at the proposed US/UK/Canada Forum to build a perspective on what constitutes depression, and a depression cure, that is shared by leaders of business and science.

From this, a scientific agenda, funding strategy, and partner recruitment plan for purposes of research and educational pilot projects must be fleshed out to ‘rationalize’ this international quest to prevent the disabling and deadly capacity of depression.

### Cure Scenario

Finding a cure for depression is one route to pre-empting the Harvard Global Burden of Disease forecast that ischemic heart disease and serious depression will become the leading causes of work years lost by 2020 through disability and premature death.

Finding a cure for depression will stimulate the prevention of suicide on a large scale. It is estimated that as high as 90% of all those who take their own lives suffer depression at the time. Serving this purpose means saving the lives of kids.

The ‘cure scenario’ represents an effective antidote to stigma. Studies have shown that the stigmatization of mental illness resists advertising campaigns or awareness-raising. The war on stigma more likely will be won through a critical mass of prevention and treatment success.

So, what does a ‘cure’ for depression entail? A cure for depression means reducing the ‘excess number of deaths’ that co-morbid depression is associated with; it means protecting the life expectancy of people who live with mental illness.

The cure scenario will halt the evolution of depression as a premiere source of premature death and disability in the working populations; it will increase knowledge of brain function and improve scientific understanding of the links between ‘environment and genetic expression’ in the onset of depression.

This knowledge will inform workplace policies and practices which can then become tools for the prevention of depression, and, at later stages, to prevent relapse. The international scientific community is moving toward a seminal moment: the integration of knowledge to build a pathway to depression.

Dr. Insel: *“Genetics, neuroscience and psychiatry are coming together in mental health research. Research tools now exist at molecular, cell, system, individual, and society levels, and we must use them to find pre-emptive and personalized interventions to stop mental illness in its early stages.”*

*“Early intervention is critical for a ‘developmental disorder’ of this magnitude. Research makes a difference. If we look to the success of cardiovascular research we see a 63% reduction in cardiovascular mortality rates and trillions of dollars saved.”*

Can the cardiovascular model be used to guide the effort contemplated in this report? The answer is yes but more than that, our knowledge of heart disease and stroke can itself be expanded and treatment outcomes improved even more by investing in workplace-based depression research.

We turn now to the NEW Workplace – a venue that will one day demonstrate breakthrough research, education and prevention.

### 03: THE ROAD TO REMISSION RUNS THROUGH THE WORKPLACE

The road to the ultimate remission of the symptoms of depression travels quite naturally through the workplace where the impact of this condition is heavily concentrated. The international campaign and partnership we propose here will establish targets to save lives and prevent disabilities.

Employers have an obvious stake in reducing lost time at work. But they are also heavily vested in health services used to treat and sustain the recovery from depression – drug plans, hospital services, psychological counselling, return to work supports and health assistance available to their families.

Workplaces are well-defined research venues that ‘house’ those that are vulnerable to depression. Larger-scale, affordable clinical trials can be designed for work sites, individually or in collections, to achieve the necessary demographic, industrial, geographic or ethnic variations.

A perspective of the ‘physicality’ of depression is not only valid, it is useful in helping the wider public comprehend that this condition is not an innate sign of human weakness but part of the human experience.

As implied by this scientific dialogue, depression is a dynamic process affecting the body, brain and mind, in which ‘mind’ may be conceived as a ‘process’ that emerges from brain function. The plasticity of the brain is known but not yet understood by science as to how or why it works. Current research on brain plasticity may offer unique insights into the link between brain function and depression.

The NIMH believes unified genetic and brain research is called for to map out the pathway to depression; objective criteria are needed to affirm diagnosis using biomarkers such as blood and saliva; and brain imaging capacity will customize and localize treatments in the brain.



As a general proposition, discoveries in brain sciences should stimulate support for depression research and specifically, discovery of brain plasticity clears the way for workplace-based research into the causes, effects and management of chronic job stress as a depression MATRIX risk factor.

During the heralded ‘Decade of the Brain’ of the 1990s, science learned that the human brain can change itself – and that external environments can affect internal brain function. Learning ‘why’ and ‘how’ this dynamic works has been described by Dr. Rémi Quirion as the ‘Holy Grail’ of brain research.

Through the proposed **International Public/Private Partnership of Employers and Science**, researchers will cut through the psycho-social underbrush of the contemporary workplace and look for signs of the GRAIL within. A word on that.

### Holy Grail of Brain Research

The Roundtable was one of the first national business groups to publicly discuss ‘psycho-social health risks’ in the workplace in the form of chronic job stress. Each of the conditions spanning the Depression MATRIX can be triggered, complicated and worsened by the effects of chronic job stress.

But, how and why does job stress affect employees differently? What do psychologically-healthy work environments look and feel like, and how can they be created and sustained? These are questions that can be asked and answered in the NEW Workplace.

Chronic job stress is a form of social climate change that melts the resilience and well-being of employees. There is consensus that prolonged exposure to slow-building, long-lasting job stress predicts burn-out and depression.

Humans are built to handle ‘momentary spikes of stress,’ as one writer put it, but when chronic stress grows into hours, days and sometimes months, internal mechanisms of the brain and body break down – from heart and brain function to sleep rhythms and the immune system.

Job and home stress are synergistic. Chronic stress triggers symptoms of depression, anxiety, and other mental illnesses among those who are vulnerable – and there are different levels of vulnerability.

The biological explanation for depression’s impact on the human body is the activation of excessive hormones among vulnerable people for whom ‘the acute stress response’ seems permanently turned on.

A significant stress-related question to be resolved is: what type of environmental factors ‘trigger’ or ‘restrict’ genetic predisposition in the development of depression, and why? This is the next great post-genome challenge and meeting it will help lead to sustainable psychologically-healthy workplaces.

Brain cells (neurons) respond to the external world via sensory organs devoted to different brain functions. Salk Institute and Princeton University researchers tell us, “Brain damage in depression might be the result of both cells dying and not being born – but the condition may be reversible.”

*“It would be a breakthrough if we understood how external events interact with the internal functioning of the brain,”* according to the Chairman of Psychiatry at Johns Hopkins University, Dr. Raymond DePaulo.

### Symphony of Genes

Dr. Anne Bassett is head of Clinical Genetics at the prestigious Centre for Addiction and Mental Health in Toronto. She zeroes-in on the kind of stress that appears most hurtful as a factor of risk in emotional distress or mental disorders.

She speaks of the importance of relationships at home, work and in the community in sustaining or recovering health. In the workplace, ‘tone of voice is huge’ especially for employees already in distress or suffering undiagnosed depression. The person who is ill may be more sensitive. A calm and supportive environment will help recovery, as for any illness.

Dr. Bassett: *“We are all born with genetic risks or vulnerabilities and fully one half of all our genes relates to our brain and nervous system. Genes are the most important part of causation of serious mental disorders.”*

The implication of this statement: a root cause of mental illness comes from wholly natural sources – our genetic make-up.

Notably, genetic changes may be inherited or spontaneous changes that are not inherited (a familiar example would be the extra chromosome in Down syndrome). Each of us may have one or more small change that could affect how we develop and/or how our brain cells work.

Neuroscientist Dr. Rémi Quirion, in an interview for this report, concludes that the combination of ‘genetic predisposition’ and social environment (‘gene-environment’) including stress, trauma, lifestyle and nutrition likely determine one’s risk to depression, anxiety and other conditions.

The same is true, however, for chronic conditions which constitute the ‘Great Depression MATRIX.’ In the development and onset of mental disorders, the communication between brain cells is more important than the loss of brain cells. Scientific consensus: depression is a ‘brain circuit’ (or systems) disorder.

Understanding genetics as ‘the most important part of causation of serious mental disorders’ will lead us, eventually, to a new understanding of how and why these conditions develop, and then to how treatment can be improved, Dr. Bassett says.

She points to a particular chromosome with a portion that can be naturally deleted. This specific genetic change – invisible to the naked eye but now testable with advanced clinical lab methods – renders one in four people with this change vulnerable to schizophrenia.

*“The genome is like a symphony orchestra. In this case, one instrument is missing and the sound of music changes. Naturally occurring genetic changes are how evolution – including evolution of the human brain – continues,”* explains Dr. Bassett.

### Job Stress and Social Pressure

Research to nail down why and how ‘chronic job stress’ happens among some employees and not others will serve as a stand-in for other ‘external’ influences on internal brain function. This could lead to a ‘prevention pathway’ to reduce psycho-social risk in the workplace.

Stress is not a state, it is a process; a set of variables; it is how we react to circumstances at work or in life; it is an individual experience. There is a

relationship between stress, the nervous system and brain regulation of the cardiovascular system.

This demonstrates the physical basis of stress-related problems, including depressive disorders, and other conditions spread across the Depression MATRIX. Human beings have a protective mechanism which alerts us to withdraw when the anxiety form of stress faces us. Uncertainty is one source.

### Screening for Stress

While genes may offer unique insights in the fight against mental illness, they do not act alone. Indeed all major systems in the body, including endocrine, immunological and neural systems may contribute to and/or be affected by the occurrence of mental ill health. Dr. Quirion, a world figure in neuroscience, reminds us that the bloodstream and saliva contain markers for stress.

In time, through these markers, we may know who is at risk for changes in the regulation and expression of brain cells, and thus, vulnerable to depression. Dr. Phillips calls for the development and eventual use of biomarkers that will provide a precise diagnostic accuracy comparable to blood glucose analysis in diabetes.

Dr. Phillips calls for this as part of a ‘Gold Standard’ for depression diagnosis and treatment. He also believes the consequences of stress will routinely be assayed as a means to reduce the onset of depression. Hopefully the time is near when depression screenings will happen in every doctor’s office, as well as every cardiovascular, diabetes and cancer clinic.

Driving depression and other chronic health conditions into remission faster is the principal goal of the screening process.

### Stress Traps

In the contemporary workplace, there are a number of ‘stress traps’ that snare employees: job demands that chronically exceed available resources is one example of a stress trap. Employee perception of workplace practices that are routinely unfair or illogical is a second.

A third example is denoted by the ‘struggle to juggle’ obligations of home and work that never let up. Job and home stress are synergistic.

Workplace stress that intensifies near the close of the workday, and is taken home, poses a greater risk to the cardiac health of people than smoking. (IWH, Toronto).

When job stress becomes chronic, it can override our natural defences to ward off infection and viruses, escalate the production of inflammatory hormones that drive heart disease, obesity and diabetes, spark flare-ups

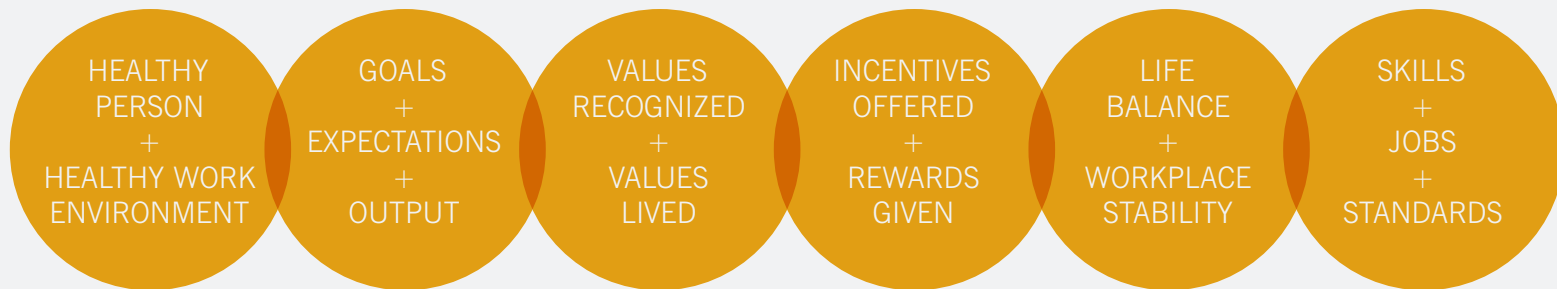
of rheumatoid arthritis, trigger depression, increase risks of substance abuse and cause accidents on the job.

Employees especially vulnerable to the health risks of chronic stress include working women who are pregnant; employees returning to work from heart attack, stroke, depression or anxiety; and employees with chronic conditions such as asthma, depression or diabetes.

### STRESS AND PERFORMANCE MATCH-UP

In the workplace, it is important to align goals and expectations to create realistic possibilities. This links healthy stress and conditions of performance.

\*2006 BUSINESS AND ECONOMIC PLAN FOR MENTAL HEALTH AND PRODUCTIVITY GLOBAL BUSINESS AND ECONOMIC ROUNDTABLE ON ADDICTION AND MENTAL HEALTH



## 04: UNRAVELLING THE GREAT DEPRESSION MATRIX

The search for a cure for depression is best channelled through the dynamics of its co-morbidity with chronic illnesses, and through workplaces where working populations are vulnerable to a wide panoply of environmental risk – which is a key feature of neuro-genetic inquiry.

*See full MATRIX diagram (page 37) and how depression is related to other chronic illnesses..*



Several disciplines will be needed for this international campaign of research, education and prevention and this assembly might best be described as an expression of ‘*neuro-economic research*’ which relates brain function to economic decision-making and organizational behaviour.

The research we have in mind will define the experience of depression not only in terms of the individual who is suffering the condition but, more broadly, the attitude and response of co-workers and managers to the circumstances in which that individual is placed.

In an interview for this report, Dr. Robert Post of George Washington University in Washington, DC, underlines the point for us. “*New data shows that environmental events can change DNA structure in relation to mental disorders.*” Dr. Quirion traces mental disorders to genetics and experience.

The questions that will be probed range from ‘*why depression increases the risk of heart attack?*’ to ‘*what kind of workplace culture is needed to ensure the right intervention at the right time?*’ and ‘*what kind of culture can be sustained where managers/co-workers are pro-actively supportive?*’.

The scientific disciplines needed for this work include neuroscience, genetic science, management and social sciences, clinical psychology, psychiatry and other medical specialties relating to the chronic conditions represented on the Great Depression MATRIX.

Therefore, we visualize the proposed **International Public/Private Partnership of Employers and Science** pursuing its goal through research that is focused on the complexities of the Depression MATRIX. For example, why does depression increase the risk of fatal heart attacks and how do we prevent that?

The links between depression and chronic illness have a basis in biology, genetics, life experience and social environments. The Depression MATRIX constitutes a strategic framework for an historic breakthrough in treating depression to save lives from heart attack, cancer, diabetes and obesity.

## Practical Clinical Trials

We visualize workplaces being used as venues for what Dr. Insel describes as ‘practical clinical trials’ and one objective of the campaign will be to help clinicians find alternative methods to diagnose those brain disorders that we call mental illnesses.

Dr. Tom Insel: *“The diagnostic system in place is based on observation, detection is late and prediction is poor. Prevention is not well-developed for most mental disorders (depression included) and treatment – the real manifestation of under-developed diagnostic process – is trial and error.”*

*“There is no cure and no vaccines for mental disorders and neither prevalence nor death rates have decreased,”* Dr. Insel told the Montreal scientific Forum but he also laid out the NIMH strategy in response.

The National Institute of Mental Health seeks ‘gains in neuroscience and genetics that are key to understanding the complexities of mental disorders’ and funds brain discoveries that fuel research into the causes of mental disorders. These NIMH objectives are a guiding light for this Report.

The NIMH believes greater emphasis must be placed on measuring the ‘functional outcomes’ of clinical research which is all-important to employers and employees alike.

NIMH will build ‘a new framework for diagnosis of mental disorders based on cognitive science, neuroscience and genomics,’ biomarkers for early detection and individual treatment and making ultimately the best use of current treatments to achieve results important to public health overall.

A scientific agenda leading to a cure for depression must involve both medical and non-medical branches of interest including questions of the health and safety of the work environment itself.

The Canadian Institutes for Health Research – specifically the Institute for Neuroscience, Mental Health and Addiction under Dr. Phillips’ leadership – has supported research teams to study various questions of co-morbidity relevant to the search for a cure for depression through the Great MATRIX.

Among other things, CIHR is looking for the links among depression and anxiety – along with epilepsy and many other neurological conditions – to update treatment guidelines and to facilitate assessment of dual diagnosis of co-morbid disorders. Dr. Insel suggests heart disease may be a ‘gateway’ to depression. The reverse may also be true.

Dr. Phillips supports an ‘all-out push’ to find an answer to depression. He notes that *“depression affects far more people than many cancers and that a significant increase in scale and scope of attention and support is needed.”*

## Preventing Heart Disease by Treating Depression

The value of investigating the links between depression and heart disease is to produce evidence for novel approaches to treatment, and achieving ultimate remission of symptoms for depression and those conditions with which it co-occurs. Therefore, the purpose of finding a cure for depression is to:

- Save lives from heart disease and stroke by treating more effectively.
- Save lives and family suffering by treating depression more effectively.
- Reduce the health risks of diabetes by treating depression more effectively.
- Reduce the risks of substance abuse by treating depression more effectively.
- Reduce the dangers of cardiovascular disease for those living with diabetes by treating depression more effectively.
- Prevent worsening of the prognosis of some cancer by treating depression more effectively.
- Counter the course of obesity by treating depression more effectively.
- Lessen the grip of chronic pain on tens of millions of people by treating depression more effectively.
- Protect world gains in life expectancy by treating depression more effectively.
- Protect coming generations of kids against the onset of depression and anxiety in their adolescence and early teens by treating depression more effectively.

So let's understand more particularly why this International Partnership, as proposed, will target depression through its affiliation with major chronic illnesses.

## The Great Depression MATRIX in review.

### Cardiovascular Disease

Depression increases the risk of sudden death from a 2<sup>nd</sup> heart attack among heart patients by 500% within six months of the first. It worsens outcomes of both coronary and ischemic heart disease, increase risks of clotting, impairs oxygen flow to the heart, reduce heart rate variability, increases risks of ventricular arrhythmia.

Heart attack survivors with depression are less likely than non-depressed heart patients to survive one year. Research has shown that the incidence of depression may increase 15–30% in the first month after a heart attack and about 20% of first-time heart attack victims have depression.

Depressed people have two to four times more cardiovascular disease and on August 11, 2011, it was reported that depression is an independent risk factor for stroke among women.

Dr. J. Raymond DePaulo, Chairman of Psychiatry at Johns Hopkins University, says *“some patients with depression and no history of heart disease develop a heart attack. And depression doubles and quadruples the risk of sudden death.”*

Nonetheless, Dr. DePaulo feels *“we are poised on the brink of some remarkable discoveries about depressive illness. Genetic and advanced brain imaging technologies allow us to understand brain structure and function in ways we could only dream about in the 80s.”*

Breakthroughs, though, won't be easy and *“it will take the same commitment to research that has been made in the past for cancer and heart disease.”*

Dr. DePaulo says *“our objective must be to speed-up the time it takes make an accurate diagnosis.”*

*“And,”* he says, *“it would be a major breakthrough if we understood how external events (environment, social experience) interact with the functioning of the brain.”*

### Diabetes

US population studies found that depression is associated with complications of diabetes affecting eyesight (retinopathy) and is **‘significantly associated with death’** within the type II diabetes population.

Depression and diabetes are both linked to insulin-related inflammatory and glucose-handling problems.

Depression is more than twice as prevalent among those living with diabetes. Schizophrenia, bipolar disorder, and adult Attention Deficit Hyperactivity Disorder (ADHD) can be co-morbid with obesity, metabolic syndromes, and Diabetes Type 2, as reported by Dr. Robert Post.

Dr. McIntyre found that serotonin, the brain chemical linked to depression, provides ‘effective insulin signalling’ that improves insulin sensitivity and acts as an anti-inflammatory. Diabetic patients show ‘improved mood with insulin.’

Alzheimer's, depression and diabetes, Dr. McIntyre says, are ‘inter-related’ and an insulin nose spray is being tested as a treatment for depression. *“We need to re-think depression as a neural-degenerative condition, what drives it, and what are the connections to abnormalities in insulin?”*

### Cancer

The New England Journal of Medicine reports that diabetes raises the risk of dying from cancer by 25% and the Canadian Diabetes Association says 80% of those living with diabetes die from cardiovascular disease. This also applies to those living with both diabetes and depression.

Research at the University of British Columbia and published by the Canadian Cancer Society finds that **depression can affect cancer survival** and systemic screening for psychological distress and subsequent treatments among cancer patients is a valid option to manage these cross-over effects.

Many studies have shown that mental attitudes can affect the course of bodily disease. University of British Columbia researchers found no fewer than 26 studies involving 5,417 patients that examined the effects of depression on cancer.



They reported that *‘we found an increased risk of death in patients who report more depressive symptoms than those who have neither exhibited symptoms nor have been formally diagnosed.’* The analysis revealed:

Death rates among cancer patients were **25% higher** among patients who say they have symptoms of depression symptoms and **39% higher** among those who are were actually diagnosed with depression.

Other studies estimate that 10–30% of cancer patients suffer depression and according to a 2005 study in the Journal of Supportive Oncology *“cancer-related depression is associated with faster tumour progression and shortened survival time.”*

Ten years ago, King’s College researchers in the UK found that depression among cancer patients has a biological and biochemical basis, and depression may be a side-effect of cancer-treating chemical therapies.

### MS and Parkinson’s

King’s College researchers believe that fluctuations in the immune systems of MS sufferers have ‘something in common’ with the fluctuating mood of someone living with bipolar disorder. Dr. Helen Mayberg says the treatment of Parkinson’s Disease may inform the treatment of depression.

The largest worldwide study ever to compare the health decrements of depression and other chronic conditions (250,000 people in 60 countries across all regions of the world) found that between 9% and 23% of those living with some form of chronic illness also suffer depression.

### Pain

In 2003, the American Medical Association reported that **65% of patients with depression have clinically-significant pain while 37–58% of patients with pain live with depression.** Depression patients have ‘significantly more unexplained’ physical symptoms including pain and fatigue.

Family doctors fail to diagnose depression in 50% of these cases and studies found that depression predicts future episodes of low back pain and other forms of muscle and bone discomfort. Depression and pain are believed to follow the same central nervous system pathway.

### Diet/Digestion

King’s College researchers: *“There is now considerable evidence relating **fatty acid** and prostaglandin blood and tissue level **to rising rates of depression through the modern era.**”* Diet, blood content, depression and anxiety are linked.

Findings published by Gastroenterology Magazine, say that disrupting the ‘delicate balance’ of bacteria in the digestive system can influence brain chemistry and behaviour. Experts suggest that the digestive system may influence emotions (butterflies in the stomach).

Scientists are learning that the brain and gut have a relationship. Intuition has told us that for a long time. Science is catching up. The digestive system houses 1,000 trillion bacteria and 100 million nerve cells and some leading scientists call it ‘the second brain.’

### Infectious Disease

LANCET, the world’s leading health science journal:

*“In reality, the interactions between mental disorders and other health conditions are widespread and complex ... constituting risk factors for the development of communicable and non-communicable diseases, and contributing to accidental and non-accidental injuries.*

*“For some infectious diseases, mental disorders increase the risk of transmission; many health conditions increase the risk for mental disorder or lengthen episodes. The ensuing co-morbidity complicates help-seeking behaviour, quality of care and outcome of treatment of ‘physical’ conditions.”*

In the landmark ‘multi-country Depression and Work Performance Study’ by Dr. Ron Kessler and funded by the McArthur Foundation, we learn that in the case of asthma (and similar breathing disorders such as COPD) absence from work soars from less than one day per month to 2.6 days per month when depression is present.

‘Pure (single-occurring) disorders are less impairing,’ the study says, and ‘physicians should recognize that the vast majority of impairment among young and middle-aged patients due to common-occurring chronic disorders is actually associated with co-occurring mental disorders.’

## The MATRIX Multiplier of Death and Disability

In a special analysis for this report, we see clearly the enormous numbers of people – and families – touched by the Great Depression MATRIX:

### Cardiovascular Disease

Assuming 20% of Heart patients develop Depression:

	CANADA	US	UK	TOTAL
Annual Prevalence of Heart Patients	1,300,000	26,800,000	2,700,000	30,800,000

Assumption:

Annual Prevalence of Heart Patients with Depression	260,000	5,360,000	540,000	6,160,000
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SOURCES:	HEART & STROKE FOUNDATION 2007	CENTERS FOR DISEASE CONTROL & PREVENTION 2009	BRITISH HEART FOUNDATION 2009
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### Cancer

Several sites provide data on the prevalence of cancer (all types) however it is to be noted that the definition of ‘prevalence’ is generally interpreted as ‘currently diagnosed’ and ‘recovered’ (i.e. still living), and calculates the figure using data of the prior 10 years. Single year data did not appear to be available.

Assuming 10–30% of Cancer patients suffer Depression:

	CANADA	US	UK	TOTAL
Prevalence of Cancer Patients	748,897	11,714,000	2,700,000	12,970,737

Assumption:

Annual Prevalence of Cancer Patients with Depression	74,890 – 224,669	1,171,400 – 3,514,200	50,784 – 152,352	1,297,074 – 3,891,221
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SOURCES:	CANADIAN CANCER SOCIETY, CANCER STATISTICS 2007, PUB 2011	AMERICAN CANCER SOCIETY, 2007	CANCER RESEARCH UK, 2006
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## Diabetes

Statistics vary on the ratio of deaths by the combination of heart disease and diabetes. The World Health Organization (August 2011) states that 50% of ‘diabetics’ die from cardiovascular disease annually, while other estimates are as high as 80%.

	CANADA	US	UK	TOTAL
Annual Prevalence of Diabetic Patients	1,300,000	18,800,000	2,800,000	22,900,000
Assumption: Annual No. of Diabetic Patients who die of Cardiovascular Disease	650,000 – 1,040,000	9,400,000 – 15,040,000	1,400,000 – 2,240,000	11,450,000 – 18,320,000
SOURCES:	STATISTICS CANADA 2005	NATIONAL DIABETES CLEARING HOUSE 2011	DIABETES UK 2010	

## Workplace Data

While many articles have been written about the effect and impact of these diseases in the workplace, no reliable statistical data was found on actual number of patients who are currently in the workplace and are diagnosed or living with the above diseases.

However, *c3 Collaborating for Health* (UK) in February, 2010 reports that diabetes is becoming an issue for employers in the UK, particularly given that the workforce is aging (an issue common to Canada and the US as well), and the prevalence of Diabetes rises sharply in middle age.

In England, for example, Diabetes prevalence is 1.2% among 25–34 year olds, but by age 55–64 prevalence is 8.5% among men and 6.0% among women. (C3 also stated that some companies are leading by example, providing health screening, healthy cafeteria options, showers and bike storage for those who want to cycle to work – additional costs to the employer.)

Question: How much more prevalent is the combination of one of these diseases and depression in the workforce by age category (e.g. 25–34, 35–54, 55–64), and what is the direct cost effect or increase that this combination has on each of those age groups? An inquiry for another time.

## Drug Therapy Patterns

An analysis of **employee group drug plans in Canada by Cubic Health of Toronto** was donated to this Report and it shows that virtually all employees being treated for depression are also taking medication for migraine headaches. Based on this analysis, we see that:

Depression is also highly concentrated among those being treated concurrently for stomach acid, high cholesterol, arthritis, diabetes and high blood pressure. The conventional notion that mental illness is ‘all in your head’ is thus provably untrue.

## Depression: A Life and Death Matter

Depression kills – through suicide, through cardiovascular disease, and through other diseases. In this light, depression research, for the first time, will be positioned as a ‘life and death’ matter and this changes forever the argument for parity, at least, in funding research into the disease burdens of the world.

And, as a ‘life and death matter,’ depression research is more attractive to funders and clearly a matter of importance to the cohesion and opportunities of citizenship that free societies value. Finding a cure for depression is also an act of recognition of the interests of children, and working families.

Therefore, we propose that the International Partnership fund be called ‘**Defeat Depression this Decade**’ – the ‘**3D Fund**’ – and its funds be calculated as an appropriate percentage of the GDP of the 3 countries which will launch the initiative.

### Note:

More research is needed to verify the implications of data discussed in this section of the Report. And while the risk of cancer deaths associated with depression is relatively small, physicians are encouraged to screen cancer patients for depression and provide necessary treatment.

## 05: THE **NEW** NEUROECONOMIC WORKPLACE

“We must now believe in the human mind and spirit and capacity for innovation more than ever.”

*Charles Schwab, Investment Legend – 2001*

The **NEW** or **NeuroEconomic Workplace** is the workplace of the future. This NEW Workplace – as a venue for research, prevention and education – must be designed, managed and sustained to promote and protect the mental health of working populations as a straightforward duty of asset management.

There is ample evidence that brain health and brain skills will define the competitive edge that corporations doing business in the global economy will need. Dr. Michael Porter has reported that new technology and pricing no longer provide the differentiation that companies need to compete.

Therefore, the NEW Workplace will be based on the tenets of a socially and psychologically healthy environment in which people not only earn their pay-cheque but earn and exchange respect as a defining feature of this environment. That said, where should this new energy be focused?

Let us turn to that question.

**Brain Health + Brain Skills = Brain Capital = Access to Innovation**

Innovative thinking begins with a clear sense of purpose among employees and managers who make time for creativity and who are ‘always in the hunt’ for new ideas, according to management experts Andy Boynton (Boston College) and Bill Fischer (Int’l Institute for Management in Switzerland).

Gordon Nixon, President and CEO of the Royal Bank of Canada, as quoted in Part 1, describes “*an economy of mental performance where employees are expected to think and be creative.*” This is the stuff of innovation.

Innovation, in turn, is the stuff of brain health + brain skills which equal a new commodity we call brain capital in the workplace. This is the key to the door that provides access to innovation which has been heralded widely by economists, governments and business as the key to future prosperity.

Therefore, brain-based mental health in the workplace by definition is part of the quest to promote a sense of purpose and on-going ingenuity as Boynton/Fisher and William Bole, co-authors of ‘The Idea Hunter’ identify as key to promoting innovative thinking, and realizing the benefits.

These authors make another important point to the subject of this report: inclusion is part of the equation of innovation and new ideas.

*“Other people,”* they say in the Toronto Globe and Mail (October 12, 2011), *“must be part of the plan to get new ideas ... take an interest in the work of others.”*

The principle of inclusion, cooperation sharing and mutual encouragement are seen through this lens as features of fostering innovation and creative thinking. Not surprisingly, these are also an indigenous part of a psychologically-healthy workplace.

### Brain Healthy Innovation

We envision the principal focus of the workplace-based, international campaign of research, education and prevention proposed here to focus sharply on ‘innovation in psychologically healthy workplaces’ as a principal deliverable.

But let’s be clear about what innovation is and is not – about what mental health in this context is and is not:

**Innovation:** to renew, to create, to improve and to make more effective products and services, not to be confused with invention or renovation. Innovation suggests substantial positive change to a business practice, product or service not merely an incremental adjustment or improvement.

**Mental health in the workplace:** a holistic sense of wellbeing, perspective, judgment, freedom to collaborate and think outside the box, job fulfilment, clear expectations, inclusion and a clear sense of purpose.

These are cognitive functions, sources of and demand for mental energy, stimulated by and needing a sense of place and teamwork, dependent on management practices that permit, facilitate, empower and reward employees who operate effectively in a healthy, innovative environment.

Innovation, we submit, must be distinguished from that concept of productivity defined exclusively by cost-cutting, job-cutting, doing more with less and other conventional economic precepts. True innovation is that which is practiced by enlightened employers.

Therefore, we suggest this: the next stage of development for mental health in the workplace be focused on innovation as a deliverable of psychologically-healthy workplaces and employee mental health as the facilitator of employee-based competitive advantage.

### Investments in Sustainability

In the NEW Workplace, the statement ‘brain health + brain skills = brain capital’ proves true – and investments in mental health constitute investments in brain health and brain skills.

Just as **eco investments** protect the sustainability of our natural environment and, in some cases, the viability of business, **neuro investments** do the same for work environments.

In the NEW Workplace, managers will learn to motivate the cognitive capacities of employees and a sharp distinction between what constitutes a healthy and unhealthy work environment will be clear to all.

Fairness, respect, job clarity, clear purpose, recognition, getting things done versus micro-managing, embedded frustration, distrust, tension, unclear expectations, and leadership ambiguities. In the NEW Workplace, managers are well-trained in dealing with employee emotional distress and the functional impact of that.

In the NEW Workplace, empathy is learnable. Managers talk with employees about how they feel about things, knowing that employee morale is a leading indicator of financial performance. In the NEW Workplace, the treadmill effect gives way to common sense deadlines.

Job/skill mismatches are avoided; face to face discussions successfully compete with emails and text messages. Managers will learn what goes into a psychologically-healthy workplace – and how the brain and body connect.

In the NEW Workplace, managers will learn what kinds of policies and practices, training and incentives will motivate employee innovation. In doing so, employers who buy-into the concept of brain-based mental health in the workplace begin to fuel a revolution in productivity.

This revolution in productivity, as described by Canadian economist David Rosenberg, will be fuelled (in part, we say) by growth in the supply-side of the economy (Canada is his example) – specifically, through capital spending.

## Brain Capital Investment

We would add a new dimension to the concept of supply-side economics to include investment in and of brain capital to parallel capital investments in technology and equipment. The reason is this:

Historically, according to Statistics Canada, the infusion of new information technology over the past two decades has failed to improve Canada's productivity because it happened without new investments in employee training, work distribution and the processes and philosophies of innovation.

Narrow-casting capital investments in physical, inanimate assets will replicate that experience and repeat history. Therefore, we visualize the NEW Workplace being equipped with technology AND people – both of which are construed and protected as a form of capital investment to be protected.

This will truly sow the seeds of the kind of revolution in productivity that will sustain:

- The human factor as the key differentiator in the market place and thus a source of competitive advantage to find and retain new customers.
- Psychologically-healthy work climates as the key differentiator in the workplace and thus a source of competitive advantage to recruit and retain the best people.
- Both objectives were cited by participants in the Roundtable's unprecedented 2005 CEO Survey on Mental Health as validation of investments in the mental health of employees.

The benefits of a psychologically-healthy workplace span a wide operational spectrum: retention and recruitment success, employee engagement as an indicator of sustainable financial performance, productive capacity and high standards of occupational health and safety.

## Neuro Strategies for the Workplace

Studies track the 'morale boosting' affects that eco investments have on employees. New entrants into the workforce show a preference for employers who do business this way. Green strategies are a savvy response to a changing world.

Similarly, GREY strategies, ('grey' as in neuronal brain matter), benefit the employer, the employee, and also the community. The result will be psychologically-healthy work environments where mental health thrives, brain skills flourish, and brain capital will grow.

This idea of neuro investment blends with the new concept of 'shared value' introduced by management legend Dr. Michael Porter who believes that investments that equally benefit the community and the business are 'a way to save capitalism.'

Dr. Porter tells us of companies who reduce their use of natural water supplies in India and therefore reduce costs and sustain productivity demonstrate 'shared value.' The community benefits and the business benefits.

**Neuro investments** by employers to build psychologically-healthy and safe workplaces will become a parallel concept aimed squarely at defending the capacity of workplaces to be innovative, to promote and effectively deploy the brain skills of their people.

We see this approach encouraging '**creative capitalism**' as Bill Gates characterized innovations in business that will sustain communities and people. We see new concepts to express this in terms discussed in this Report:

**Neuro-Trade:** a new form of free trade – free in the sense of 'open borders' and 'no/low cost' in the exchange of information, prototypes, models and experiences among employers to advance internationally the promotion of brain health, brain skills and the assembly of brain capital for a brain-based economy.

**Neuro-Cultures:** workplace environments that are friendly to brain health, brain skills and brain capital – the essence of psychologically-healthy workplaces.

**Neuro-Leadership:** a generation of new hard managerial skills to motivate, incent and facilitate the productive use of employee cognitive capacity, the promotion and rewarding of employee creativity and the long-term development of workplace and customer relationship skills.



**Neuro-Asset Management:** workplace policies and practices to promote and protect the asset value of employee mental health in a brain-based economy.

Harvard's Michael Porter: *"companies have 'exhausted the market advantage of costs and technology' and their people are now the main source of comparative advantage."*

The Senior Vice-President, Group Benefits of Great-West Life, Michael Schwartz, who serves as Executive Director of the Great-West Life Centre for Mental Health in the Workplace, developed a model for promoting healthy management practices.



The **CEO** of the NEW Workplace will recognize the link between a healthy culture and a healthy future and take an investment portfolio approach to employee health expenditures, measuring objectives, benefits and return on investment.

The **CEO** will bring mental disabilities down from 30%–40% of their total disability experience to 10%, reduce long-term disability for mental health purposes to virtually zero, and engage the CFO and top human resources executive as co-leaders of mental health in the workplace.

The **CEO** will set hard, achievable financial targets to reduce and prevent mental disability and make it crystal clear that employees on disability leave are assets with continuing value. Line managers will be accountable for mental health in the workplace and full recognition of employee rights.

The **CEO** will deem chronic job stress a ‘work hazard’ like air pollution and unsafe equipment, where senior management understands that **employee attitudes** are leading indicators of financial performance – to be nourished - while ‘financials’ are a lagging indicator – to be accounted for.

Building psychologically-healthy workplaces begins with these questions:

- 01 What is senior management’s perception and understanding of psychological risk?
- 02 Is the CEO or equivalent engaged in defining and mitigating this risk?
- 03 Are there ways to quantify psychological risk for disability insurance purposes?
- 04 What level of risk is acceptable to insurers to write and price disability insurance?

## Employee Renewal in the NEW Workplace

The NEW Workplace will introduce a workplace model of ‘**Shared Care**’ to support family physicians in diagnosing and treating depression and the effects of the Depression MATRIX on employee health and productivity.

The NEW Workplace will introduce the concept of ‘strategic case management’ and ‘employee renewal’ for those suffering from a mental illness.

Employee renewal in the face of emotional distress, depression or off-the-job disability leave proceeds through three phases:

- **Renewal** of the employee’s clinical health through the reduction of symptoms.
- **Renewal** of the employee’s functional health – which lags symptom reduction and must be managed carefully when determining the pace of return to full-time work.
- **Renewal** of the employee’s ‘emotional readiness’ to go back to work. This includes the renewal of self-esteem, emotional strength and mental energy.

Three principles will anchor these concepts:

- **The Principle of Affirmation:** the value of employees to the organization will be affirmed throughout the period of illness or injury.
- **The Principle of Accommodation:** returning to full-time work will be facilitated by managerial commitment and accountability to the integrity and effectiveness of the process. There will be provisions for off and on-the-job employee renewal through modified work.
- **The Principle of Shared Responsibility:** management and unions will remove the ‘Renewal’ process from the roster of disputable collective bargaining issues and jointly provide the employee with needed support and cooperation to facilitate renewal to full function.

A primary tool of the recovery and renewal phases is the Roundtable’s Recovery & Renewal Tracking Chart which puts the emphasis on prognosis while simultaneously tracking medical and non-medical concerns.

This original Roundtable concept was known formally as the Green Chart. It underscores the importance of social and environmental issues in the workplace. Utilization of this chart as a focal point in the return to work plan by the employee, the manager, the employee’s medical doctor, and

the organization’s occupational health specialists encourages an emphasis on functional prognosis rather than illness symptoms.

The Recovery & Renewal Tracking Chart can be downloaded from: [mentalhealthroundtable.ca](http://mentalhealthroundtable.ca)

## Physician’s – Recovery & Renewal Tracking Chart

In the space provided explain and/or list specific accommodations that can be made by the employer to ease the Return to Work process

	01 At this time, the task is impossible for the employee to perform	02 The employee can perform some aspects of this task with accommodations	03 The employee can perform this task with accommodations	04 The employee performs this task well although some accommodations are still necessary	05 The employee can easily perform this task with little or no special assistance
<b>General Work Skills</b>					
Understanding and following instructions					
Performing simple and repetitive tasks					
Maintaining a work pace appropriate to the work load					
Relating to other people beyond giving and receiving instructions					
Influencing others, accepting instructions, planning					
<b>Specific Job Functions or Requirements (not covered above, as outlined by the case manager)</b>					
<b>Information Required by the Physician</b>					
Character of the workplace – pace, dynamics and history					
Patterns of absence or downtime in the last 30 days					

## Case Manager – Recovery & Renewal Tracking Chart

Employee:	Case Manager:	Date:	Next Case Meeting:
	01 Physician's Rating 1 to 5	02 Physician Recommendations	03 Plan of Action
			04 Desired Outcome
General Work Skills			
Understanding and following instructions			
Performing simple and repetitive tasks			
Maintaining a work pace appropriate to the work load			
Relating to other people beyond giving and receiving instructions			
Influencing others, accepting instructions, planning			
Specific Job Functions or Requirements (not covered above, as outlined by the case manager)			
Additional Tasks for Case Manager	Date	Comments	
Re-entry interview scheduled			
Employee invited to bring friend, family member or physician to re-entry interview			
Employee assured his/her job is waiting for him/her			
Employee formally welcomed back by employer			
Re-entry plan established and reviewed; a realistic timeline implemented			

## Not Just Four Walls

Mental health in the workplace of police is gaining ground. The Canadian Association of Chiefs of Police, Canadian Association of Police Boards, and Canadian Police Association have held joint-meetings on the topic and are considering a 10-point plan presented to them in 2011 by the co-authors of this report.

These guidelines called C.O.P.S. – acronym for care, outreach, prevention and support – range from publically committing to mental health in the workplace of police to policing management reforms and training staff sergeants to become a powerful voice for mental health in the workplace.

(Full text of C.O.P.S. is available at [mentalhealthroundtable.ca](http://mentalhealthroundtable.ca).)

## The Value of Peer Support

At a time when society is arguably more fragmented than ever before, and technology and social media have overtaken face-to-face communication, the power of human interaction has never been greater. Nowhere can it have more impact than in the lives of people experiencing mental illness.

LCol Stéphane Grenier was the pioneering force who brought mental health peer support to the Canadian Forces. He is now working through the Mental Health Commission of Canada to bring peer support into the civilian workplace.

In LCol Grenier's words: *"Peer support work occurs when a person who has lived with and recovered from a mental health problem or illness, provides emotional and social support to a person who is currently suffering."*

*"Due to the authenticity of shared experience, peer support results in significant improvement to rates of recovery and improved health,"* he says. A key goal is to avoid employee isolation at home.

## Workplace Stress Resiliency

Dr. Alan Langlieb, Director of Workplace Psychiatry at Johns Hopkins University in Baltimore, Maryland, has helped develop an evidence-based approach to 'immunity from distress in the workplace' through a model of employee 'resilience, resistance and recovery' in the management of workplace stress.

*"At its core,"* Dr. Langlieb said in an interview for this Report, *"this model is a management tool to build resistance or enhance employee resilience in the face of workplace stress, or to accelerate employee recovery from distress or stress-related downtime."*

The model, developed by Dr. Langlieb and other experts at Johns Hopkins University, provides employees with what he calls 'psychological body armour.' Resilience training and development, in this light, becomes part of the inventory for psychologically-healthy workplaces.

## 06: NEW WORKPLACE: VENUE FOR SUICIDE PREVENTION

The NEW Workplace will be a home for information, education and support for employees dealing with questions of suicide. The ‘Guidelines for Working Parents to Protect the Mental Health of their Children’ can be consulted at [mentalhealthroundtable.ca](http://mentalhealthroundtable.ca)

The authors invited one of the most effective suicide prevention advocates in Canada to speak out. The message of Tana Nash, Coordinator of the Suicide Prevention Council of Waterloo Region, Ontario, follows next:

## NOT TALKING ABOUT IT ISN'T WORKING

### The Need for Suicide Prevention Strategies

In Ontario’s Waterloo region, there is on average one suicide a week. Across Canada, there are 10 a day and nearly 4,000 a year. But still, we are reluctant to talk about it. That, clearly, isn’t working.

Suicide prevention initiatives in Waterloo region reach 6,500 adults and young people through school-based and community training – and it saves lives.

Family members who lose a loved one to suicide face a higher risk. Thunder Bay firefighter Scott Chisholm, who lost his father to suicide, authored ‘Collateral Damage: Images of Those Left Behind by Suicide’. This resource challenges stigma and promotes healing for those that need it the most.

Turning the tide on suicide is possible. But leaders must lead.

We call on (Canada’s) Prime Minister Harper to:

- Invest in Canadians with a 10-year **National Suicide Prevention Campaign**. The goal: cut the annual death toll in half within the decade.
- Create a **Research and Education Centre** dedicated to this purpose in the spirit of David Batters, former Member of Parliament, Regina, Saskatchewan.
- Recognize **World Suicide Prevention Day** as a national day of mourning for lives lost to suicide, and a national day of celebration of lives saved through education, dialogue and informed intervention.
- Establish a **‘Peace Corps’ Youth Service Movement** to fight stigma and support family, friends, classmates, teammates and others in distress.

We also call on Canada’s business community to take a leadership role by offering prevention and intervention training in the workplace. Equipping employees with a ‘suicide prevention coaching certification’ is an influential place to begin.



Tana Nash's INNOVATIVE efforts in her home community are remarkable evidence of what can be done when one is committed and creative. For example, she has taken suicide prevention into local high schools to:

- Train students to support each other in the face of bullying, suicide and gang violence.
- Heighten student awareness of suicide risk factors and warning signs.

Ms. Nash has delivered information packages to funeral homes to assist suicide survivors discuss and make the cause of death public if that's what the family wants to do.

Tana Nash looks beyond Canada's shores. "Global initiatives are already happening." Scotland has a "Choose Life" Program and 10-year national action plan to reduce suicides by 20% by 2013. Australia's Prime Minister earmarked \$277 million for front line services.

In Mumbai, stores stock T-shirts with anti-suicide messages, and prevention programs are underway in New Zealand, UK, Finland, Sweden, Norway and the US where actor Glenn Close is active with the 'Bring Change 2 Mind' campaign.

## Recognizing the Drift Toward Suicide

The deaths of three professional hockey players – two by suicide, one through a drug overdose, a first cousin to suicide – have rocked the hockey world. The National Hockey League, its union and players' alumni say they will search for answers to the question 'why.'

Except that may be the wrong question. 'Why' is virtually unanswerable in any individual case. But 'how' is a question we can answer, and respond to, by recognizing a TEN POINT DRIFT TOWARD SUICIDE.

### 01 Emotional isolation

Malignant loss of self-esteem and usefulness

### 02 Peer pressure and exclusion

Deep sense of having lost acceptance, recognition, belonging

### 03 Void of joblessness

Deep sense of loss of identity, self-worth

### 04 Emptiness of depression

Pervasive loss of the energy and motivation to live

### 05 Impulse

Why not right now

### 06 Drugs/alcohol

Desperation peaks

### 07 Available means

Gun, rope, drugs, locale

### 08 Family history of suicide

Higher risk

### 09 Youth and children

Altered perceptions of death and dying; loss of place

### 10 Social disadvantage and grievance

The profound weariness of perpetual worry and seething.

*\* Various sources and reference documents used in the writing of this Report can be found at [mentalhealthroundtable.ca](http://mentalhealthroundtable.ca)*

These Ten Points were originally published in the Globe and Mail on September 7, 2011 in an article by Bill Wilkerson.

## Reflections

Dr. Tom Insel asks scientists to ‘re-think’ mental disorders as brain and developmental conditions hoping to encourage brain discoveries that shed more light on the causes of mental health problems.

This Report reinforces that message by urging business leaders and employers to allow workplaces to become sites for brain research that will lead to a cure for depression, save lives and prevent disabilities among men and women in their prime working years.

The model proposed for this workplace-based research will flow from the original concepts of research and innovation founded by the Schlegel family of Kitchener, Ontario, Canada. The innovative vision of Schlegel Villages is creating healthier models of living for seniors – shifting away from the current institutional models of care.

Schlegel research priorities and design are guided by residents and front-line staff – not the researchers. This produces relevant research with real-time application thereby creating healthier models of living for seniors. This ‘relevance test’ is the genius core of their concept.

Meanwhile, brain research overall remains under-funded, and as it relates to mental disorders, even more so. Brain Canada gives us some perspective. Diseases and injuries of the brain and spinal cord are a greater health care cost in Canada than cancer or heart disease, representing 14% of the Canadian disease burden.

When disability and economic losses are factored in, 38% of the disease burden in Canada is attributable to brain disorders yet only \$100M a year is devoted to brain research and there is no major single source of private sector funding.

There is real urgency to remedying this in light of the concerns of the Canadian Institutes of Health Research that Canada, is lagging other countries in its capacity to deliver research evidence into the clinical care of mental health problems, chronic illness and all-in primary care.

This is a crisis-in-the-making.

As the global financial crisis spreads, assumptions of social and economic sustainability are questioned.

The proposals here are, in effect, sustainability measures for human health and innovation-based growth in a struggling world economy.

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## Expert Interviews

Exclusive interviews with, and input from, world-renowned scientists was an important part of the research done for this report. Our thanks to all who shared their knowledge with the Roundtable.

### Thomas R. Insel, MD

Director, US National Institute for Mental Health (NIMH)

### Anne Bassett, MD, FRCPC

Director, Clinical Genetics Research Program, Centre for Addiction and Mental Health and Professor, Dept of Psychiatry, University of Toronto, Toronto, Canada

### Raymond DePaulo, Jr. MD

Psychiatrist-in-Chief, The Johns Hopkins Hospital and Chief of Psychiatry, Johns Hopkins University, Baltimore, Maryland, US

### Steven E. Hyman, MD

former Harvard University Provost (2001 – 2011) and former Director of the National Institute of Mental Health (NIMH) (1996 – 2001)

### Ronald C. Kessler, PHD

Professor, Health Care Policy, Harvard Medical School and Co-Director of WHO World Mental Health Surveys

### Alan M. Langlieb

Director of Workplace Psychiatry, Johns Hopkins Hospital, Baltimore, Maryland, US

### Helen S. Mayberg, MD

Professor, Psychiatry and Neurology, Emory University School of Medicine, Atlanta, Georgia, US

### Roger S. McIntyre, MD, FRCPC

Head of Mood Disorders, University of Toronto and Psychopharmacology Unit, University Health Network, Toronto, Canada

### Georg Northoff, MD, PHD, FRCPC

Research Director, Mind, Brain Imaging and Neuroethics, Royal Ottawa Healthcare Group, Ottawa, Canada

### Carmine M. Pariante, MD, MRCPSYCH

Biological Psychiatry and Head of the Sections of Perinatal, Institute of Psychiatry, Kings College, London, England

### Anthony Phillips, PHD, FRSC, FCAHS

Scientific Director, CIHR Institute for Neuroscience, Mental Health and Addiction, Professor, and Founding Director of the Institute of Mental Health, University of British Columbia

### Robert M. Post, MD

Clinical Professor of Psychiatry, George Washington University, Washington, DC, US

### Rémi Quirion, O.C., PHD, C.Q., FRSC

Chief Scientist and Chairman of the Boards of Directors of the Quebec Research Funds, Province of Quebec, Canada and Scientific Director, Research Centre, Douglas Institute, (McGill University), Montreal, Canada

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## About The Authors

### Honourable Michael Wilson

Former Senior Chairman of the Roundtable, served as Canada's Ambassador to the United States and as Canada's Finance Minister. Mr. Wilson is currently Chairman of Barclay's Capital Canada Inc., building on his distinguished career in business, finance and government service. Mr. Wilson is a winner of several national awards for his work in the mental health field.



### Bill Wilkerson

Roundtable Co-Founder, Chairman, President and CEO, won several national awards for his Roundtable work. His business career spanned senior positions with major corporations, major league sports, health care and the arts where he served as CEO of the Toronto Symphony Orchestra during a financial crisis. Mr. Wilkerson was named mental health adviser to the Royal Canadian Mounted Police.

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**Mental Health**