Notes from the Editor-in-Chief

The lead paper in this issue of
Healthcare*Papers* explores and discusses
possible reasons why healthcare providers and
administrators have been slow to adopt new
patient safety initiatives targeting healthcare-
associated infections (HAIs), specifically
methicillin-resistant *Staphylococcus aureus*
(MRSA) and *Clostridium difficile*. Authors
Michael A. Gardam, Camille Lemieux,
Paige Reason, Marlies van Dijk and Vivek
Goel discuss the two viruses, including their
increasing occurrence and the importance of
proper hand hygiene and environmental clean-
ing in the prevention of their transmission.
The authors also suggest strategies to improve
the implementation of safety initiatives.

Gardam and colleagues describe a
Canadian point prevalence study involving
teaching hospitals that reported that 10.5%
of hospitalized patients suffered from an
infection they acquired while being treated.
Extrapolating these data for the entire popu-
lation of Canada, the number of patients
experiencing such an infection is estimated
at 200,000 per year. The high rate of HAIs
is one reason they have become a significant
part of the patient safety agenda – they cause
considerable morbidity and mortality.

However, in spite of the high number
of HAIs, the infection control community
believes these infections are not viewed in the
same manner as other safety concerns such as
medication errors and fall prevention. For this
reason, initiatives to control HAIs have been
underused.

A substantial amount of HAIs – such
as urinary tract infections in catheterized
patients, surgical site infections and central
venous line infections – resulting from
patients' hospitalization for other medical
issues can be prevented with safety strate-
gies. A dramatic reduction of HAIs can be
achieved by an aggressive implementation of
such process interventions, as is supported
by the American Institute for Healthcare
Improvement and its Canadian counterpart,
Safer Healthcare Now!

The growth of the "superbugs" MRSA
and *C. difficile*, however, has created a grow-
ing concern as the prevalence of each virus
has increased in hospitals. Such viruses are
largely spread via improperly washed hands,
a significant problem in modern healthcare.
Once MRSA or *C. difficile* is introduced to an
environment, the organism can live for weeks
if properly cleaning and sanitization are not
done. But despite the importance of proper
sanitation and handwashing, it is reported
that healthcare workers clean their hands less
than 50% of the time, on average.

While these infections are severe, hospi-
tal workers often treat them as a routine part
of business instead of reporting them as an
adverse event that could have been prevented,
as in the case of a patient falling or a medi-
cal overdose. The authors suggest that the
differences in approach stem from (1) a belief
that antibiotics can "solve" infections, which
refutes the need for prevention, (2) the fact
that evidence supporting interventions to
prevent HAIs is not prevalent, (3) a lack
of ownership of this problem by healthcare
workers and (4) the perception by healthcare
workers that there is a low level of intractabil-
ity for HAIs. Additionally, healthcare workers
see infections as a problem to solve and not
one to prevent.

Despite the challenges with healthcare
workers' approaches to HAIs, the authors
note that increased attention and energy have
been focused on the prevention of medical
errors in general. They state that the success-

ful implementation of prevention strategies requires a multi-faceted approach since the problem itself is multi-faceted. Such a prevention strategy is discussed; it involves links to accreditation, public reporting, healthcare facility design, change management strategies, visible and engaged senior leadership, collaboration, accountability, media interest, medical liability, occupational health and safety education and adherence to infection control policies. Each of these factors draws attention to the problem in the hope that this will aid HAI-prevention efforts.

A driving force behind successful prevention strategies is their adoption by Accreditation Canada as a required organization practice (ROP). In 2008, compliance with patient safety ROPs was made a requirement by Accreditation Canada, and included are ROPs related to infection control, drawing great attention to the problem. Some of the factors include compliance with proper hand hygiene, adherence to infection control protocols and the tracking and reporting HAIs. Of crucial importance is focusing these infection control ROPs on the most important control measures such as hand hygiene since this could have the largest impact on patients and will not pull resources from other strategies. It is anticipated that this requirement will give the prevention of HAIs greater priority on the patient safety agenda and bring such infections to the attention of senior administrators.

Public reporting of HAIs places pressure on administrators to address the issue. It allows patients, administrators and funders to compare infection rates among facilities. However, public reporting does come with risks, including the temptation to count incidents versus working to change behaviours and cultures.

The design of a facility can change behaviours rather easily, however, and has been shown to impact multiple patient safety factors including the risk of falls, provision of adequate pain management and risk of HAIs. Examples include the fact that multi-bedded rooms facilitate the spread of HAIs, and the visible placement of alcohol-based hand rubs can increase their use by healthcare workers.

Another factor in prevention strategies is the *positive deviance* change methodology, which is based on the idea that solutions to problems already exist in an organization. This methodology gathers ideas and solutions from front-line providers, making them more likely to take ownership and implement these ideas and solutions.

Role modelling by senior leadership and collaboration with both other facilities and public health practitioners are additional key factors in prevention strategies. Role modelling of proper behaviours shows other healthcare workers that these behaviours are a priority. Collaboration with others is necessary, particularly as MRSA and other infections can travel throughout a community.

Finally, the core of a prevention strategy is the knowledge of and adherence to a facility's infection control policies – these provide best practice guidelines and are a resource for the gamut of infection control strategies. Infection control staff must be visible and available to collaborate with other hospital staff as they work to install strategies to prevent HAIs.

Our commentators add further support to the importance of this topic and the idea that, with a concerted effort, HAIs are largely preventable. Wendy Nicklin and colleagues, of Accreditation Canada, provide an excellent update on Accreditation Canada's policies. With the launch of Qmentum, accreditation has become more closely aligned with quality improvement in healthcare facilities, and infection prevention and control have become major focuses. The accreditation standards emphasize four main themes: (1) investing in

infection prevention and control, such as by monitoring incidence, conducting research and training staff; (2) keeping people safe from infections through appropriate policies and education; (3) providing a safe and suitable environment; and (4) being prepared for outbreaks and pandemics.

Architects Tye Farrow and Stephen Black bring the perspective of facility design as an important factor in infection prevention and control. They argue that the physical environment can have a direct influence on healthcare workers' behaviour. If equipment for handwashing is easily available, then healthcare workers are more likely to use it. It might also be important for leaders of healthcare facilities to make a business case for better design of facilities and equipment based on information and best practices.

Irene Jansen, senior research officer of healthcare with the Canadian Union of Public Employees (CUPE) and Janice Murphy argue that part of the problem is that cleaning and other support services in healthcare facilities have become devalued. Budget cuts and the practice of contracting out services have systematically reduced the resources available for basic cleanliness. They estimate (using data from the Canadian Institute for Health Information) that spending in hospitals on cleaning and support services has dropped from 26% of hospitals' budgets in the mid-1970s to only 16% in 2002–2003. They quote a recent CUPE policy paper recommending that contracting out be reduced, a greater investment be made in cleaning and infection control staff and other resources, bed occupancy levels be reduced and mandatory cleaning standards be established.

Dorothy Moore and Micheline Ste-Marie, both with the Montreal Children's Hospital, indicate that part of the reason for the increase in hospital infection rates is the rise in severity of illness rates in hospitalized patients. This is particularly true for surgical infections since infected or devitalized tissue is more vulnerable to infection. Also, there are new pathogens around. While these authors believe that much of the problem can be eliminated, they suggest that better communication with patients, the public and healthcare workers about their risks would be a good strategy. They also believe that good role modelling by the leadership in the organization can be effective.

Veronique Boscart and other researchers from the Intelligent Design for Adaptation, Participation and Technology (iDAPT) program at the Toronto Rehabilitation Institute outline the potential that technology holds for improving hand hygiene. They describe a system that is essentially a sensory device that automatically reminds healthcare workers to disinfect their hands and provides them with feedback on their hand hygiene frequency and compliance. The wearable monitors decode signals and identify when workers enter or leave protected areas. Pilot research on this system suggests that the technology is convenient and secure. This type of system could revolutionize our approaches to controlling infections as well as improving other areas of patient safety.

Kevin Smith, president and chief executive officer of St. Joseph's Healthcare Hamilton, suggests we should put more pressure on the non-compliant. He indicates that patients and visitors are often more compliant with hand hygiene than are some healthcare workers. He raises the issue of how much time governing boards of healthcare organizations spend debating handwashing practices – perhaps too little. For example, have handwashing and other safety measures been tied to overall organizational performance? Perhaps, as Smith suggests, we can empower those in training to become healthcare workers and, through their curriculum, make the next

generation of providers the poster children for safer healthcare.

Clearly, the issue of HAIs has not been solved and may never be totally. But, as is reflected in this issue of Healthcare*Papers*, increased attention and communication about safety measures are essential to improving performance.

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