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Genotype-specific Approaches to Therapy in Childhood (GATC)

Status	Current
Competition	Applied Genomics and Proteomics Research in Human Health
Sector	Health
Genome Centre	Genome British Columbia
Project Leaders	Michael Hayden & Bruce Carleton

Project Description

Reducing adverse drug reactions in children

In the United States alone, 26,500 children die from adverse drug reactions each year.

The Genotype-specific Approaches to Therapy in Childhood (GATC) program represents a trans-disciplinary consortium of nationally and internationally recognized experts from hospitals, universities, research institutes, children's advocacy groups and Health Canada. Together, they provide diverse expertise in pharmacogenomics, proteomics, genetics, pediatric pharmacology, and pharmacokinetics.

Drawing on existing expertise in clinical genomics, genetics and surveillance systems for adverse drug reaction screening, the GATC program will apply innovative large-scale genomics to define the genes that cause, or are predictive of, adverse drug reactions in childhood.

To meet this goal, the GATC will construct a network of hospital-based clinicians at ten major Canadian pediatric health centres to exclusively monitor and report the occurrence of adverse reactions to drugs in children. The GATC network will collect DNA and plasma samples from patients as powerful tools for genetic discovery studies.

Dr. Carleton is also currently working with the Canadian Pediatric Surveillance Program to capture information from adverse drug reactions from over 2,300 pediatricians from across Canada on a monthly basis. This program of the Canadian Paediatric Society began collecting information on serious and life-threatening adverse reactions to drugs in January 2005. The findings of this study will inform work within the GATC.

The outcomes of this project will influence pediatric medical practice on a global scale, and will put Canada on the world map as a key player in making prescription drug use safer for children.