Halifax's BIOTIC embarks on $7.6 million project to develop new MRI technologies

Medical imaging is about to take a giant leap forward with new magnetic resonance imaging (MRI) applications to be developed by researchers at the Biomedical Translational Imaging Centre –or, BIOTIC—in Halifax. These applications will provide clinicians with powerful new tools that will enable them to rapidly gain a deeper understanding of what's happening in patients' bodies. This in turn will enable earlier and more accurate diagnosis of disease, better outcomes for patients, and cost savings for health care systems.

Earlier today, the Atlantic Canada Opportunities Agency announced it will invest $2.9 million in the med-tech-development project, through its Atlantic Innovation Fund.

The initial cornerstone investment in the project came through the QEII Foundation, which stepped forward with its $2.9 million contribution in the spring of 2014.

Capital Health and a multinational corporate partner are also funding the project, which will see $7.6 million invested over five years in the creation of a suite of new "pushbutton" applications that will enhance the imaging and interpretive capabilities of MRI machines in use around the world.

"We already have a great deal of the groundwork laid for these new technologies, which will provide clinicians with fully automated, objective and data-driven diagnostic information at the push of a button, with no manual intervention," says Dr. Steven Beyea, scientific lead of BIOTIC and associate professor in the Department of Diagnostic Radiology at Dalhousie Medical School. "The new technologies will save a great deal of time for clinicians, while providing them with a level of detail and prognostic insight that has never been possible before."

Dr. Beyea is co-principal investigator of the MRI project, in collaboration with clinician scientist Dr. Sharon Clarke, a Capital Health radiologist and assistant professor at Dalhousie Medical School who is lead provider of clinical expertise to the technology-development process.

BIOTIC will hire additional physicists, computer scientists and students in the coming months, to complement its existing team, and over the next five years will develop MRI technologies for three specific diseases--on top of many other projects underway in its facilities at the QEII and IWK.

One of these technologies will improve MRI's ability to accurately map brain function before surgery in patients with brain tumours, to reduce surgical risk. Another will improve the ability

to accurately classify prostate cancer, to determine if aggressive treatment is required. The third will accurately measure how much fat and iron are present in patients with liver disease, to guide treatment decisions.

“These new imaging technologies will have a direct impact on patient care in the Maritimes, in a relatively short period of time,” says Dr. Patrick McGrath, Integrated VP of Research and Innovation at Capital Health and the IWK. “They will also become export products that will improve patient care around the world, while solidifying Nova Scotia’s position in the global medical-technology development market. As clearly stated in the Ivany Report, now is the time to be bold and creative. This project, which will lead to new opportunities with multinational and local firms alike, is a prime example of how we can build the province’s knowledge economy.”

“This project will provide lasting benefits to patients, our research community and our economy that will grow and develop over time,” notes Mr. Bill Bean, president and CEO of the QEII Foundation. “This is exactly the kind of project our donors are eager to support. We’re proud to play a pivotal role in launching it.”