

Blood simple

Growing up, Alfonso Iorio had two passions. One was engineering, the other medicine. “I couldn’t decide which to pursue, so I tossed a coin.”

Turns out the coin that decided his future is now making the future brighter for the millions of people worldwide who live with a bleeding disorder.

The internal medicine specialist and biostatistician was already being

recognized for his mold-breaking work in Italy when he joined McMaster in 2010 as an associate professor of CE&B with a joint appointment in medicine. He had set up the Italian hemophilia registry, and was a pioneer in the meta-analysis of observational trials involving hemophiliacs.

Now he’s combining sophisticated algorithms with population data to predict and eventually prevent the development of antibodies in hemophilia patients that inhibit – with serious complications – the effectiveness of their medications.

As Director of the Hamilton-Niagara Hemophilia program, part of the federated Association of Hemophilia Clinic Directors of Canada caring for the country’s 5,000 hemophiliacs, he secured funding to create at McMaster

the largest database on earth of people with hemophilia who have been studied for pharmacokinetics (the way a drug works in the body).

He then developed a simple, web-based calculator called WAPPS (Web-based Application for the Population Pharmacokinetic Service) that allows physicians to input patient information (age, sex, stage of disease,

co-morbidities, etc.) and compare it with the population data on file. Some 10,000 patients across all five continents can now get a recipe tailored to their individual needs “in less time, at less cost and with less pain and discomfort than trial and error,” says Iorio. He hopes to eventually reach 80,000 or more.

It’s a powerful tool for optimizing the use of hemophilia drugs that has made

the World Federation of Hemophilia and the U.S. Food and Drug Administration sit up and take notice.

He’s now asking patients to play their part by scanning a drug’s bar code and reporting when they took it and what happened. “Canada spends \$300 million annually on hemophilia care. It’s like getting a Ferrari from the public health system. We just want them to read the odometer every month and tell us how much they drive it.”

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– Alfonso Iorio

