

Osler collaborates with Brampton, private sector and Ryerson to fuel growth of biomedical cluster

The Brampton region is home to a fast-growing number of clinical trials and tests, centred on diabetes, cardiac care, long-term care and home-care technologies.

BRAMPTON, ONT. – William Osler Health System – a bustling community hospital with three sites – decided five years ago that it wanted to boost the amount of research and development it does. The move to more R&D was made to improve the health of the local patient population and act as a driver of economic development in the city.

Today, Osler is running more than 200 research projects in partnership with large pharmaceutical and medical device companies, as well as with start-up technology firms, other hospitals and with educational institutions. That rapid growth in R&D is unusual for a community hospital – it's like zooming from 0 to 100 km in 5 seconds, in automotive terms.

"It's an elaborate R&D program that's evolving and coming together very nicely," says Dr. Ron Heslegrave, with his characteristic modesty. Dr. Heslegrave, Corporate Chief of Research at Osler, was given responsibility for organizing the expansion of R&D at the hospital. He was recruited from the University Health Network and has brought his real-world expertise, and corporate and academic connections to Osler.

Dr. Heslegrave also credits the hospital's leadership with providing the right corpo-

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– Dr. Ron Heslegrave
Corporate Chief of Research
William Osler Health System

rate culture for R&D. Osler's President and CEO, Dr. Brendan Carr, is a strong proponent of the program, as are Executive Vice President of Quality, Medical and Academic Affairs, Dr. Naveed Mohammed and Chief of Staff, Dr. Frank Martino. Tellingly, both Dr. Mohammed and Dr. Martino are running their own research projects, assisted by students.

"Osler has one of the busiest Emergency Departments in Canada, we deliver more babies than most hospitals in the province, and our clinicians still make time for research and innovation," said Dr. Mohammed. "That shows you our commitment to R&D."

Another key to igniting the fast take-off of healthcare R&D in the region has been the close partnership between the City of

Brampton and Osler's executives and clinicians. For its part, Brampton is already home to over 800 health sector businesses and agencies, and the city is actively building a health cluster by providing incentives to new companies, and creating synergies with existing corporations – which include Medtronic Canada, Canon Canada, Dynacare labs and surgical robotics developer MDA Corp.

"We're very collaborative here," notes Martin Bohl, Sector Manager, Health and Life Sciences at the City of Brampton. A brand-new collaboration is with Ryerson University, which has just announced the construction of a campus in Brampton. With a focus on science, technology, engineering and math (STEM), the school will provide a new source of talent for local healthcare and tech businesses.

Moreover, Brampton is encouraging Ryerson to establish a business accelerator, along the lines of its top-ranked DMZ and Biomedical Zone incubators, which it runs in downtown Toronto. The goal is to generate new biomedical businesses in Brampton, in collaboration with the hospital and the large base of players that are already there. "Ryerson will be a game-changer for Brampton," asserts Bohl.

Through Osler's efforts, the Brampton region has already become a centre of excellence for leading-edge solutions in cardiology, diabetes, kidney disease and oncology. Indeed, the region is a living laboratory for researching solutions to these ailments, due to the nature of the local population. "Fifty percent of the population here is of South Asian origin," notes Dr. Heslegrave. "Research shows South Asians carry a heavier incidence of these diseases."

Studies currently under way include:

- AutoRIC. This armband, likened to the cuff worn to measure blood pressure, applies pressure to the arm, but in this case, it is intended to trigger a cascade of molecular events designed to protect the heart and vascular system in patients experiencing heart attacks. The creators of the device, Toronto-based CellAegis Devices Inc., found through research that the device can set off a physiological response in the body that rescues heart cells during a heart attack and the re-perfusion injury that occurs during treatment. It's now being tested in ambulances, in Peel Region and Halton Region in Ontario. The company is working with Osler's team, and researchers at the Institute for Clinical Evaluative Sciences, to determine the efficacy of the device and has enrolled 1,800 patients in the trial. Funding of \$700,000 was obtained for the project with the Ontario Centres of Excellence. "If we obtain the expected result, such as decreased readmissions to hospitals, autoRIC could be put into ambulances



Dr. Ron Heslegrave displays an autoRIC armband, which is being tested by paramedics in Peel and Halton.



Osler's Peel Memorial Centre for Integrated Health and Wellness is a major part of the biomedical cluster.

across the province," said Dr. Heslegrave. "It could have a huge impact on the community we serve."

- An innovative platform is being developed to help aging patients, who need assistance at home, manage their day-to-day tasks when discharged from hospital and living at home. Called MATCH (Marketplace to Access Trusted Care at Home), the system connects patients with people who can help, usually provided by family, with regular tasks in the home and personal support. "A patient and their families may qualify for a certain number of hours of help from the local LHIN, and after that, they're on their own," said Dr. Heslegrave. "This gives them a safe and easy way to obtain the extra help they may need." This innovative project has attracted \$250,000 in funding from the Centre for Aging and Brain Health Innovation, powered by Baycrest; the technology platform has been developed by uCaret.

- A new app that is under development called RELIEF, will link – in real time – the daily symptoms, pain and distress levels of

palliative patients living in the community, with their palliative care team at Osler. It will help ensure, for example, that an elderly patient whose symptoms, pain and distress levels are increasing, are sent to their clinical team to determine whether an earlier intervention or home visit is necessary to avoid a trip to the Emergency. Alternatively, knowing that your condition is being monitored on a regular basis by your clinical team and assured that there is no need for an earlier intervention, may provide psychological support and relief.

For the City of Brampton, the goal is to build synergies among Osler, large and small biomedical companies, and the new Ryerson University campus, which will soon start construction. The city intends to become a powerhouse among biomedical clusters in Canada. "We've positioned ourselves as a hub to evaluate new drugs, devices, procedures and technologies, in order to get real-world experience in a multi-cultural community," said Dr. Heslegrave. "We do represent the diversity of Canada here in Brampton."