

FOR IMMEDIATE RELEASE

**TRILLIUM HEALTH PARTNERS' INSTITUTE FOR BETTER HEALTH
TURNS TO THE CLOUD TO IMPROVE HOSPITAL OCCUPANCY PLANNING**

Prototype designed with University of British Columbia Cloud Innovation Centre

October 5, 2021 (MISSISSAUGA, ON) – Ontario hospitals frequently operate at occupancy rates above 100%, a percentage that has increased since the start of the pandemic. Being able to better match bed supply with patient demand is key to improving overall patient care, safety and operational costs.

Trillium Health Partners' (THP) Institute for Better Health (IBH) is leveraging cloud technology to improve the hospital's 2-7 day capacity forecasting by analyzing bed-use data to identify patterns and better anticipate capacity requirements. As a hospital-embedded institute that is focused on research and innovation in health service delivery and population health, IBH creates and evaluates novel solutions that address local community needs that can be scaled for greater impact.

"Adopting cutting-edge technology will help us better serve patients and forwards our vision for a new kind of health care," says Shalu Bains, Vice President, Performance and Business Intelligence, THP. "It allows us to manipulate the data for greater insights and to focus on performance."

Bed occupancy, a process that involves analyzing admission and discharge data, has traditionally been done manually. By leveraging cloud computing, the process has been sped up significantly, and the resulting modeling helps staff to quickly identify an expected increase in demand for beds, and to respond accordingly.

THP is one of the first healthcare organizations in Canada to apply cloud computing and analytics in this way and develop a predictive occupancy planning model. The model will assist the hospital as its catchment area grows by helping administrators more accurately predict the demand for hospital beds and plan for potential instances where surge capacity will be required. It was developed in collaboration with the University of British Columbia (UBC) Cloud Innovation Centre (CIC), a public-private partnership between UBC and Amazon Web Services (AWS). The UBC CIC leverages AWS services to solve real-world challenges.

"This is the type of project that the UBC CIC set out to do when we launched in 2020 and it's always exciting to see our students and staff build solutions that have societal impact," said Coral Kennett, Head of Education & Digital Innovation Lead, AWS Canada. "While this solution is purpose-built for THP, it can be adopted by other organizations to solve similar challenges."

“Through this opportunity with the UBC CIC, we’ve created a collaborative analytics space which has dramatically changed the way we work. Leveraging these new technologies has increased our speed to insight and facilitated cross-functional relationships with our IT department for faster execution,” says Morgan Lim, Manager of Data, Insights and Advanced Analytics, IBH.

“Working closely with the teams at IBH, AWS and UBC CIC, we’ve been able to carefully safeguard patients’ privacy and ensure data security, which gives us confidence as healthcare providers to explore future applications of cloud to improve our delivery of patient services,” said David Stankiewicz, Vice President of Information Services, and Chief Information and Privacy Officer, THP.

This project was funded by a donation through the Trillium Health Partners Foundation and the project represents a major step forward for THP’s technological and data capabilities. Looking ahead, the goal is to build on this momentum and enable the algorithm to predict bed occupancy on a daily basis, rather than the traditional 2-7 day cycle. Once refined and fully rolled out, THP will make the model available to other hospitals, in an effort to continue to help increase operational efficiency and patient care across Ontario’s healthcare system.

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About the UBC-CIC

- Opened in January 2020, the University of British Columbia Community Health and Wellbeing Cloud Innovation Centre (UBC CIC)'s mission is to solve real-world challenges that materially benefit British Columbia, Canada and communities beyond, by engaging and collaborating with stakeholders in community health and wellbeing innovation challenges.
- The UBC CIC is a first-in Canada public-private partnership between UBC and Amazon Web Services (AWS), and one of twelve currently in operation in the world.
- The UBC CIC is changing the way teams use cloud technology, drive innovation and improve agility and cost. It is offering technical support and providing AWS credits to support this project.
- For more information on the UBC CIC, visit cic.ubc.ca.

About the research

- Trillium Health Partners’ Institute for Better Health is spearheading the project, supported by teams at the UBC CIC and AWS.
- The UBC-CIC team built a prototype using Amazon Simple Storage Service (Amazon S3) and Amazon Elastic Container (Amazon ECR) to store, protect and organize the data and AWS Lake Formation to set up a secure data lake within days. To help discover, prepare, and combine data for analytics, machine learning, and application development, the team used AWS Glue, Amazon Athena, AWS Lambda, as well as Amazon SageMaker to prepare, build, train, and deploy high-quality machine learning (ML) models quickly.

Trillium Health Partners and the Institute for Better Health

Trillium Health Partners (THP) is the largest community-based hospital systems in Canada. Comprised of Credit Valley Hospital, Mississauga Hospital and Queensway Health Centre, Trillium Health Partners serves the growing and diverse populations of Mississauga, West Toronto and surrounding communities. Trillium Health Partners is a teaching hospital affiliated with the University of Toronto and is an associate member of the Toronto Academic Health Science Network.

As THP's research and innovation engine, the Institute for Better Health (IBH) is a core enabler of THP's mission of a new kind of health care for a healthier community through the application of scientific expertise, innovative thinking and partnerships. Focused on generating cutting-edge science and innovation in health service delivery and population health, IBH leads practical research and innovation that shapes how we engage, design, deliver, and finance health care to solve problems stretching from the bedside to the system.

University of British Columbia

The University of British Columbia is a global centre for research and teaching, consistently ranked among the top 20 public universities in the world. Since 1915, UBC's entrepreneurial spirit has embraced innovation and challenged the status quo. UBC encourages its students, staff and faculty to challenge convention, lead discovery and explore new ways of learning. At UBC, bold thinking is given a place to develop into ideas that can change the world

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