

# Tech targets pandemic and readies for next

Prescientx specializes in engineered infection prevention technology

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WATERLOO REGION RECORD

CAMBRIDGE — On the day before Canada’s first presumptive case of COVID-19 was announced, Barry Hunt sent care packages to his children, filled with masks, gloves and money for groceries.

It was a proactive move, in keeping with his work on infection prevention technologies in the health care space; he’d named his latest startup Prescientx, building upon a word that means predictive, or visionary.

But his concerns about Canada’s vulnerability to the novel coronavirus weren’t prophetic. He’d just seen this all before. “Having lived through SARS 1, I recognized it as SARS 2 right away, and that it was airborne,” Hunt said.

There was also the example of the H1N1 pandemic in 2009.

“Those potential global airborne pandemics are going to become more and more frequent as time goes on,” he said.

Prior to COVID-19’s arrival in Canada, Prescientx’s technology was focused on reducing the number of health care-acquired infections; the Canadian Patient Safety Institute, now part of Healthcare Excellence Canada, has estimated that about 220,000 patients (or about one in nine) acquire such an infection in Canada every year.

It was a World Health Organization statistic more than a decade ago, placing Canada as the ignominious leader on a list of developed countries with the worst hospital-acquired infection rates, that sparked Hunt’s interest in the issue.

“Reading that report was really what got me started,” said Hunt, whose previous medical gas company, Class 1 Inc., dedicated a division to engineered infection prevention technology that he later spun off into Cambridge-based Prescientx. “That was the impetus behind the whole thing.”

Prescientx develops and markets products such as self-disinfecting ozonated water sinks, copper-coated antimicrobial toilet seats, and automated ultraviolet disinfection systems. Some of those technologies are being integrated into hospital construction and renovation projects in Ontario.

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One of the new products is an



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Barry Hunt, president and chief executive officer of Prescientx, stands next to Violet, a fully autonomous UV disinfection robot.



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autonomous ultraviolet disinfection robot that can navigate through any setting, dispensing UVC light into corners and onto surfaces — destroying bacteria and viruses — when it senses there are no people in the way.

There are two models, Violet and Charlotte, each using a different robotic vehicle to move around; Violet uses a robot from Kitchener’s Otto Motors, a division of Clearpath Robotics.

With potential applications in health care settings, airports, factories and offices, trials are getting underway. “We were a little hindered by COVID itself in getting Violet out into the field for doing some case studies,” Hunt said.

When Prescientx’s first COVID-related product, a conveyor-style system for disinfecting N95 respirators, didn’t attract much interest from hospitals, the company repurposed it to disinfect hard surfaces. The machines are being tested by airline security officials in Can-

ada and the United States to disinfect the bins used to scan travellers’ personal items.

And Prescientx is also partnering in the production of new reusable, easy-breathing respirator masks with a snug-fitting elastomeric seal. These masks use a nanofibre fabric filter material produced by Cambridge’s BIG-nano that can capture much smaller particles than conventional microfibre filter material.

“There’s a whole new class of lightweight elastomer respirators that are coming to market, and Canada’s really leading the way in that whole field,” Hunt said.

Another product in the works involves upper air ultraviolet disinfection, drawing air from above people’s heads through the device and disinfecting it, and also disinfecting surfaces when no one is present.

“Technology is our saviour here,” he said. “It’s just getting people on board with using

technology.”

Hunt is the founder and president of a new organization, the Canadian Association of PPE Manufacturers. With upwards of 30 members, the association is working to grow a sustainable, globally competitive PPE industry in Canada that emphasizes quality and ensures sufficient domestic supply.

“Canadians are great at innovating. We haven’t been really good at marketing ourselves in the past, and we’ve been trying to change that.”

One of the association’s goals is the establishment of better procurement practices that open up the markets to Canadian-made protective equipment; some manufacturers have found potential customers off-limits due to long-term purchasing contracts with overseas suppliers.

Prescientx has also been involved in the development of a new Canadian Standards Association (CSA) certification for Canadian-made respirators that would offer a domestic standard in place of that set by the National Institute for Occupational Safety and Health in the United States.

Hunt was previously involved in the creation of a new CSA standard for cleaning and disinfection in health care facilities that was released about a year ago.

Richard Dixon, a health care consultant and former vice-president at Kitchener’s Grand River Hospital, has known Hunt for more than 20 years. Dixon said Hunt’s desire to make a difference has defined his career.

“In his leadership role, Barry is on a personal mission to literally change the world,” Dixon said in an email. “He is fearless in developing EIP (engineered infection prevention) equipment that will provide patients and caregivers a much safer environment.”

Dixon leads the Coalition for Healthcare Acquired Infection Reduction (CHAIR) Canada; Prescientx is a founding member, and Hunt previously chaired the organization.

“People talk about Big Pharma all the time, there’s billions of dollars out there for research, billions of dollars in revenue. There’s also Big Diagnostics as well ... but there’s no such thing as Big Prevention,” Hunt said.

Preventive measures that could have stopped COVID-19’s rampant spread — measures that helped to control SARS — weren’t employed quickly, or at all, he maintains.

“There was no urgency. There was denial that COVID was airborne, they were saying don’t wear masks in public, they were allowing people to travel ... They just phoned it in this time,” Hunt said.

“We have not learned, so we need automation to get in place to protect us from ourselves for the next time.”

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