

Family practice offers genetic tests to predict effective psychiatric meds

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For the first time in Canada, patients attending a family practice clinic will be offered genetic testing to see whether or how they will respond to psychiatric medication treatment, in partnership with the Centre for Addiction and Mental Health (CAMH).

Thornhill Medical Centre, a clinic of [family physicians](#), is making the promise of personalized medicine a reality.

"These pharmacogenetic tests will enable physicians to use a patient's [genetic makeup](#) to help predict which medications are safe to prescribe, and which ones may be ineffective or cause side effects," said Dr. James Kennedy, head of CAMH's [Neuroscience Research](#) Department.

The tests, which will prevent trial-and-error prescribing and reduce associated health-care costs, will be analyzed in the Tanenbaum Centre for Pharmacogenetics at CAMH's Campbell Family Mental Health Research Institute.

"My patients were ready for these tests yesterday – they may have tried three or four different antidepressants that didn't work or had side effects, before finding something that helped them," Dr. Nick Voudouris, a family physician with the Thornhill Medical Centre. "The ability to be able to know which medications patients will respond to, based on their [genetic predisposition](#), is invaluable."

Using a saliva sample, variations on five genes are analyzed to predict a

patient's response to 19 common antidepressant and antipsychotic medications. Medications that will work get a green light to prescribe as directed. A yellow [light signals](#) caution. For each medication in this category, the tests will show whether dosing levels need to be lowered or increased, or that the drug's effects may not be optimal for this patient. Medications in the red light category should be used with caution and more frequent monitoring, due to side effects or lack of response.

This initiative is part of the larger IMPACT study ([Individualized Medicine](#): Pharmacogenetic Assessment & Clinical Treatment). Funded in part by the Ontario Ministry of Economic Development and Innovation, IMPACT researchers aim to look at the impact of genetic testing over seven years in 20,000 patients. They are also seeking to identify new genetic markers.

"We expect these tests to improve patient satisfaction and safety, and have a substantial impact on reducing health-care costs, which we will be examining over the course of the IMPACT study," said Dr. Kennedy. "With the genetic information doctors will be better equipped to prevent complications from medications before they occur."

Thornhill Medical Centre was chosen because its team includes seven general practitioners and numerous registered nurses caring for a diverse array of [patients](#) who can be monitored on a fully implemented electronic medical record. This system helps track important research information as well. All clinic physicians agree that genetic information is important to study in terms of medication response and [side effects](#), and has a great benefit for patient care, Dr. Voudouris noted.

Provided by Centre for Addiction and Mental Health

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