

IMPACT Newsletter

2nd Edition | January 2015

Introduction

The goal of the IMPACT newsletter is to provide you with exciting news, updates and study milestones. Without your referrals and continued support, we would not have been able to reach the high number of patients who have already received pharmacogenomic testing through IMPACT. **Thank you for all of your support!**



Meet the IMPACT team! Visit us at www.im-pact.ca.

IMPACT Study Milestones

- The IMPACT study was initiated in June 2011 after receiving \$19.5 million from the Ontario Ministry of Research and Innovation, the CAMH Campbell Family Health Research Institute and Larry & Judy Tanenbaum.
- In May 2012, the first IMPACT patient was consented.
- In January 2013, for the first time in Canada, patients were able to receive genetic testing at their family physician's office; this was made possible through the IMPACT study.
- In November 2013, CAMH and Assurex Health signed a partnership agreement to bring the benefits of a *personalized approach to psychiatric treatment* to more Canadians.
- Beginning on November 10, 2014, patients enrolled in the IMPACT study will be tested using the Assurex Health proprietary technology, GeneSight Psychotropic.
- Since November 10, 2014, 65 clinics and 125 clinicians have completed the clinic registration process.

Important Study Reminders

Participants are asked to provide the following information at each stage of the study:

Baseline (upon consent)

- Symptoms
- Medication History
- Side Effects

Week 4

- Symptoms
- Current Medications
- Side Effects

Week 8

- Symptoms
- Current Medications
- Side Effects

Symptomology is gathered through scales such as BDI and PANSS; depending on the patient's diagnosis.

Please discuss with your patients the importance of completing these scales at each time point of the study.

Clinic Registration

In order to receive your patients' GeneSight Psychotropic reports, you must register your clinic by filling out the IMPACT Clinic Registration Form. This form can be accessed by visiting <http://impact.camh.ca/en/docs/IMPACT-AssureRx-RegistrationForms>. Please complete and return this form via email to registrations@assurexhealth.com or fax to 1.888.894.4344.

The second step in the clinic registration process is fax verification. Your office will receive a form asking you to confirm your fax number. Once your fax number is confirmed, you will be ready to receive your patients' GeneSight reports!

Referral Process

Referring a patient to the IMPACT study is easy!

To refer a patient to the study, please download and complete the appropriate referral form below and return it to the IMPACT team via email impact@camh.ca or fax 416.979.4666:

- [IMPACT Adult Referral Form \(16+\)](#)
- [IMPACT Adolescent Referral Form \(7-15\)](#)

A Research Analyst from CAMH will then contact your patient to walk him/her through the informed consent process in order to enroll him/her in the study. If you have any questions regarding the referral process please contact us at: 416.535.8501 ext. 30240.

Testimonials

Please let us know if you would be interested in sharing one of your patient's experiences with pharmacogenomic testing. We are always interested in feedback— reach us by email at Canada.Clinical@assurexhealth.com.

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IMPACT Study Status

As of January 1, 2015, the IMPACT Study has recruited 2,814 patients for pharmacogenomic testing, averaging just over 150 patients enrolled per month!

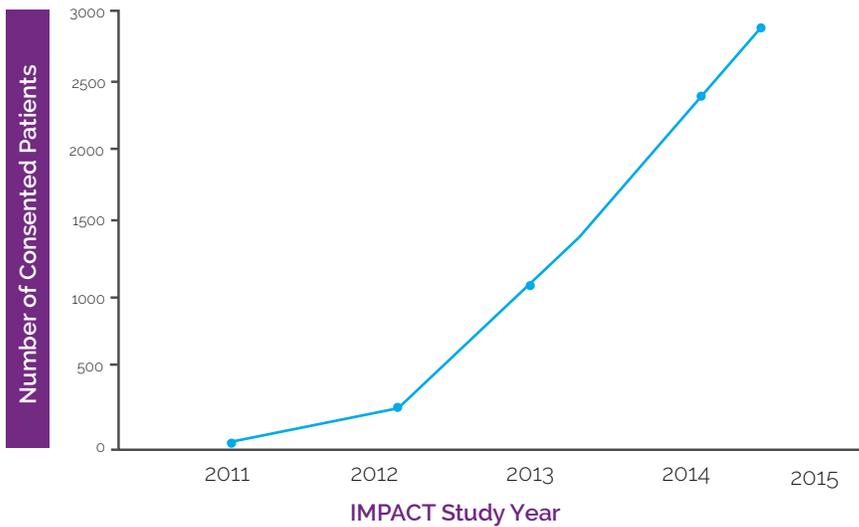


FIGURE 1 Number of patients consented to participate in the IMPACT Study.

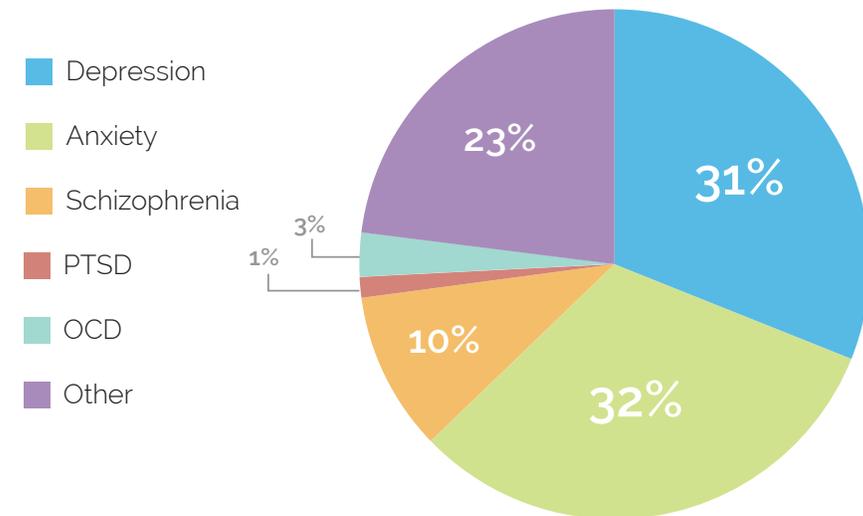


FIGURE 2 Percentage of IMPACT Study participants with a primary diagnosis of depression, anxiety, schizophrenia, PTSD, OCD or other(s). Patients may also have a secondary diagnosis.

Gene Spotlight

Serotonin Transporter (SLC6A4)

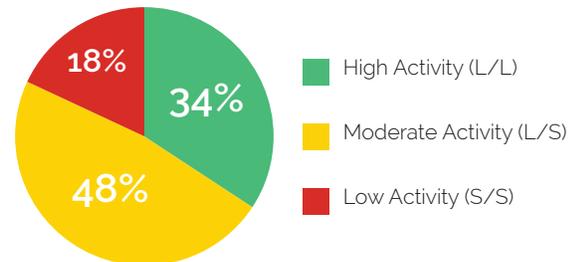
The serotonin transporter is involved in reuptake of serotonin into the presynaptic neuron. Selective serotonin reuptake inhibitors (SSRIs) inhibit this process, allowing for more serotonin in the synaptic cleft.

The SLC6A4 promoter variant is one of the best studied genes in psychiatry. The promoter region is the "on/off switch" of the gene. It tells the gene to transcribe more or less mRNA. More transcription and translation of this gene will lead to an increased number of serotonin transporters on the pre-synaptic neuron.

The SLC6A4 promoter has two main variants: short (S) and long (L). The two variants are differentiated by a 44 base pair (bp) insertion/deletion. The short allele results in lower transcription rates, providing less active sites for SSRIs. The short allele is associated with lower rates of remission following SSRI treatment.

Knowledge of a patient's SLC6A4 genotype allows the healthcare provider to prescribe alternative therapies such as SNRIs. The SLC6A4 phenotypic frequency for patients tested with GeneSight is broken down below:

SLC6A4 Phenotype Frequency



As one might conclude, if 18% of patients tested have a 'low activity' phenotype, these individuals will have to endure disease symptoms for longer periods until the correct medication is trialed. GeneSight Psychotropic testing can help healthcare providers to more quickly identify which drugs are most compatible with their patients' genetic profile, leading to faster recovery and better outcomes for patients.¹

Webinars

Assurex Health offers educational webinars that provide treating clinicians with more information about GeneSight technology and pharmacogenomics in general.

Upcoming webinars for 2014 include:

- Pharmacogenomics in Action: Clinical Case Studies - December 18, 2014

If you are interested in participating, register by visiting <http://genesight.com/educational-webinars/>.

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GeneSight Psychotropic

The GeneSight Psychotropic laboratory developed test analyzes how eight genes may affect a patient's metabolism and response to 33 Health Canada approved antidepressant and antipsychotic medications.

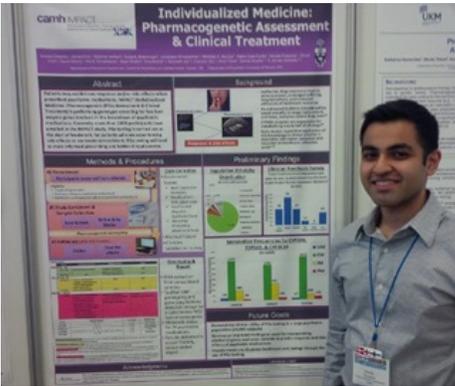
GeneSight testing includes genotyping of pharmacokinetic genes from the Cytochrome P450 family and pharmacodynamic genes related specifically to the serotonin system.

GeneSight differs from other pharmacogenomic testing in that it is combinatorial. GeneSight takes into consideration how a combination of genetic variations can affect a patient's ability to respond to a medication.

For more information, visit: www.genesight.com

In The News

The 5th Annual Military and Veteran Health Research Forum took place from November 24 to 26 at the Sheraton Centre Toronto Hotel. The IMPACT research team presented recent findings on pharmacogenetic research being conducted in Dr. James Kennedy's laboratory. Dr. Kennedy is the Director of the Neuroscience Research Department and Head of the Psychiatric Neurogenetics Section at CAMH. The focus of his research is to investigate genetic factors that may predict response and side effects to psychiatric medications (pharmacogenetics).



Sheraz Cheema, presenting the IMPACT Study at the 5th Annual Military and Veteran Health Research Forum.

In parallel, this past June, Assurex Health announced that the U.S. Department of Veterans Affairs (VA) has awarded a Federal Supply Schedule (FSS) contract as a government supplier, making GeneSight Psychotropic available for use in VA facilities across the U.S. "Our mission is to help clinicians improve patient outcomes," said Donald R. Wright, Chief Operating Officer of Assurex Health. "Making the GeneSight Psychotropic test available to VA doctors to help guide patient medication and treatment decisions can make an enormous difference to veterans who need and deserve our help. We have a real opportunity to help doctors improve the lives of so many who have given so much for all of us."

Research being conducted by the Assurex Health-CAMH partners on both sides of the boarder aims to support optimized treatment of patients suffering from mental health disorders. Determining which drug is most compatible with a patient's genetic profile brings us one step closer to identifying an effective treatment plan for the brave Canadian and US soldiers plagued by depression and post-traumatic stress disorder (PTSD) following combat.

For more information on this exciting news visit: <http://impact.camhx.ca/en/news> and <http://assurexhealth.com/pr/va/>

For More Information

WEBSITE www.im-pact.ca

PHONE 416.535.8501 ext. 30240 | 1.800.928.3316

FAX 416.979.4666

EMAIL impact@camh.ca

1 Hall-Flavin DK, et al. Utility of integrated pharmacogenomic testing to support the treatment of major depressive disorder in a psychiatric outpatient setting. *Pharmacogenet Genomics*. 2013 Oct;23(10):535-48. [PMID: 24018772].