

## HealthCare Case Study:

### Prevention of Organ Failure Centre of Excellence (PROOF Centre – Vancouver, Canada)

“[Our goal] is to find out ways to segment patients to care for them better.... IO Informatics and their interest in trying to solve these complex problems fits [these needs].”



Hand-held app “ASK for Precision Medicine” to be released early 2013.

“Very few people get a chance to think about the world as a system and the biology of health as a system and I’m getting the privilege of doing that, and this... is one of the vehicles for that privilege. In the end knowing that it’s very likely we’re going to be able to help.”

- Bruce McManus

Director of the Prevention of Organ Failure Centre of Excellence (PROOF Centre) Vancouver, Canada

Partnering to develop new tools for clinicians to address chronic heart, lung and kidney disease.

**THE CHALLENGE** - Heart, lung and kidney diseases together are an oppressive **growing health burden** in Canada and around the world. The **socio-economic impact** of impaired organ failure for **millions** of suffering patients is far from trivial. The **rising costs** associated with these health conditions are an enormous toll on an already **over-burdened health system**. New tools to allow for early intervention that will **improve** the efficiency of **patient care** and management, and **lower health care costs** are needed to help address the burden. The PROOF Centre works closely with **clinicians** to develop **new blood tests** that **improve** the way patients are managed and **bring value** to the health system.

**THE COLLABORATION** - Brings together the **PROOF Centre’s** award-winning science and **IO Informatics’** leading software and semantic integration services to **create a web-based software** application for **clinicians** to use on **hand-held devices** or other technology. The application will be used with the PROOF Centre-developed **blood tests** in **chronic disease** and transplantation.

**THE RESULT** - The **application** will provide *clinicians* with an overall score **indicating patient risk level**, along with the **associated clinical recommendations** to help guide clinical **decision-making**. Using gene expression data, protein expression data, and longitudinal **clinical** observations as **inputs**, the system will be a **web-based reporting** and **alerting** system accessible by clinicians **securely** through web browsers on workstations, laptops or standards-compliant **mobile devices**.

“This collaborative project represents a major step forward to realizing the promise of biomarker-based screening for precision medicine and better healthcare at lower cost,”

- Dr. Bruce McManus, Director of the PROOF Centre.

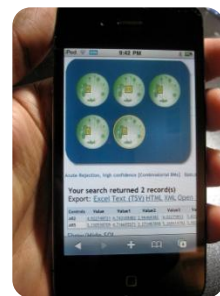
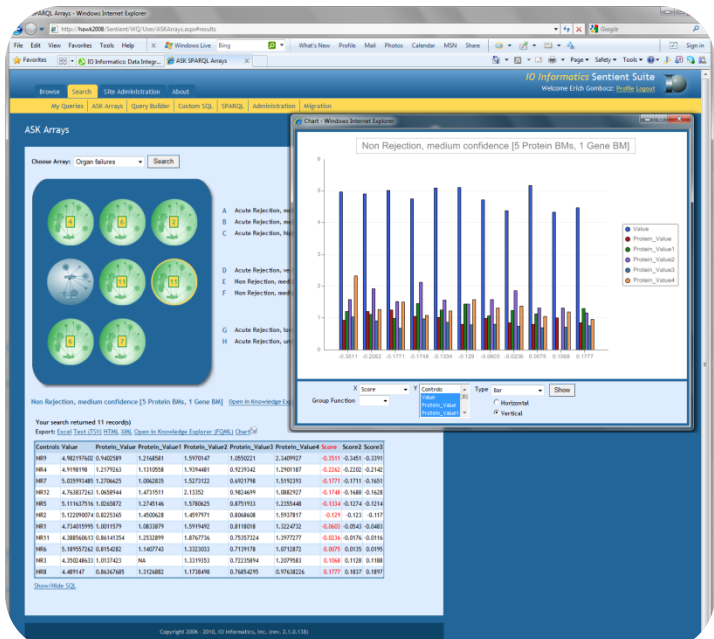
# The IO Sentient Knowledge Flow

**Diverse  
Data  
Sources**

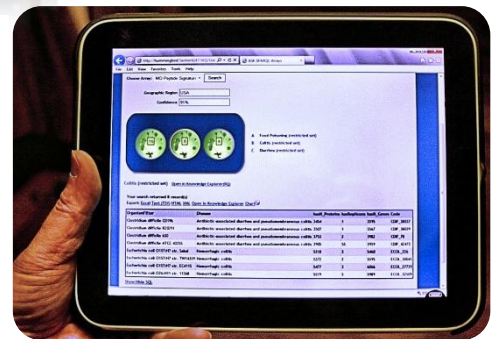


**CORE DATA  
MANAGEMENT**

**KNOWLEDGE  
APPLICATIONS**



- Hand-held devices for clinic:
- Fingertip access to Knowledgebases
  - Feedback on patient test results
  - Immediate categorization of patient within treatment categories



Identifies and stratifies diseases, patients, treatments, outcomes