

# Research About – Mental Health

## CIHR

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Through CIHR, the Government of Canada invested approximately **\$65.9 million** in 2007-08 in mental health and addiction-related research across Canada.



CIHR IRSC

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## The Facts

- Anxiety disorders, such as phobias and panic disorder, are among the most common of mental health problems and are estimated to affect 10% of the population.
- Depression often accompanies chronic physical conditions. For example, chronic back pain sufferers have been found to be more prone to depression than people without back pain. Depression is also common among people who survive strokes.
- Approximately one in every 100 people is affected by schizophrenia. The risk goes up if there is a family predisposition to the disease.
- Many people struggle with depression for weeks, months or even years before they visit a doctor and only seek help when it reaches a point that feels intolerable.
- A Statistics Canada survey found that women in the workforce were twice as likely to suffer from depression as men in the workforce. The number of Canadian employees suffering mental illness at any given time is estimated to be 2 million.

*(Sources: Statistics Canada, the Canadian Mental Health Association, the Schizophrenia Society of Canada, and the Centre for Addiction and Mental Health)*



# Finding Solutions

## Child abuse can alter biology

Childhood abuse and neglect can trigger genetic changes, according to a study that compared the brains of abused people who committed suicide with the brains of those who died suddenly but were not abused. CIHR-supported researchers Drs. Gustavo Turecki and Moshe Szyf of McGill University found that, in the brains of suicide victims, the genes responsible for creating new proteins showed signs of increased methylation, a process that activates genes. According to Dr. Szyf, knowing that such “epigenetic” differences can exist in the biological makeup of those who are neglected or abused as children will help to detect those most at risk and, potentially, help prevent suicides. The results of the study were published in an open-access *Public Library of Science* journal.

## Dealing with depression: Tailoring treatment

If you get depressed tomorrow, you have a high probability of recovering in a few weeks. With each passing week of depression, however, the chances of recovery without treatment get smaller. Even then, those with milder and shorter episodes of depression may often need short-term psychological orientation rather than drugs. In contrast, persons with ongoing depression require a longer-term, team approach similar to that used to treat diabetes or hypertension. These were two important conclusions from a major review of clinical depression in Canada conducted by CIHR-supported researcher Dr. Scott Patten of the University of Calgary. The findings could help improve treatment for this common mental illness.

## Manufacturing poor mental health?

A major CIHR initiative to investigate the impact of the workplace on mental health found that workers employed in manufacturing were most likely to report psychological problems. CIHR-funded scientist Dr. Alain Marchand of the University of Montreal used Statistics Canada survey data representing more than 77,000 workers in 139 occupations and 95 industries. Among those more likely to report mental health challenges were machine operators in the fabric, fur and leather products industries, labourers, food, beverage and tobacco wholesale distributors, electrical equipment and component manufacturers, and auto mechanics.

## The Researchers

### Dr. Peter Szatmari – On the hunt for autism genes

In 25 years of children’s mental health practice and research, Dr. Peter Szatmari has seen many changes in thinking about the causes and treatment of autism. Until the mid-1980s, it was believed that autism was due to emotionally cool moms. The diagnosis of autism in a child resulted in psychotherapy – for the mother.

“Today, says Dr. Szatmari, it’s not parents’ behaviour, but children’s genes that are key to unlocking the roots of autism – and opening the door to better diagnosis and treatment.”

“Genetics is pretty well the story,” says Dr. Szatmari, the head of the child psychiatry in McMaster University’s Department of psychiatry. “Environmental factors might interact with these genetic vulnerabilities, but in autism spectrum disorders there are definitely genes that have been disrupted.”

Dr. Szatmari is the co-leader of the CIHR-funded Canadian arm of an international study which seeks to track down the complex mix of genes involved in autism spectrum disorders. The international Autism Genome Project (AGP) is the world’s first



international collaboration on genetic factors in children’s mental health, involving more than 170 leading genetics researchers.

“What’s exciting is that while there are many different genes involved, they all appear to affect a common pathway – they’re disrupting how nerve cells in the brain communicate with one another,”

says Dr. Szatmari, who collaborates closely with Dr. Steve Scherer at Toronto’s Hospital for Sick Children.

These chromosomal changes appear to account for about 15% of autism cases. Now, the AGP is shooting for greater genetic accuracy with a massive genetics study involving 5,000 cases of autism, and examining a million genetic markers. The first results of this study will be out in late 2008.

Dr. Szatmari says the goal of this research is creating a blood-based diagnostic test for autism.

“This will lead to much earlier diagnosis,” he says. “And we know that the earlier children with autism get into intervention programs the better the outcomes.”



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