Campbellford Memorial Hospital

Collaborating for an Enhanced Patient Experience and a More Sustainable, Efficient Environment





Challenges

Campbellford Memorial Hospital (CMH), located in rural Trent Hills, Ontario, faced a critical challenge during the height of the COVID-19 pandemic. The hospital's facilities team identified dysfunction in many of the air handling units (AHUs) and related systems. This posed a significant risk to patients and staff, particularly in an acute care environment where air quality and system reliability were paramount.

The aging HVAC equipment needed urgent attention to ensure the hospital could continue to provide an effective care environment. As the area's sole hospital, the impact of any interruption in continuity of care on the community it serves cannot be underestimated. The pandemic further complicated the situation, as maintaining improved indoor air quality became an important part of the hospital's process to help prevent the spread of the virus.

Solutions

CMH turned to Trane to assess the situation and develop a comprehensive solution. Trane's team of experts conducted a detailed analysis of the hospital's HVAC systems, uncovering a number of concerns. With over \$6 million in the form of one-time urgent-need capital funding from the Government of Ontario, Trane embarked on an extensive HVAC remediation project.

The project included:

- · Replacement of multiple air handling units (AHUs)
- · Enhancements to ductwork
- Installation of advanced air filtration and ventilation systems
- Implementation of an automated Building Automation System (BAS)

"Prior to my tenure, our leadership team selected Trane for this project based on their historic reputation for creating efficient buildings, especially within the healthcare sector"

Jeff Hohenkerk Ceo, CMH

To ensure continuous operation during the upgrade, Trane deployed temporary cooling and ventilation units from their fleet of rental equipment, maintaining a consistent environment for staff and patients, including those presenting with COVID-19 and other respiratory illnesses.



Collaboration and Innovation

The collaboration between CMH and Trane was marked by transparency, innovation, and a shared mission to enhance the patient care environment. Trane guided CMH through every step of the process, providing clear and concise information that enabled informed decision-making. Weekly updates from Trane's implementation team kept CMH's facilities leadership and board of directors well informed, fostering a strong culture of collaboration.

The project also demonstrated innovative concepts and leadership:

- · New air handling equipment provided central air conditioning to previously unconditioned areas.
- · Equipment reliability was enhanced by incorporating redundancy.
- · Outdoor air plenums were reconfigured to improve the intake of cleaner outdoor air.
- · Advanced air cleaning technology, such as ultra-violet lights, was integrated to enhance air cleanliness.
- · Variable frequency drives for all new air-moving equipment provided efficient and reliable airflow control.
- The new BAS offered 24/7 remote monitoring and advanced analytics capabilities, optimizing operational
 efficiencies.

"Trane is known for optimizing healing environments in hospitals, I've certainly found them a great team to work with at every step."

Jeff Hohenkerk Ceo, CMH

Throughout the project, CMH proactively communicated the objectives, timeline, and benefits to staff, patients, and the broader community. This included memos to staff, engagement events, a project completion celebration, a media release, and a story posted on CMH's website. The project was also highlighted in CMH's annual report. This wouldn't have been possible without Trane's ability to communicate timely and in layman's terms, ensuring that everyone involved was well informed and engaged. Recognizing the importance of community engagement, CMH and Trane hosted an Information Day. Attendees enjoyed lunch, participated in games, and learned about the updates. The event went beyond showcasing technical upgrades and their benefits; it served as an opportunity to bring the community together, share the vision behind the project, and celebrate its success.

Results

The HVAC upgrades reduced patient risks and significantly enhanced comfort for everyone at CMH and aligned with the organization's environmental sustainability goals. The project achieved the following outcomes:

- Increased comfort for patients and staff
- More reliable building systems
- · Improved ventilation and air quality creating a better overall environment of care
- · Restored steam and hot water reliability through redundant equipment and fuel sources
- Reduced natural gas consumption by 10,000 cubic meters
- · Lowered greenhouse gas emissions by 19 tonnes of CO2 annually

The new BAS allowed for intelligent building automation with a web-based interface for alarming, diagnosing, and adjustment. This advanced system also integrated a new work order management system, enabling improved responsiveness and tracking for building maintenance matters.

Conclusion

The collaboration between Campbellford Memorial Hospital (CMH) and Trane exemplified a joint mission to enable exceptional care and patient experience. Despite the challenges posed by the extensive HVAC overhaul and COVID-19 supply chain disruptions, the project was completed in just 22 months. This efficient decision-making and teamwork ensured that CMH could continue to deliver quality care now while preparing for the future.

By addressing urgent HVAC needs and implementing advanced solutions during a global pandemic, CMH and Trane showcased the power of collaboration, innovation, and a shared commitment to health and sustainability. This project not only met immediate needs but also set a standard for proactive risk management and environmental stewardship in healthcare facilities, creating an efficient and better overall environment for patients, staff, and community visitors to the hospital.



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