

## Clinician-scientist returns to Sunnybrook to tackle bipolar disorder in youth

*By Jim Oldfield*

Dr. Ben Goldstein nearly stayed in Pittsburgh. Until 2009, he was settled into a faculty position and a productive lab studying bipolar disorder—a condition of radical mood swings—in children and adolescents at the well-regarded University of Pittsburgh Medical Center. He liked the position, and he liked the people.

He also liked Pittsburgh, which over the last two decades has morphed from an economically decayed "Steel City" into a thriving hub for health care, robotics and biotechnology—spurring job growth through the recent recession and prompting *The Economist* magazine to label it the "most livable city" in the U.S. in 2009.

It took a compelling opportunity to lure Goldstein back to Sunnybrook Health Sciences Centre. Having done his medical residency here under the mentorship of Dr. Anthony Levitt, a clinician-scientist at Sunnybrook Research Institute (SRI) and a professor at the University of Toronto, Goldstein knew Sunnybrook's department of psychiatry to be collegial—"a huge draw," he says—but he wouldn't have returned without a "really excellent job description."

### **Balancing research and clinical care**

Twenty percent of that job will involve clinical work in the department of psychiatry's youth division, which is the largest in the country, while 80% will be devoted to research in SRI's brain sciences research program. Although he expects the hours spent with patients to creep up as he builds a practice, the dedicated time for research, says Goldstein, is critical. "When you start your own lab, it's so easy to lose momentum. If you don't have protected time for grant writing, and access to research staff and resources, you can't get forward traction."

Goldstein has already established some traction, having secured a grant from the Ministry of Health and Long-Term Care through the Sunnybrook Innovation Fund to monitor and study risk factors for heart disease in adolescents with bipolar disorder. Adults with bipolar disorder are at least twice as likely to die of heart disease than those without it, and they do so 15 to 25 years earlier, on average, than adults in the general population. "In adolescents, studies have shown that adherence to guidelines from professional associations like the ADA [American Diabetes Association] is low," says Goldstein. "So one thing we can do is watch to see that their weight and blood pressure aren't getting out of control."

Moreover, mapping the biology underlying the link between heart disease and bipolar disorder early—which for as many as two-thirds of patients means during adolescence, when the illness first arises—would further help physicians identify those most at risk, and enable intervention at a stage when the condition is more malleable. One potential biological marker of the connection between heart disease and bipolar disorder is

inflammation, and Goldstein will be pursuing that link in studies over the next couple of years.

### **The Toronto 1,000**

Goldstein's long-term goal is to do the "Toronto 1,000," a large-scale study of adolescents with and without bipolar disorder that would stretch over two decades. This longitudinal approach would examine which risk factors may have triggered conversion from, for example, anxiety or depression to bipolar disorder; the extended time frame would capture disease onset for most patients, and complement research into heart disease (since cardiovascular problems typically don't appear until at least middle age).

While researchers have made great strides in identifying adolescent bipolar disorder—a key step in facilitating longitudinal study—Goldstein says there's still much work to do. "I'd like to see a future where there are medications that aren't such a burden on the body," he says. "There are whole classes of drugs, like anti-inflammatories, that have yet to be tried and that could be effective from a mind and body perspective. But we need research to prove which are best."