

## The CIHR Institute

CIHR's Institute of Neurosciences, Mental Health and Addiction, under the leadership of Scientific Director Dr. Rémi Quirion, supports research designed to reduce the burden of mental illness, through prevention strategies, mental health promotion and the development of new methods of diagnosis, treatment, and the provision of support services. Among its priorities in the area of mental illness/mental health are the study of first episodes in mental illness and discrimination and stigma related to mental illness.

One of the Institute's priorities is building capacity among mental health researchers in Canada. To that end, it has supported a partnership with the Canadian Psychiatric Research Foundation (CPRF) and AstraZeneca Canada to support and encourage young researchers and celebrate their achievements. As a result of the partnership, which was the recipient of the 2004 CIHR Partnership Award, the number of applications for funding to CPRF doubled.

## About the Canadian Institutes of Health Research

The Canadian Institutes of Health Research is the Government of Canada's agency for health research. Its objective is to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system. Composed of 13 Institutes, CIHR provides leadership and support to close to 10,000 researchers and trainees in every province of Canada. For more information visit [www.cihr-irsc.gc.ca](http://www.cihr-irsc.gc.ca)

The Canadian Institutes of Health Research (CIHR) is the Government of Canada's agency for health research. Through CIHR, the Government of Canada invested approximately \$54.1 million in 2004-05 in research on mental health and addiction across Canada.

## The facts

- Mental illness is a broad classification for several disorders, including anxiety, depression, schizophrenia, personality disorders and eating disorders.
- One out of every five Canadians will have a mental health problem at some point in his or her life.
- The onset of most mental illness occurs during childhood, adolescence and young adulthood.
- One in 100 Canadians suffers from schizophrenia and another one in 100 suffers from bipolar disorder, or manic depression; 8% of adults will experience major depression at some point in their lives, while 12% of the population is affected by anxiety disorders.
- Schizophrenia, depression, and bipolar disorder are together responsible for more than 20% of years lived with a disability in established market economies.
- About 3% of women will be affected by an eating disorder during their lifetime.
- As a group, people with mental illness are more likely to be victims of violence than to be violent themselves.
- The total cost of mental disorders, including stress and distress, was \$7.9 billion in 1998.

## Research finding mental health solutions

- A mother's touch isn't just comforting – it may also be a means by which the genes involved in how we respond to stress turn on and off, according to research by CIHR-supported researcher Dr. Michael Meaney of the Douglas Hospital Research Centre at McGill University. Dr. Meaney has found that, when rats lick their offspring – the rat equivalent of a mother's touch – that turns on the gene that reduces the level of stress hormones released. Repeated release of high levels of stress hormones has been tied to heart disease, diabetes, immune system dysfunction and mental illness. Now Dr. Meaney and his colleague are examining whether parental touch has the same effect on human babies. Dr. Ian Weaver, a trainee working with Dr. Meaney, received a Brain Star award from the Institute of Neurosciences, Mental Health and Addiction for his publication based on this research.
- Mutations in genes that have nothing to do with dopamine receptors can cause the supersensitivity to dopamine that leads to the psychosis that is part of schizophrenia, according to research by CIHR-funded investigator Dr. Philip Seeman of the University of Toronto and colleagues at eight universities in Canada, the United States and Finland. The discovery points to a new direction for schizophrenia researchers.
- People who suffer depression after a heart attack are at a greater risk of cardiac mortality, according to research by CIHR-supported researchers Drs. Nancy Frasure-Smith of McGill University and François Lespérance of the Université de Montréal. Now they have found that high levels of social support appear to buffer the impact of depression on mortality, primarily because it ameliorates the depression.

## The Researchers ... Dr. Sonia Lupien: Taking the anxiety out of stress

After reading an article about experimental psychology conducted by Nobel Prize-winning scientists, Dr. Sonia Lupien had one question for her school counselor: “What do I have to do to get there?”

Now co-director of the McGill Center for Studies on Aging and an Associate Professor in the Department of Psychiatry, Dr. Lupien’s journey has been fruitful. She hasn’t won the Nobel Prize yet, but she has been named one of the ‘top 50 young leaders of 2000’ by Radio-Canada’s *Le Point* and *Commerce* magazine in 1999. In 2002, she was also named one of Canada’s ‘Top 40 Under 40’ by the *Globe and Mail* and in 2003 she made *Maclean’s Magazine’s* list of ‘10 Canadians who made a difference’.

A 1998 discovery was responsible for the attention. Dr. Lupien found that high levels of cortisol, a stress hormone, among older adults are linked to damage to the hippocampus (a brain structure critical to memory), which in turn leads to memory impairment.

This discovery has shaped Dr. Lupien’s subsequent research career. Her efforts have focused on attempting to reduce and control cortisol levels over the short term by understanding when and how stress occurs, so that people of all age groups will not suffer problems with the hippocampus — and, therefore, their memory — in the long term.

“When science can predict,” she says, “science can prevent.”

As Director of the newly-founded Centre for Studies on Human Stress at Douglas Hospital, affiliated with McGill University, Dr. Lupien is overseeing multidisciplinary studies related to stress in a multitude of environments.

For instance, she has been examining how poverty can lead to increased levels of stress hormones and learning difficulties among children. Her results, confirming this prediction, led her to develop education programs for the children in order to teach them about stress and how it can affect learning. She has created the program ‘De-Stress for Success’ that will be implemented in schools when appropriate funding has been developed.

The workplace is another focus of her attention, where she is using cortisol levels to assess, analyze and potentially predict burnout and depression.

Her next target? Families. She believes that, by intervening with workers and their children to alleviate the harmful effects of stress, she will prevent spillover effects of workers’ stress upon other family members.

In all situations, Dr. Lupien attempts to help individuals define stress in their own lives and develop methods to control it. Key to her success is a three-step process: recognizing the stress of novel situations; learning to identify the patterns that make these situations more familiar; and intervening with ways to control the patterns.

And then, says Dr. Lupien, it’s time to relax.

- Is it PMS – or PMS from hell? A CIHR-supported researcher from the University of Alberta is tackling a little-known disorder called premenstrual dysphoric disorder, or PMDD, an extreme form of the premenstrual syndrome familiar to so many women. Drs. Jean-Michel Le Melledo and Janette Seres estimate that as many as 2 to 7% of women in their reproductive years suffer from PMDD. They experience food cravings, sadness, lack of interest in regular activities, insomnia, anxiety and difficulty concentrating and are also predisposed to other psychiatric conditions, including depression.
- Men in prison are two to three times more likely than men in the general population to have a severe psychiatric illness; female inmates are even more likely to suffer from serious mental disorders. Dr. James Ogloff, formerly of Simon Fraser University and now with Monash University in Melbourne, Australia, led a team that developed the Jail Screening Assessment Tool (JSAT) to provide guidelines for mental health screening of detainees. Testing has found the JSAT is a potentially effective tool to identify female inmates in need of mental health services and specialized placement. Dr. Tonia Nichols of the University of British Columbia received a Brain Star award for an article she and her team published on the development and testing of the tool.

## In the pipeline ... Getting to work on mental illness

Mental disability now accounts for anywhere from 30-40% of disability claims in the workplace — and lost productivity from employees who continue to work with such problems has not been quantified. But while physical risks in the workplace are well-addressed, less is known about working conditions that can lead to or exacerbate mental illness and depression among employees.

CIHR will spend the next 10 years studying mental health in the workplace. One of the goals of the \$3.2 million initiative is to reduce the stigma of mental illness, so that workers are less reluctant to seek help for their problems. Other research may focus on better understanding the differences between those who thrive under pressure and those who struggle. By creating a solid base of research evidence, the initiative will provide a foundation for action to lessen the toll of mental illness in the workplace. The initiative will also train new researchers in the area and build a coalition to identify research priorities and develop innovative policy and program intervention and identify best practices.