To nurse and PROTECT

RNs are rising to the challenges posed by increasing rates of deadly, hospital-acquired infections.

BY LESLEY YOUNG

May 28, 2011. Just five months into Sue Matthews' role as interim president and CEO of Niagara Health System, the registered nurse and long-standing RNAO member was forced to declare an outbreak of C. difficile at one of the organization's seven sites (and later another two). Over the next five months, Matthews successfully navigated one of the most trying times of her career, facing challenges that no nurse could have been adequately prepared for, she says.

The hardest part of the outbreak, which officially ended Oct. 24, was the grief, she adds. The bacteria – spread by contact – took the lives of 37 patients (seven directly; 30 indirectly), leaving families and staff to cope. Relentless media attention also took a toll on Matthews and her staff, especially nurses.

"I barely remember the first two weeks," she admits. "I hardly slept."

Instead, the nurse of 28 years, and every single employee at the network of hospitals, hit the ground running, pulling in resources, assessing gaps, and implementing solutions to manage the growing threat. Matthews spent much of her time preparing for and hosting daily media briefings, fielding questions from reporters who, in those early weeks, were searching for blame – human blame.

"Patients and family members were going to the press, contending that they had seen nurses not washing their hands. They were pointing their fingers at nurses, accusing them of sitting on their duffs not doing anything," she says. "The lowest part of all this for me is knowing people died. The second lowest part was watching the staff being dragged through the mud. The negativity was emotionally exhausting."

This kind of media scrutiny is usually reserved for brand new outbreaks (such as SARS and H1N1). Niagara Health System, however, has been battling a wary and skeptical public since its restructuring in January 2009.

The reality, Matthews says, is that while hospital-acquired infections exist at every Ontario hospital all of the time, health-care professionals are facing tougher and tougher uphill battles keeping them contained. For example, between 1999 and 2006, the incidence of MRSA (methicillin-resistant Staphylococcus aureus) has doubled, while that of VRE (vancomycin-resistent enterococci)

PHOTO: JEFF KIRK

Sue Matthews, NHS Interim President and CEO (second from left), managed the outbreak with help from colleagues and fellow management team members (L to R) Anne Atkinson, VP, Patient Services, Donna Rothwell, Chief Nursing Officer, and Interim Chief of Staff Joanna Hope.

A Windsor Regional Hospital RN stands behind the yellow line drawn between isolation patients and others without infection. The line is a visual reminder that nurses and other staff must follow infection control protocols.

PHOTO: DAX MELMER

has tripled, according to the Canadian Nocosomial Infection Surveillance Program (see pg 15, *How does it all begin?*). Rising rates are the result of bacteria growing stronger. Hospitals across the province have also seen improved testing and hyper vigilance, she says.

"Without question, infection control is the job of every health-care professional," says Michael Gardam, Director, Infection Prevention and Control, at Toronto's University Health Network (UHN). That said, many responsibilities fall on nursing staff (both in day-to-day prevention and in outbreak mode) that pose challenges. These include risk reduction measures that increase workload, and educating a sometimes resistant public (and other health-care professionals) on hand hygiene practices. RNs are successfully facing these challenges, and developing innovative strategies and solutions for controlling hospital-acquired infections.

Matthews is the first to admit that NHS made mistakes during the outbreak, and she owned up to those mistakes when confronted by the media. She says she was able to handle the pressure thanks to help from another hospital's media expert who gave her several key strategies. The most important: be prepared and address problems before the media bring them to you.

While Matthews doesn't condone inappropriate infection control practices, she points out how risk reduction places a huge burden on nursing staff. "Research shows that on one 40-bed unit where 50 per cent of patients are in isolation, a nurse has to wash their hands 40 times an hour to meet infection control standards." At NHS, she says, hand hygiene compliance is nearly 100 per cent. The provincial average is 67 per cent. On top of that, there is the donning of personal protective equipment and sanitizing shared equipment. "I made it a goal to ensure this was not a monkey on the backs of nurses alone," Matthews says, adding she did this, in part, by using media briefings to remind the public about the virulence of hospital-acquired infections, and the public's role in hand hygiene.

These points are not well understood by the public or media, says Lynn Ronnebeck, an RN in the infection control department at Lake of the Woods District Hospital in Kenora. "Physicians or nurses get vilified because of inadequate hand washing or a deficient practice, but there are a host of other considerations at play," she says, including: "...how virulent the organism is, the type of patient it affects, how compromised they are, and the type of procedure being done. Most hospital-acquired infections I see come from patients in the intensive care unit, the sickest of the sick."

"We can do our darndest to prevent nonsocial infections, but some bugs are pretty stubborn," adds RNAO President David McNeil, Vice President of Clinical Programs and Chief Nursing Officer at Hopital regional de Sudbury Regional Hospital.

QUICK STATS

The rate of C. difficile infection in Ontario climbed **33 per cent** to .40 per 1,000 patients to reach a peak in May 2011. By the summer, it had dropped down to just more than .30 per 1,000 patients.

Ontario's worst C. difficile outbreak on record was at Burlington's Joseph Brant Memorial Hospital, where **91 infected patients died** in 2006 and 2007.

The Canadian Institute for Health Information suggests **one in 10 adults** and one in 12 children will contract an infection while in a Canadian hospital.

"C. difficile is an excellent example where there are complex issues that need to be tackled, including with the environment." (See pg 16, *Why private rooms are the gold standard*)

RNAO sent a letter of support to NHS during the outbreak, commending the work done by the nurses. "We know every nurse will continue providing the top-notch care you have provided without fail for years. Your knowledge, skill and clinical judgment are being pushed to new limits, but most certainly you are making a difference," wrote McNeil and Doris Grinspun, Executive Director of RNAO.

Hospitals are not alone when it comes to infection control. In fact, Ontario's Ministry of Health and Long-Term Care, through the Provincial Infectious Diseases Advisory Committee, has developed cutting-edge guidelines, says RN Ronnebeck. The ministry also requires hospitals to report infection rates monthly, and offers assistance to hospitals (through the Regional Infection Control Network) in determining when an outbreak is declared (a complex and variable formula). It also provides infection control practice assistance throughout an outbreak.

Provincial health authorities assisted NHS this past summer and fall, including reviewing a wide array of practices and providing a report. Health Minister Deb Matthews appointed a supervisor, Kevin Smith, on Aug. 31. Smith reported directly to the minister, which (Sue) Matthews says she welcomed as a way to "help reflect on our practices." One of the recommendations specific to nursing from the Provincial Infection Control Resource Team was to empower NHS nurses with the ability to isolate a patient. "Why wait for an infection control specialist to make a decision that (nurses) can make?" asks (Sue) Matthews.

QUICK STATS

Canada's health-care associated infection rate is at **11.6 per cent**, one of the worst among developed countries in the world.

A 2003 Canadian study (the most recent numbers available) puts the number of hospital-acquired infections in Canadian hospitals each year at 220,000. These result in **8,000 deaths annually**.

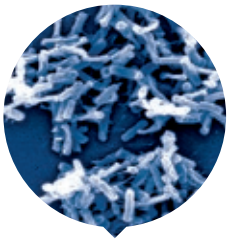
The U.S. Center for Disease Control and Prevention estimates there are **1.7 million hospital-acquired infections** in American hospitals each year. About 99,000 deaths can be linked to these infections.

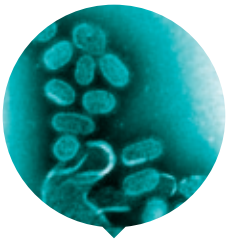
Other measures NHS took that assisted nurses during the outbreak included approving a boost in nursing and housekeeping staff. It assessed job functions to remove non-nursing tasks from nurses, and reduced visiting hours. Hand hygiene auditors also provided immediate feedback when errors were spotted. While NHS's antimicrobial stewardship program was in the works before the outbreak, Matthews admits she's "...not sure how much [nurses] were asking about overuse of antibiotics." Led by the Institute for Safe Medication Practices Canada, the program is testing a number of hospital interventions to stem the rise of antimicrobial-resistant organisms. One of its goals is to raise awareness and empower every nurse to question a patient's need for antibiotics.

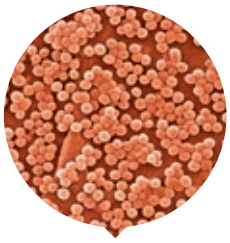
Policing infection control practices often falls to nurses and both UHN's Gardam and RNAO's McNeil agree that RNs may not always feel adequately empowered, especially if that policing involves confronting colleagues or physicians. One front-line, acute-care nurse who asked not to be named said, "Physicians are the most difficult to get to follow infection control practices, namely to wash their hands. They will tell you that you are being too particular and that in their judgment, that patient is past the point where those practices are necessary."

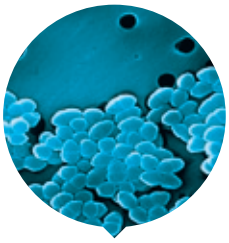
The public often comes in a close second to indifferent health professionals. Marie Morden, an acute-care RN at Lake of the Woods District Hospital, says the public's lack of education around infection control in hospitals can be a burden on nurses who have to take the time away from caring for patients to educate family members about the hospital's due diligence measures. "We are reteaching it, over and over again," she says. "When some families come to visit someone in

HOW DOES IT ALL BEGIN?









To spread infection, an infectious agent needs a reservoir where it can live, grow and reproduce, and a susceptible host. Modes of transmission include direct and indirect contact; droplet transmission; vehicle transmission (food, water or instruments); airborne transmission; and vectorborne (insects).

C. DIFFICILE (Clostridium difficile): Antibiotics reduce the normal levels of good bacteria in intestines and the colon, which allows C. difficile bacteria to grow and produce toxins. Transmission occurs through direct and indirect contact.

FRI (febrile respiratory illness) including colds, influenza and pneumonia: Droplets containing disease-causing organisms are either inhaled by the patient or touched by the patient who then touches a mouth, nose or eyes. Transmission occurs through droplet and contact.

MRSA (methicillin-resistant Staphylococcus aureus): S. aureas bacteria living on the skin, nose or in the lower intestine may cause an infection and resist a common class of antibiotics (people may carry the bacteria without having symptoms). Transmission occurs through contact.

VRE (vancomycin-resistent enterococci): Enterococci bacteria in lower intestine or other areas (e.g. urine, blood, skin) may cause an infection and resist antibiotics (people may carry the bacteria without having symptoms). Transmission occurs through contact.

Source: College of Nurses of Ontario Infection Prevention and Control Practice Standard; and Office of the Auditor General of Ontario Special Report: *Prevention and Control of Hospital-acquired Infections*, September 2008.

WHY **PRIVATE ROOMS** ARE THE GOLD STANDARD

North York General Hospital (NYGH) announced an expansion in the summer of 2011 that would include 40 additional beds, 80 per cent of which would be in single-patient rooms. "This really allows staff to put any patient in a private room rather than keep them waiting around not knowing where to place them in case of infection," says Karen Popovich, NYGH Vice-President and Chief Nursing and Health Profession Executive. "Single-bed rooms are the reality of the future."

Infection control experts contend that in an ideal world, all future hospital rooms would be 100 per cent private. Research suggests that single-bed rooms alone can reduce infection rates by up to 45 per cent. Michael Gardam, Director, Infection Prevention and Control at Toronto's University Health Network, says single-bed rooms reduce nursing workload because nurses have everything they need at their fingertips.

And yet, hospitals are slow to embrace the design.

RN Pierette Brown, Executive Director at Algoma Family Services in Sault Ste. Marie, wrote letters to her local media making the case for why the new hospital, which opened there last March, should have private rooms. "They brushed me off… said they were too far into the process to change," she says of hospital administrators. "But it's an 80–20 split, which is better than 70–30, what they were originally planning," she concedes.

Brown is confident awareness will grow, in part, because of the virulence of hospital-acquired infections. "It's just a matter of time before we will be forced to change the way we set up rooms."

isolation, it's almost as though they feel they are being punished by having to put on a gown, gloves and mask."

CEO Matthews recalls how one nurse at NHS received the following remark from a much taller male family member when asked to don personal protective equipment: "Make me." The nurse did, actually, by being firm, and by mentioning she would call hospital security if need be.

Gardam, who helped develop unprecedented infection control measures during the SARS outbreak in 2003, says education is just one piece of the puzzle when it comes to developing infection control improvements. Workplace culture is another important piece. "You can have the knowledge, but the workplace culture is such that you just don't pay attention to practice. It's not only nurses who aren't empowered in health-care settings. Many groups aren't empowered."

Karyn Popovich, Vice-President and Chief Nursing and Health Profession Executive at North York General Hospital, does regular walkabouts on units to engage nursing and housekeeping staff in conversations about infection control practices. "We want them to know we are proud of the work they are doing. That really helps build it into the culture." She adds that the hospital's experience during SARS offered some valuable lessons about infection prevention and control practices, including creating a culture of trust, openness and transparency between hospital administration and front-line staff.

In Matthews' experience, you can't underestimate the power of face-to-face communication for rolling out new policies around infection control, and for empowering staff to implement them. "We launched an initiative during the outbreak where each unit's manager, health program director and the V.P. did daily rounds." Knowing senior staff was involved and supportive bolstered morale and reinforced staff's responsibilities, she says.

May Abdalla, Windsor Regional Hospital's (WRH) infection prevention and control co-ordinator, shares that view. She says staff engagement at WRH has resulted in a number of nurse-led infection control solutions. One idea that originated from a front-line nurse at WRH addressed the need to reduce the risk of human error (for example, forgetting to wash hands or sanitize equipment). In high risk areas, one side of the hallway is used for isolation patients only, says Abdalla. A yellow line was literally drawn down the hall so that all staff would remember infection control protocols when they crossed it. "Instead of just a random area being in isolation, now a consistent area exists where all the equipment is kept. It is much easier and more effective."

Several nurse managers also stepped up with ideas to improve processes. They helped speed up necessary isolation of patient transfers by making incoming patients' infection status an element on the existing transfer forms. "When a patient arrives, we know right away if they have C. difficile, MRSA or something else," Abdalla explains, adding this eliminates the need to find somewhere to place them while they are being tested.

The hospital's ICU nursing staff also came forward with a solution to help alleviate workload and save the hospital money. They developed a patient supplies form at the bedside and have one nurse fill it out before each shift. "This nursing initiative is very effective in reducing the risk of transmission through contaminated patient supplies. It also reduces waste, since supplies left after discharge are discarded during the cleaning process," Abdalla says. "They committed to it because it really saves them time in the end. They don't find themselves all outfitted in personal protective equipment only to be missing a piece of equipment."

These kinds of measures are terrific examples of the kind of parting advice Matthews has for every organization. "Be proactive. Don't wait for something to happen to review your practices. You have to stay on top of it." And to front-line nurses, Matthews says this: "Remember: all of the stress totally outweighs the difference you are making in people's lives." **RN**

LESLEY YOUNG IS A FREELANCE WRITER/EDITOR IN AURORA.

QUICK STATS

In 2003, Ontario's SARS epidemic put **thousands into quarantine**, infected 375 and killed 44.

In Canada, roughly **10 per cent of the populace** of 3.5 million have been infected with H1N1, and in the 2009 epidemic, there were 428 confirmed deaths.

A World Health Organization report finds medical error and hospital infection rates run as high as **16 per cent worldwide**.