

The Canadian Journal of INFECTION CONTROL

Revue canadienne de PRÉVENTION DES INFECTIONS

The official journal of the Community and Hospital Infection Control Association – Canada • Association pour la prévention des infections à l'hôpital et dans la communauté – Canada

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in eastern Ontario

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increase influenza immunization

The impact of ERI, burnout, and
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* CDC – Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008; Contact Time for Surface Disinfectants (page 31)

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CHICA-Canada will lead in the promotion of excellence in the practice of infection prevention and control.

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CHICA-Canada is a national, multidisciplinary, voluntary association of professionals. CHICA-Canada is committed to improving the health of Canadians by promoting excellence in the practice of infection prevention and control by employing evidence-based practice and application of epidemiological principles. This is accomplished through education, communication, standards, research and consumer awareness.

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- 1 Braden Scale for Predicting Pressure Sore Risk. Available at: www.bradenscale.com/braden.PDF. Accessed November 6, 2008.
- 2 Recommended practices for positioning the patient in the perioperative practice setting. In: *Perioperative Standards and Recommended Practices*. Denver, CO: AORN, Inc; 2008.



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Clinical Editor, *Canadian Journal of Infection Control*

CJIC: The official publication of CHICA-Canada

The CHICA Canada 2010-2015 Strategic Plan was approved by the Board of Directors on May 10, 2009. Goal one of the Strategic Plan is to “Raise the profile of the association and its activities.” One objective (1.4) under this goal is to “Continue to develop the *CJIC* as a worthy and cited peer reviewed journal.”

Strategies to achieve this include:

- Dedicate *CJIC* to scientific information and field material.
- Migrate non-scientific components to other communication venues.
- Promote *CJIC* as a peer-reviewed citable journal to membership, committees, academics, chapters and interest groups.

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Starting at the grassroots level, individual chapters and members can mentor and support potential authors. Many potential authors have already submitted abstracts to the CHICA conference and/or prepared posters and oral presentations. They may need support and guidance to develop this content into an actual article. *CJIC* follows the Uniform Requirements for

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may not have ready access to other journals.

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editor to migrate some non-scientific materials currently in the journal to other venues such as the website or other communication vehicles. This makes room for more scientific articles in each issue and increases the availability of these important articles for our readership.

Lastly, the presence of the full text *CJIC* articles on the website makes them accessible to the world. This in turn supports the statement in the strategic plan: “Attainment of the profile goals will lead to CHICA-Canada being recognized globally as a leader in infection prevention and control.” 

Correction: The following was inadvertently omitted from our Summer 2009 issue

We would like to acknowledge the other authors for the article “Infection control measures in a tertiary care hospital in India” (Summer 2009):

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⁽¹⁾ Zoutman, DE, Ford DB, Bryce E et al; The state of infection surveillance and control in Canadian Acute Care Hospitals; Am J Infect Control, 2003; 31:266-73.

⁽²⁾ The Reduction of Vascular Surgical Site Infections with the Use of Antimicrobial Gauze Dressing; Robert G.Penn, MD, Sandra K Vyhldal, RN, MSN, CIC, Sylvia Roberts, RN, Susan Miller, RN, BSN, CIC. Dept. of Epidemiology, Nebraska Methodist Hospital, Omaha, NE, USA. Observation of Nosocomial Surgical-Site Infection rates with Utilization of Antimicrobial Gauze Dressing in an Acute Care Setting; Mary Jo Beneke, RN BS, CWOCN; Josephine Doner, RN BSN MA CIC. Yuma Regional Medical Center; Yuma AZ.

⁽³⁾ Observation of Nosocomial Surgical-Site Infection Rates with Utilization of Antimicrobial Gauze Dressing in an Acute Care Setting Mary Jo Beneke, RN, BS, CWOCN; Josephine Doner, RN, BSN, MA, CIC Yuma Regional Medical Center, Yuma, AZ



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1. Keshava A, Renwick A, Stewart P, Pilley A. A nonsurgical means of fecal diversion: the Zassi Bowel Management System. *Dis Colon Rectum*. 2007; 50:1017-1022.

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Access to hand hygiene in eastern Ontario

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ABSTRACT

Background: Hand hygiene compliance improves when alcohol-based hand products (ABHP) are provided at the point-of-care (POC). However, it is not known how many facilities have the infrastructure available to provide easy access to ABHP currently.

Objectives: To describe the extent to which facilities in the Champlain Infection Control Network (CICN) provide POC access to ABHP.

Methods: A survey was conducted of all healthcare facilities in the CICN in October 2007. Sites were asked to complete a one-page questionnaire regarding number and location of ABHP dispensers on one ward in their facilities. The primary outcome measures included: the proportion of facilities providing any POC access to ABHP and the proportion of ABHP dispensers that were at POC, hallways and other areas.

Results: A total of 18 of 59 (31%) long-term care facilities (LTCF) and 14 of 18 (78%) acute-care facilities (ACF) participated in the survey. Intensive care units (ICUs) were present in seven (50%) of the ACF. POC access to ABHP was provided in 44% of LTCF, 50% of ACF and 71% of ICUs surveyed. In LTCF 20% of ABHP dispensers were at the POC compared to 23% in ACF and 42% in ICUs.

Conclusions: Although ABHP is available in these settings, most dispensers are not provided at the POC. Hospitals and LTCF need to increase the number of ABHP dispensers available, with a particular emphasis on placing them at the POC in accordance with provincial guidelines.

Key words: hand hygiene, point-of-care, alcohol-based hand product

INTRODUCTION

Hand hygiene is the cornerstone of infection prevention and control. Current scientific evidence supports use of alcohol-based hand products (ABHP) as the preferred method of performing hand hygiene in most healthcare settings (1). However, for a hand hygiene program to be effective, healthcare workers must be able to perform hand hygiene at the “point-of-care” (POC). This is defined by the presence of three elements; the patient, the healthcare worker and contact between the patient and healthcare worker (2, 3). Easy access to hand hygiene products in a timely fashion is necessary to carry out appropriate hand hygiene (4, 5).

The extent to which facilities in the Champlain Infection Control Network (CICN) comply with providing POC access to hand hygiene is unknown. The CICN is one of 14 infection control networks across the province of Ontario which have a collective and individual mandate to maximize coordination and integration of activities related to the prevention, surveillance and control of infections and infectious diseases. Regional infection control networks support the integration of the distinct infection prevention and control activities of acute and non-acute care facilities, public health programs, and community care agency programs.

National and provincial hand hygiene campaigns have recently been initiated (6, 7). Therefore, it is necessary to understand the currently available infrastructure to support hand hygiene practices in healthcare facilities.

METHODS

A survey was conducted during Infection Control Week (October 15 to 19, 2007). Long-term care and acute-care facilities within the CICN were invited

to perform an audit of a single ward using a questionnaire regarding POC access to ABHP dispensers used in their facilities. Sites were asked to choose one day during the week and to complete the questionnaire for a patient care ward with at least 10 beds within their facility as well as their intensive care unit (ICU) (where applicable). The one-page questionnaire (appendix A) was designed to take less than 15 minutes to complete. Questions were related to the number of rooms, types of rooms, number of beds and the number of ABHP dispensers in various locations of the ward. Personal ABHP dispensers were not counted individually and were not included in the total numbers of ABHP dispensers. However, facilities which provided personal dispensers were counted as providing POC access to ABHP. Outcome measures included: the proportion of facilities providing any point of POC access to ABHP; the ratio of total number of ABHP dispensers to number of beds on the ward expressed as a count per 100 beds; and the proportion of ABHP

dispensers that were at POC, in hallways and other areas. Data were initially recorded on hard copy data forms and then entered into an electronic format and analyzed using Microsoft Excel 2002 (Microsoft Corporation, USA).

RESULTS

A total of 18 (31%) of all 59 long-term care facilities (LTCF) in CIGN, and 14 (78%) of all 18 acute-care facilities (ACF) in CIGN took part in the survey, of which seven ACF had an ICU. No reminders or subsequent requests were sent to those who did not respond. All reporting facilities indicated that there was access to ABHP at the entrance to the facility. Overall, POC access was provided in 8 of 18 (44.4%) LTCF, 7 of 14 (50%) ACF and 5 of 7 (71.4%) ICUs. In LTCF providing POC access, 5 provided personal ABHP dispensers only, 2 provided bedside dispensers only and 1 provided both personal and bedside dispensers. The total number of ABHP dispensers per 100 beds was highest in the ICUs, with

the number of dispensers frequently exceeding the number of beds, and lowest in LTCF. Results are summarized in Table 1. For all ward types, the most common location for ABHP dispensers was in hallways (51%), followed by POC (25%). For LTCF, a total of 34 (20%) ABHP dispensers were provided at the POC, whereas 75 (22.5%) and 47 (42.3%) of ABHP dispensers were provided at the POC in ACF and ICUs respectively.

DISCUSSION

Providing easy access to hand hygiene products is a method of improving hand hygiene compliance (8, 9). Historically, there was little emphasis placed on the location of ABHP in healthcare settings. However, current provincial and international guidelines recommend placement where patient contact will likely occur and hand hygiene campaigns now stress the importance of providing ABHP at POC (2, 3).

Our results are comparable to



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previously published results regarding the physical location of ABHP dispensers. Investigators at a South Carolina hospital conducted an ergonomic evaluation to understand how “user friendly” the hospital was for practicing hand hygiene. They reported that only 33% of ABHP dispensers were within easy reach of the patient’s bedside and only 35% had unobstructed access (10). Based on our results it appears facilities in the CICN require significant improvement in providing access to hand hygiene products at the POC, particularly in long-term care facilities and non-ICU wards in acute-care facilities. Although we did not measure hand hygiene compliance directly these data provide evidence that the facilities surveyed do not provide convenient access to hand hygiene products.

As a result of the perception that alcohol-based products can be ingested by patients with deterioration in mental abilities, a number of long-term care facilities are choosing not to mount hand hygiene products at the bedside.

This concern is addressed in six of the reporting facilities by providing healthcare workers with personal ABHP dispensers. This requires the healthcare worker to carry the product with them at all times. Our survey focused on ABHP at the bedside of each patient but personal dispensers are an acceptable and alternative method of providing POC access to ABHP (4).

In our study the ratio of POC ABHP dispensers to beds is a value that estimates accessibility to hand hygiene product. The ratio is highest in the ICU where there may be an increased awareness of the potential to transmit harmful pathogens. The understanding of hand hygiene may be heightened in this setting where patients are critically ill and are more susceptible to nosocomial pathogens than other clinical scenarios. Furthermore, more high risk procedures take place in ICUs and the need for prompt and convenient access to ABHP is implicit.

There are several limitations to this study which may have contributed to an

inaccurate estimate of the facility’s access to POC ABHP dispensers. We only asked facilities to provide data on one ward in their institution. It is not possible to assess how representative each ward is compared to other wards in the facility.

We did not assess the availability of soap, water and handwashing sinks for appropriate healthcare provider hand hygiene. Current recommendations discourage the use of a patient sink for healthcare worker hand washing. However, it is possible that some of the facilities surveyed had healthcare provider-specific handwashing sinks at patient bed-sides that were not captured by this survey. This would also make it appear as if POC access is not provided. Although use of ABHP is the preferred method of hand hygiene in a healthcare setting, hand washing with soap and water is an important alternative, particularly when hands are visibly soiled.

In some wards there are rooms for multiple patients. In these settings if an ABHP dispenser is located between two patients it may still be considered



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Table 1:**Distribution of alcohol-based hand product dispensers among different ward types**

Ward type	Long-term care (n=18)	Acute care (n=14)	^a ICU (n=7)	Total (n=39)
# of ^b ABHPd/100 beds	23.8	82.2	142.3	51.3
Range, Median	0-100, 13.7	23-153, 79.1	50-233, 128.6	0-233, 54.3
Total # of ^b ABHPd	170	333	111	614
^c POC (%)	34 (20)	75 (23)	47 (42)	156 (25)
Hallways (%)	57 (34)	208 (63)	50 (45)	315 (51)
^d Other areas (%)	79 (46)	50 (15)	14 (13)	143 (23)


^aICU: intensive care unit, ^bABHPd: alcohol-based hand product dispensers

^cPOC: point of care, ^dincludes other locations such as at the nursing station or just inside the doorway of the patient's room

at the POC. This was not adequately captured by our survey because we did not ask for the number of dispensers in each room further contributing to a limited assessment.

Finally, personal dispensers were excluded from the analysis of the number of dispensers because we wanted to focus on what was available in the facility itself, and keep the assessment simple. Counting personal dispensers would be more difficult. To be accurate, we would have to assess compliance of each individual with carrying his or her own dispenser, which was not possible.

CONCLUSIONS

There is need for improvement in providing access to ABHP at the POC in healthcare facilities in the CICN. Although ABHP is available in these settings, dispensers are not provided at the POC. Long-term care wards had the lowest ABHP dispenser to bed ratio, although access to ABHP at the POC is enhanced in settings that provide personal dispensers for staff members to carry. Hospitals and LTCF need to increase the number of ABHP dispensers available, with a particular emphasis on placing them at the POC to assist their staff in meeting the expectations for hand hygiene as outlined in recent national and provincial hand hygiene guidelines. 

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Appendix A

Hand Hygiene: Point of Care Access Audit for the Champlain Region

Dear Infection Control Professional:

National Infection Prevention and Control (IPAC) week takes place October 15-19, 2007. This is an opportunity to showcase a Champlain initiative to demonstrate regional data collection.

Hand hygiene is the cornerstone of IPAC. Current scientific knowledge supports use of alcohol-based hand products (ABHP) as the preferred method of performing hand hygiene in most healthcare situations. However, for a hand hygiene program to be effective, the hand hygiene product must be accessible at the "point of care".

Point of care is defined as:

The point where three elements are present simultaneously: the patient, the health care worker and care involving contact.

Alcohol-based hand rub at patient point of care really means locating the alcohol-based hand rub at each bedside, although it can be placed in such a way

that it is shared by two adjacent beds in a multi-bed room. Some companies providing alcohol-based hand rub also provide the means of attaching the product to the foot of the bed or to bed rails or IV poles. Where this is not possible (for example, in pediatric units) healthcare workers can be given personal dispensers which can be carried in the pocket or clipped onto clothing.

Point of care is not:

- Outside the patient room
- At the doorway inside the room

The Champlain Infection Control Network (CICN) Surveillance subcommittee would like to enlist your help to produce a description of how well our acute and long-term care facilities meet the recommendation of providing access to a hand hygiene product at the point of care. Non-nominal data will be compiled into aggregate rates (percent) of

compliance in acute and long-term care facilities. Your individual facility's rate will be disclosed only to you and will not be shared with other organizations. So when the data are analyzed, you will receive two pieces of information: your own facility compliance rate and the overall (aggregate) Champlain compliance rate for your sector.

Please choose one day during the week of October 15-19, 2007 to perform this audit. You might wish to consider incorporating your audit into an activity for Infection Control Week. Attached, you will find a form that outlines the instructions for conducting this small audit. It should take no more than 15 minutes of your time. Facilities can choose one or both types of units described below. However, if both units are available for audit, we would prefer to have you provide data for both.

Hand Hygiene: Point of Care Access Audit for the Champlain Region

Facility: _____ Date of audit: _____

Is Alcohol Based Hand Product (ABHP) available at the entrance to your facility? Yes No

Intensive Care Units:

Do you have an Intensive Care Unit Yes No

If no, go to the next box.

If yes, how many beds are in the ICU _____

of Rooms in the ICU _____

of **ABHP dispensers available in the ICU (total) _____

of ABHP dispensers in hallways _____

of ABHP dispensers at the point of care _____

Does the facility provide ICU staff with personal containers of ABHP? Yes No

Patient care wards:

Please choose a single patient care ward with at least 10 beds to audit.

beds in the ward _____

Single rooms in the ward _____

Semi-private rooms in the ward _____

3-bed rooms in the ward _____

4-bed rooms in the ward _____

ABHP dispensers available in the ward (total) _____

ABHP dispensers in hallways _____

ABHP dispensers at the point of care _____

Does the facility provide ward staff with personal containers of ABHP? Yes No

Please fax the completed form to the Champlain Infection Control Network at **613-761-4917**

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Increasing vaccination rates among health care workers using unit “champions” as a motivator

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ABSTRACT

Key members (a.k.a. “champions”) within specific work units were provided with a brief training session designed to increase awareness of the benefits associated with influenza vaccination. The champions were responsible for encouraging members of their work units to accept an influenza vaccination and in some cases had the requisite training to administer the vaccination on site. Work units were randomly assigned to either champion present or champion absent conditions. Results show increased vaccination compliance for groups where a champion was present (N = 23). An independent sample t-test revealed a significant difference between the two groups $t = 2.30, p < .03$ which resulted in a percentage change from 41% in the unchampioned group to 52% in the championed group. Analyses which included only those units that had a fully trained champion (N=13) produced a similar percentage increase in vaccine uptake from 41% to 54% (although this did not reach statistical significance; $p = .08$). Overall, the presence of a unit champion did produce a clinically relevant increase in vaccination rates in championed work units. This result has implications for future vaccination campaigns in hospital settings. Future research targeting the barriers and drivers of influenza vaccination among HCWs is recommended.

Key words: Influenza vaccine, health promotion, intervention, compliance

INTRODUCTION

According to the Public Health Agency of Canada, an estimated 10-25% of Canadians contract the influenza virus each year (1). For the most part, those

infected will recover completely from all associated symptoms; however, an estimated 20,000 hospitalizations and 4,000 deaths are attributed to the complications of influenza each year in Canada (2). Although influenza has the greatest impact on the health and well-being of the elderly, individuals with chronic conditions, or those with compromised immune systems, it is also important for health care workers to be immunized against influenza. Health care workers (HCWs) are not necessarily at increased risk for complications associated with the influenza virus; however, the possibility of transferring the influenza virus to the aforementioned at-risk groups is of great concern. Therefore, there have been concerted efforts to vaccinate the health care worker segment of the “healthy” population (3). Because HCWs work in close proximity to those considered at increased risk of infection and complication, Canadian HCWs are offered a publicly funded influenza vaccine at the beginning of each influenza season by their employers.

Although influenza immunization for health care workers is offered at no cost to the individual, the overall acceptance of the vaccination is low. In Canada, results of questionnaire studies revealed that only 37% of Emergency Department (ED) personnel from four teaching hospitals and a median proportion of 29% of HCWs from a cross section of Alberta nursing homes had been vaccinated against influenza in their annual vaccination campaigns (4, 5). More recent data suggests that the vaccine coverage rates among HCWs in Canada range from 26-61% (6). Overall, these low acceptance rates are surprising considering the Canadian National

Advisory Committee on Immunization (NACI) recommendation of having 90% of eligible HCWs vaccinated (6), the evidence that supports the effectiveness of influenza vaccination (7) and the potential for adverse outcomes at the individual (increased health care visits, complications of influenza such as pneumonia and inability to do usual routines such as work and maintain active daily lifestyles) (8, 9), organizational (lost work days, costs for replacement workers) (10) and societal (decreased patient safety associated with nosocomial infection) (11, 12, 13) levels when HCWs are not vaccinated.

Based on the aforementioned research studies, it is apparent that annual influenza vaccination is an effective method for reducing the overall incidence of illness associated with the influenza virus. Moreover, associated benefits appear to be at the individual (reduced illness associated with influenza), organizational (e.g., reduction in lost work days, increased productivity) and societal levels (increased patient safety). Despite the proven effectiveness of influenza vaccination and recommendations from NACI, health care centres in Canada still struggle to achieve adequate seasonal influenza vaccine coverage among HCWs.

Overview and rationale for research

At the Halifax Capital District Health Authority (CDHA), there has been a concerted effort to increase the acceptance rate of the influenza vaccine among staff. Although the centre has set a target vaccination rate of 70% of all employees, from 2000-2004 the vaccination rates were between 38% and 42% (14, 15). For the most part CDHA has focused on increasing the vaccination rates by implementing knowledge-based campaigns that highlight the importance of receiving an influenza vaccine. Although this method is useful in explaining why it is important to receive an annual vaccination, previous research outside of the health care field has shown that knowledge based campaigns may not be as effective when attempting to influence attitude or behaviour change (16). For example, a significant amount of research has suggested that norm based campaigns (i.e., campaigns which attempt to highlight or modify the social norms in the area) might be equally if not more effective than typical information based campaigns (17, 18). Although these norm-based campaigns have focused on environmental behaviours, norm based campaigns have also proven effective in the health domain (19).

One method that has been used to

influence social norms in organizations is often referred to as “opinion leadership”. Opinion leadership is defined as “the degree to which an individual is able to influence another individuals’ attitude or behaviour informally in a desired manner” (20). Opinion leaders are typically individuals from a similar social status as the individual(s) they are attempting to influence. From an organizational perspective, employees are more likely to be persuaded by individuals that hold a similar position in the organization. For example, previous research has shown that direct persuasion tactics that use authority figures or rewards as methods to promote acceptance of a change program are not effective (21). In contrast, programs that used an opinion leadership approach were able to promote successful change in a variety of different contexts including safer sex campaigns, urinary catheter care, service delivery, and stroke assessment (22, 23, 24, 25). In order to increase influenza vaccination rates at CDHA, we felt it was important to use a similar program that used front line workers as “champions” of the influenza vaccination campaign. Champions in this context are individuals from a similar position in the organizational hierarchy as the individuals they are attempting to influence. Previous studies have shown increases in vaccination rates following the adoption of a champion or peer vaccinator initiative (26, 27). Although our program was not a traditional opinion leadership program in that we did not have the ability to create a peer-to-peer champion selection, we did use a similar approach where managers selected individuals that were at a similar position socially in their respective work units to act as champions. Using individuals from a similar position in the organization hierarchy to promote influenza vaccination is also expected to influence the normative nature (duty of care and commonality) of influenza vaccination versus using a traditional knowledge-based approach. Based on this rationale we hypothesised that occupational groups where a champion was present would have significantly higher levels of influenza vaccination compliance than the groups where no champions were present.

Table 1:
Work units where a champion was identified and completed training

Work Unit	% Vaccinated 2004	% Vaccinated 2005	Percentage Change 2004-2005
Neurology	38 (N = 24/64)	47 (N = 27/57)	9%
Gynaecology Radiation Oncology	22 (N = 12/55)	23 (N = 13/56)	1%
Orthopedics	45 (N = 14/31)	56 (N = 20/36)	11%
Otolaryngology	43 (N = 15/35)	47 (N = 20/43)	4%
Cardiology	56 (N = 28/50)	70 (N = 31/44)	14%
Hemodialysis-1	38 (N = 39/102)	56 (N = 44/78)	18%
Urology	57 (N = 28/49)	66 (N = 33/50)	9%
Post Anaesthetic Care Unit-1	66 (N = 21/32)	74 (N = 23/31)	8%
Transitional Care Unit-1	36 (N = 15/42)	57 (N = 25/44)	21%
Palliative Care	27 (N = 7/26)	42 (N = 11/26)	15%
Intermediate Care Unit-1	50 (N = 51/102)	59 (N = 52/88)	9%
Oral Surgery	39 (N = 32/83)	42 (N = 27/64)	3%
Medicine	31 (N = 22/72)	67 (N = 45/67)	36%

Participants, setting and intervention

Matching of units

In 2005, work units within an acute care facility were matched on previous year's influenza vaccination rates, physical size and primary function (e.g., support services, surgical unit), creating a final sample of 46 work groups (or 23 pairs). The rationale for matching units was to have equal representation of champions throughout the entire hospital facility and to remove possible sampling errors associated with the aforementioned variables (e.g., previous year's immunization rate, primary function). Next, matched units were randomly assigned to either a champion present or champion absent conditions. Prior to commencing our research, ethics approval was granted from both the hospital's and Saint Mary's University Research Ethics Boards.

Identification of champions

The selection of unit champions utilized an opinion leadership process. Champions were identified by contacting the heads of various departments and requesting that they select an individual willing to serve as a champion. It was communicated to the department heads that these individuals did not have to be in a position of authority. More importantly, we wanted individuals that operated in a front-line capacity and that were well liked by co-workers. Additionally, we asked managers to choose an individual who they viewed as a leader in their department. We communicated that the proposed champion be someone that co-workers trusted, who were committed to follow through on the study and willing to promote and encourage co-workers to accept influenza immunization. The proposed champions were also to be someone who accepted the influenza immunization yearly themselves. Managers were required to support the champion process by allowing the unit champion to attend an all-day training session prior to influenza season.

Champion training

Through the Occupational Health Department at CDHA we were able to train the pre-selected individuals. The training consisted of a one-day educational session on the influenza virus, the importance of HCW influenza immunization, common misbeliefs about influenza immunization and, where appropriate, training in the administration of influenza vaccine. Presentations from various health professionals regarding the importance of vaccine compliance were also included in the full-day training session. In addition, each champion was provided with supporting literature which included 1) standing order, 2) Occupational Health Pledge of Confidentiality, 3) learning module for influenza immunization, 4) learning module for the treatment of anaphylaxis, 5) influenza learning module, 6) various pieces of literature provided by Public Health, 7) influenza vaccine supply list, 8) influenza immunization clinics schedule, and 9) consent form for administration of the vaccine. Although 23 champions were invited to attend the training sessions, only 13 champions were present for the full-day course. The individuals who did not attend the champion training were provided with the identical supporting literature as those who attended the full-day session.

Outcomes

Data analysis

A total of 46 work units (23 units where a champion was present, 23 units where a champion was absent) were selected for participation in the study. Post-intervention analyses were conducted using a series of two-tailed independent samples t-tests in statistical software package SPSS version 15.0. The independent samples t-test revealed a significant difference between the championed and non-championed groups ($t(22) = 2.86, p < .03$). Group comparisons revealed that the percentage of individuals who received an influenza vaccine in the champion absent condition was 41% whereas in the champion present group, compliance was significantly higher at 52%, (95% confidence interval for increase 2.9%-18.2%).

In order to control for possible group effects the data were also compared by year using a series of paired sample t-tests. Using archival data collected internally from CDHA, we were able to determine whether there was a significant increase from the previous year's vaccination rates for both the championed and un-championed groups. In groups where a champion was present the vaccination rate increased from 44%

Table 2:
Control work units – no champion

Work Unit	% Vaccinated 2004	% Vaccinated 2005	Percentage Change
Intermediate Care Unit-2	29 (N = 19/66)	22 (N = 13/59)	7%*
Respiratory Therapy	50 (N = 25/50)	38 (N = 18/48)	12%*
General Medicine-Dermatology	32 (N = 22/68)	27 (N = 18/67)	5%*
Cardiac Catheterization Unit	70 (N = 23/33)	75 (N = 27/36)	5%
Radiation Oncology	60 (N = 30/50)	84 (N = 38/45)	24%
Marrow	23 (N = 16/69)	51 (N = 35/68)	28%
Hemodialysis-2	38 (N = 17/45)	43 (N = 19/44)	5%
Post Anaesthetic Care Unit-2	32 (N = 12/38)	56 (N = 20/36)	24%
Transitional Care Unit-2	45 (N = 30/67)	31 (N = 23/75)	14%*
Progress Care/Family Medicine	13 (N = 6/47)	29 (N = 12/42)	16%
Ambulance	27 (N = 33/124)	18 (N = 22/120)	9%*
Medical Education-Clinical Clerks	12 (N = 10/83)	15 (N = 14/94)	3%
Voice Services	32 (N = 24/74)	53 (N = 32/60)	21%

* Denotes a decrease in vaccination rate from 2004-2005.

to 54% in ($t(21) = 4.38, p < .001$) or a 10% increase (95% confidence interval for increase 4.8%-13.6%). For groups where no champion was present, the overall vaccination percentage increased slightly (38% to 41%), but this change was not significant ($t(21) = 1.16, p = .25$).

Secondary data analysis

Although we used an initial sample of 23 matched work units, and champions were identified in all work units, not all of the identified champions

actually attended the training sessions. Fortunately, we were able to identify the units where champions were identified, but no training took place. When we excluded these 10 units from further analysis, the vaccination percentage increase for the championed groups remained (41% in the non-championed group and 54% in the championed group) however, the relevant t-test did not reach accepted levels of significance ($t(24) = 1.79, p = .08$, two-tailed). The change in significance without any

change in percentage difference suggests this is simply an issue of statistical power. Results for each individual work unit are presented in Tables 1 and 2.

DISCUSSION

Summary of main results

Results suggest that the use of a unit champion is an effective intervention when attempting to increase the rates of health care worker influenza vaccination in a hospital setting. For the 23-unit sample, vaccination rates increased significantly as compared with units without champions and also as compared with previous years on the same unit.

Explanation for findings


It is clear that having an assigned champion in a work unit can influence vaccination rates. However, what is less clear is the impact of the training of the champions. Perhaps simply identifying a champion would be sufficient to obtain the desired results. Future research should explore this possibility.

Limitations of study

As previously described, the attendance at the champion training sessions was quite low. Of the 23 selected champions only 13 attended champion training. This low attendance rate introduces three possible issues with the current study. First, the low attendance rate dropped the number of groups available for statistical analysis and the ability to detect an effect. Second, it is possible that the unit managers representing the 10 champions who did not attend the champion training do not support the champion process. That said, we know that the untrained champions still promoted the influenza vaccination campaign within their respective units even though they were not trained in how to administer the vaccination. Thus, this could suggest directions for future research; perhaps training is not necessary to increase vaccination rates, simply identifying an appropriate champion is sufficient. Third, when we excluded the match pairs associated with the champions whom did not attend training the representation of

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support services was much higher in the non-championed group. It is possible that support services are inherently different than groups that contained medical staff.


Another possible limitation of this research could be related to the manner in which the champions were selected. Unit managers were solely responsible for identifying the champion from their group. It is possible that certain inherent biases were present in this process.

Conclusions & future research

The results of this study are very promising. Although we were able to see an increase in influenza vaccinations for the championed group, there were still approximately 46% of staff that are refusing an annual influenza vaccination. Although a very small minority of these individuals may be refusing influenza vaccinations for legitimate reasons (e.g., contraindications, allergies) there are still a number of unanswered questions with regard to non-compliance. One possible approach to understanding these low compliance rates is to target the psychological drivers that are associated with vaccine refusal. Although there have been some efforts to understand knowledge, attitudes and beliefs surrounding vaccine acceptance there have been very few research studies that incorporate proven psychological theory in their design. Future research should employ tactics and models from such areas such as social psychology and social marketing which have proven effective in attempting to alter behaviour. Examples include, but are not limited to, the theory of planned behaviour (28), the elaboration likelihood model (29) and the health action process approach (30).

Future research should also train unit champions in tactics that assist in persuading the "non-compliers". Currently the unit champions are provided information on influenza and influenza immunization, as well as, vaccination training (if appropriate); however, they are not specifically trained in how to encourage individuals to accept a vaccination. Training

interventions should be designed to target the actual barriers and drivers of influenza vaccination acceptance among HCWs. The selection of the unit champions should also be conducted anonymously to avoid possible biases with this process.

Finally, systematic research should be undertaken in order to understand what elements of the champion process is necessary to influence change in vaccination rates. Understanding these elements would be very useful when attempting to develop the most cost-effective and workable interventions that increase health care worker compliance with influenza vaccination. 

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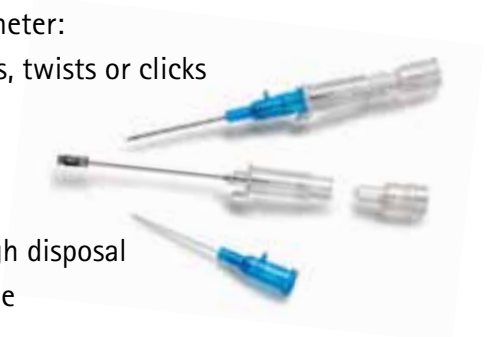
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SHARING EXPERTISE

The impact of ERI, burnout, and caring for SARS patients on hospital nurses' self-reported compliance with infection control

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ABSTRACT

Siegrist's (1996) Effort-Reward Imbalance (ERI) Model provided the theoretical basis for this secondary data analysis that examines the relationship between nurses' ERI and their self-reported compliance with infection control, between ERI and burnout and nurses' compliance, and between nurses' experience in caring for SARS patients and their compliance with infection control. Data for this study came from a collaborative interdisciplinary study examining the barriers and facilitators to implementing protective measures against SARS and other existing and emerging infections among hospital nurses in Ontario and British Columbia. This is the first study to examine the relationship between ERI and compliance with infection control, as well as the impact of nurses' experience in caring for SARS patients on their compliance behaviour with infection control. Hierarchical multiple linear regression analyses revealed that ERI is a significant predictor of decreased compliance with infection control ($\beta = -.15, p < .05$). While ERI was shown to be associated with burnout ($\beta = .60, p < .001$), the combined effect of these two variables did not significantly improve the prediction of compliance behaviour ($\beta = -.03, p = .63$). Nurses who reported having directly cared for SARS patients were found to have increased compliance with infection control ($\beta = .15, p < .001$) after controlling for demographic and work environment factors. These findings highlight how nurses' adverse workplace environments can affect their work and health and thus, can be used by nursing and hospital administrators to help develop interventions to lower occupational stress and improve health in the workplace.

Keywords: Effort-reward imbalance, burnout, caring for SARS patients, self-reported compliance with infection control, Copenhagen Burnout Inventory.

INTRODUCTION

The Severe Acute Respiratory Syndrome (SARS) outbreak in Ontario in 2003 underscored how nurses' workplace environments, characterized by heavy workloads and decreased resources, may have compromised their delivery of patient care during the outbreak (1). It was reported that nurses and other healthcare workers (HCWs) had inadequately complied with workplace safety measures during the outbreak, and that this inadequacy led to occupational transmission of the SARS infection affecting both patients and HCWs in alarming numbers (2). The tragic outcomes of SARS provide significant insights into the need to explore nurses' current conditions at work and study how future outbreaks may impact negatively on patient care, as well as on nurses' own health. With the looming shortage of nurses, combined with an ageing Canadian population that will need an increasing level of health care, the exhaustive work demands and burnout placed on nurses may potentially affect the health of both nurses and patients.

Siegrist's (3, 4) Effort and Reward Imbalance (ERI) model describes how a negative workplace environment may lead to job stress and eventual burnout. Based on the principle of social exchange (reciprocity), the model hypothesizes that failed reciprocity (i.e., high effort spent but low rewards received at work) is likely to elicit negative emotions

Table 1:
Frequencies of nurses' demographic characteristics

Demographics	n (%)
Gender	
Female	516 (96.6%)
Male	18 (3.4%)
Marital status	
Single	58 (10.9%)
Divorce, separated or widowed	74 (13.9%)
Married or living with partner	399 (75.1%)
Highest level of education	
Diploma or certificate	342 (64.2%)
Bachelor's degree	164 (30.8%)
Master's degree or doctor of philosophy	27 (5.1%)
Job Status	
Full-time	320 (59.8%)
Part-time	159 (29.7%)
Casual	56 (10.5%)
Primary area of practice	
Medicine, surgery	138 (26.2%)
Maternal newborn, paediatrics	103 (19.5%)
Emergency, critical care	155 (29.4%)
Other	131 (24.9%)

Table 2:
Means and standard deviations of nurses' demographic characteristics

Demographics	n	Mean	SD
Age	519	48.40	7.50
Years of nursing experience	533	24.79	7.93
Years in organization	532	15.68	8.18
Hour of work per week	518	34.72	9.78

and sustained stress response in affected employees. In other words, nurses who are exposed to numerous responsibilities, while lacking proper support and feedback from colleagues and supervisors, suffer a stressful imbalance that will eventually lead them to emotional distress.

Job burnout, an outcome of ERI, has been known to be particularly common in the nursing profession, given that nurses frequently deal with emotional and critical situations (5). Studies of burnout among nurses have been shown to be detrimental on the health of both nurses as well as patients (6, 7).

Nurses' susceptibility to potentially fatal occupational conditions during this time emphasizes the importance of adhering to infection control measures.

In the post-SARS era, hospital workers are more conscious of infection control safety measures (8), suggesting that SARS might have motivated hospital workers to enhance their compliance behaviour. Current reports indicating that HCWs are more compliant with these measures is good news for healthcare administrators, considering that research into HCWs' use of precautionary measures suggests they are not performing very well (9, 10). HCWs' adherence to infection control has been hampered by negative workplace factors, such as increased workload, increased patient acuity, and turnover (11), which was similarly identified in studies into nurses' compliance with infection control (12, 13, 14).

The research findings on nurses'

compliance with infection control measures suggest that organizational climate characterized by heavy workloads with decreased resources can lead to burnout and could contribute to nurses' decreased compliance with infection control (13). Exploring how Siegrist's ERI model and burnout influence nurses' compliance could provide important evidence-based knowledge about the reasons for nurses' low compliance with infection control. Exploring how nurses' compliance behaviour could have been affected by their experience caring for SARS patients could provide a significant insight into how a major outbreak can influence safety compliance behaviour.

The purpose of this secondary analysis is to test the impact of ERI on compliance and burnout, and how the combined impact of ERI and burnout could negatively influence nurses' self-reported compliance with infection control. The impact of the nurses' experience with directly caring for SARS patients will also be examined to see if their experience is associated with increased self-reported compliance with infection control.

METHODS

Design and sample

This study is based on a secondary analysis of a non-experimental cross-sectional correlational survey that explored the barriers and facilitators to HCWs' compliance with SARS guidelines and other infection control measures in two Canadian provinces: British Columbia (BC) and Ontario. Data from the BC study (not used in this analysis) were collected from physicians, nurses, respiratory therapists, and physiotherapists between October 2004 and August 2005. The Ontario survey was collected between August 2005 and December 2005 and was administered to registered acute care hospital nurses in the Greater Toronto region as well as a random sample from across the province. Ethics approval for the study was obtained from the University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects.

For the main cross-sectional study, a stratified random sample of 750 registered nurses (RNs) working in Ontario acute care hospitals was sought. The sample was selected from the College of Nurses of Ontario (CNO) in order to be able to identify nurses working in specific facilities known to be involved in the SARS outbreak. Potential participants received a self-administered questionnaire comprised of 103 items, which included demographic questions and several measures of organizational, environmental, health and compliance factors mostly obtained from previously developed questionnaires from existing standardized instruments, including Siegrist's Effort-Reward Imbalance Scale (Siegrist 1996), the Johns Hopkins University School of Hygiene and Public Health Safety Questionnaire, and the Copenhagen Burnout Inventory (15). Of the 1200 questionnaires sent out, 46 were known ineligible, 54 known refusals, 498 were not returned and 602 participants completed the questionnaires, yielding a 52.2%

response rate. For this analysis, 71% ($N = 536$) of the subjects who responded were selected, based on information in the demographic questionnaire that revealed they had direct patient-care contact, in order to capture only those nurses with hands-on experience with patient care given the study's focus on the use of infection control measures.

Descriptive characteristics of the study population shown in Tables 1 and 2 reveal that the participants were predominantly female (96.6%) and worked full time (59.8%) for an average of 34.72 hours ($SD = 9.78$) per week. Nurses had an average age of 48.40 years ($SD = 7.50$), and most were married or living with a partner (75.1%). Moreover, they had an average of 24.79 years ($SD = 7.93$) of nursing experience and 15.68 years ($SD = 8.18$) of experience working in their current organization. The majority of the respondents had a diploma or certificate (64.2%) from a post-secondary institution and 30.8% had Bachelor's degree, and worked in medical and/or surgical units (26.2%), maternal/newborn

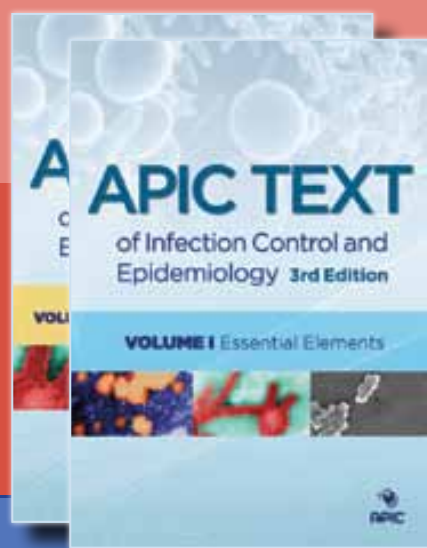
and paediatrics (19.5%), emergency and critical care (29.4%), and in other areas of practice (24.9%). The demographic characteristics of nurses in this study were comparable to the provincial data in terms of nurses' age, employment status being 46.1 years, and with 64.7% of them working full-time, as reported by the CNO (16).

INSTRUMENTS

Effort-Reward Imbalance Questionnaire

Effort-Reward Imbalance was measured using the 23 Likert-scaled items containing three scales – extrinsic effort, reward, and overcommitment. All three scales were used in the primary study, but only the extrinsic effort and reward items were included in this analysis. The six items of the effort scale assess work pressures, increase in work responsibility, and perceived physical job demands. The 11 items of the reward scale assess perceived adequacy of salary, promotion prospects, job

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Table 3:
Results of hierarchical multiple linear regression analysis for hypotheses 1, 3, & 4

Model	Variables	R ²	Adjusted R ²	β	t	Sig.
Model 1	Medical/surgical	.04 [‡]	.04	.16	3.43	.00
(Demographics)	Job status			.06	.92	.34
	Hrs worked/week			.10	1.60	.11
Model 2	ERI	.07	.06	-.15	-2.49	.01
Model 3	Work Burnout	.07	.06	-.03	-.48	.63
Model 4	SARS Experience	.09	.08	.15	3.21	.00

Dependent Variable: Compliance

Table 4:
Results of hierarchical multiple linear regression analysis for hypothesis

Model	Variables	R ² [§]	Adjusted R ²	β ^{**}	t ^{††}	Sig.
Model 1	Medical/surgical	.03	.03	.08	2.11	.04
(Demographics)						
Model 2	ERI	.38	.38	.60	16.71	.00

Dependent Variable: Work Burnout

* ICU, CCU, PACU, NICU

† Geriatrics, Ambulatory Care and Outpatients Clinics, Mental Health, Administration

§ Proportion of variance

** Standardized beta coefficient

†† t-score

security, and esteem experienced by superiors and colleagues.

The ERI ratio is used to assess the degree of imbalance between high cost and low gains at work, where ERI increases with increasing values of the ratio. It is calculated using equally weighted effort and reward scores. Effort scores are summed from the six effort items and are denoted as the numerator (e). The 11 reward scores, denoted as the denominator (r), are reverse coded and multiplied by a correction factor ($c = 6/11 = 0.55$ for this study) to correct the discrepancy between the number of effort questions and reward questions in the numerator and denominator of the ratio, respectively. The ERI ratio then equals $e/(r*c)$. A value close to zero indicates a favourable condition (relatively low effort and high reward), whereas values beyond 1.0 reflect an effort reward imbalance (17).

The effort and reward scales have acceptable published internal consistencies (Cronbach's alpha) varying

between 0.66 and 0.88 for the effort scale (18), and between 0.70 and 0.91 for the reward scale (19). In this study, Cronbach alpha coefficients were 0.86 for effort and 0.85 for reward.

Burnout questionnaire

The seven-item workplace burnout scale of the Copenhagen Burnout Inventory (CBI), a scale attributed to work in general, has a reported Cronbach's alpha of 0.87 (6). In this study, the internal consistency of the work burnout scale was 0.90. Participants had to indicate on the first three questions the degree of "emotional exhaustion," "burnout" and "frustration" they feel with respect to their work, while the last four questions were answered according to how often they feel burnt out at work and whether they have enough energy left for family, friends and leisure. The five response categories ranged from "to a very low degree" to "to a very high degree" for the first three items, and from "never" to "always" for the last four

items. To obtain mean burnout scores ranging from 0-100, the five response categories are re-scaled using the values 0, 25, 50, 75, and 100 respectively, with higher burnout scores reflective of higher levels of burnout (15). A score of greater than 50 was used as the cut-off value to indicate the presence of burnout in previous research (20), and was used as the burnout threshold score in this study.

Nurses caring for SARS patients

Nurses caring for SARS patients were measured by asking the participants whether they directly worked with SARS patients. Respondents were asked to indicate "yes," "no," "don't know," and "not applicable." The yes/no responses were transformed into a dummy variable, whereby those who answered "yes" were coded as 1 and those with "no" and "not applicable" as 0. Frequencies of the dichotomies revealed unequal sample sizes where (1 = 169 and 0 = 334), although Pedhazur and Schmelkin (21) note that the use of unequal sample sizes with dummy coding for a single independent variable poses no difficulties.

Nurses' self-reported compliance with infection control

The six-item compliance scale (the dependent variable), assembled from the John Hopkins University School of Hygiene and Public Health Safety Climate Questionnaire, measures how often the participants perform the following tasks: clean their hands with water and soap or waterless hand rubs after removing disposable gloves; wear disposable gloves whenever there is a possibility of exposure to blood and other body fluids; wear a disposable outer garment that is resistant to blood and body fluids whenever there is a possibility of soiling your clothes; wear an N95 mask whenever there is a potential exposure to an airborne respiratory communicable disease; and wear protective eyewear whenever there is a possibility of splashes of blood or other body fluids. Compliance scores ranged from 1 to 5, with 1

referring to compliance with the task (0 out of 10 times); 2, (2 out of 10 times); 3, (3 to 6 out of 10 times); 4, (7 to 9 out of 10 times); and 5, (10 out of 10 times). Mean scores were compiled using the six compliance items, with higher score referring to higher compliance. Respondents answering three or more of the items obtained a compliance score and were included in the analysis. The Cronbach alpha coefficient for the compliance scale was 0.80.

DATA ANALYSIS

In this study, the Statistical Package for Social Sciences, version 15.0, was used for all statistical analyses. Data distributions were assessed for adherence to any underlying statistical assumptions prior to the main analysis. ERI scores were log transformed to better normalize their distributions (5). The main analysis was performed using both ERI and log ERI scores. No significant differences were found in the results between the two versions, therefore the untransformed ERI ratio was presented here in order to facilitate the interpretation of the descriptive and regression analyses. Pearson correlation coefficients, t-tests, ANOVA, and simple linear regression were the statistical analyses performed to examine the relationships between the dependent variable, independent variables and extraneous variables. Hierarchical multiple linear regression analysis was used as the primary statistical method for testing the study hypotheses.

RESULTS

Relationships between demographic variables and major study variables

To address the potential influence of extraneous demographic factor variables on the hypothesized relationships, several variables, including age, marital status, job status, hours of work per week, highest level of education, years of nursing experience, and primary areas of practice were analyzed for possible associations with the main study variables. Demographics found to

be associated with compliance, as the dependent variable, included job status and hours worked per week. Medical/surgical unit, as a primary area of practice, appears to also influence ERI, burnout, and compliance with infection control. All significant demographic variables were controlled for in the main analysis.

Test of hypotheses (see Tables 3 & 4)

1. Consistent with the first hypothesis, ERI ratio was shown to be a significant predictor of decreased self-reported compliance with infection control ($\beta = -.15, t = -2.49, p < .05$).
2. Also consistent with the second hypothesis, ERI entered in the second model (Table 4) was shown to be a significant predictor of burnout ($\beta = .60, t = 16.71, p < .001$).
3. The third hypothesis, indicating that nurses with high ERI and high burnout scores will have decreased self-reported compliance with infection control, was not supported by this data, because no significant effect was shown when ERI and burnout were both included in the regression equation (Table 3, Model 3).
4. Nurses' SARS work experience entered as the final independent variable (Table 3, Model 4) was also shown to be a significant predictor of self-reported compliance with infection control ($\beta = .15, t = 3.21, p < .001$).

Of interest, the effects of high ERI (those who scored greater than 1) and high burnout (those with scores 50 and greater) on the respondents' compliance with infection control were examined and no significant difference was detected in the outcome found in the primary analysis which used the continuous format of these variables.

DISCUSSION

This study is the first to report on the negative impact of effort-reward imbalance on self-reported compliance with infection control in the nursing population. While the reported findings provide support for how nurses' compliance with infection

control measures is influenced by an environment of high efforts/low rewards conditions, they also lend quantitative support to studies that show poor working environments affect the health and well-being of nurses. This outcome, in turn, has the potential to impact negatively on the health of patients.

In analyzing the efforts and rewards reported by the nurses in this study, many nurses reported having to cope with unacceptably onerous job demands, such as serious time pressures, numerous interruptions, increased responsibilities, and heavy physical demands. Such conditions were spotlighted during the SARS outbreak, when nurses were forced to work with decreased staffing resources combined with increased workloads associated with having to keep up with the demands of unfamiliar infection control measures (1). In relation to occupational rewards, many nurses reported that they did not receive adequate respect from their superiors nor adequate support in difficult situations. This problem was also demonstrated during the SARS outbreak, as nurses perceived that their nursing expertise and knowledge in caring for patients with infectious diseases were ignored (8).

Increased burnout as an outcome of ERI imbalance was also identified in this study, and hence provides added knowledge about the usefulness of Siegrist's framework in identifying workplace imbalance that leads to workplace burnout. Half of the nurses in this study reported experiencing moderate to high levels of burnout, with the medical and surgical nurses reporting significantly higher levels of ERI and burnout. Attention should be given to any strong positive relationship between burnout and ERI as this outcome is predicted to worsen with the looming shortage of nurses in the imminent future. The categories of effort (intrinsic and extrinsic) and reward (esteem, job security, money) within the ERI model could provide an important framework for nursing stakeholders in terms of developing strategies and interventions for issues facing today's nurses.

While nurses' stress and fatigue combined with their increased workloads were thought to be associated with their inconsistent or lowered compliance with infection control (13), this belief was not supported, as evidenced by the insignificant outcome of combining the impact of ERI and burnout variables in this study. Interestingly, medical/surgical nurses, who were found to have higher levels of burnout in this study, also reported having increased compliance with infection control. A possible explanation for this finding is that this group of nurses works with infectious diseases on a regular basis, leading to a higher level of skill and problem-solving ability in such an area of practice (1). Moreover, increased attention to infection control necessitated by the tragic outcomes of SARS may be having a positive impact on nurses' compliance with infection control in general.

Finally, this study found that nurses' compliance behaviour was positively influenced by their experience in caring for SARS patients. The significant relationship between nurses' SARS experience and increased compliance was perhaps reinforced by factors such as the SARS-related deaths of hospital nurses and the susceptibility of nurses to acquiring workplace disease and infection, as well the heightened infection control education and surveillance currently mandated across hospital organizations (8, 22). This finding is optimistic in that lessons learned to protect the health of nurses against future outbreaks have had a positive impact on nurses' experience. Some are concerned that when memories of the SARS outbreak fade, so too will the attention to infection control. Given what the nurses and the health care system experienced during the outbreak, nurse leaders, hospital administrators, and policy makers must ensure that a positive safety work environment is in place in order to protect health care workers as well as patients against any new and future outbreaks.


The results in this study also provided usefulness for the use of two

other measures: the use of the CBI's work burnout assessment and the use of the self-reported compliance questionnaire. As with the ERI scale, the use of CBI has been shown to be a useful measure for burnout amongst nurses. Its availability within the public domain makes it a useful indicator of burnout accessible to nurse and hospital administrators, and as a means to monitor the impact of interventions on staff. The self-reported compliance questionnaire, on the other hand, could provide a useful measure of compliance with infection control amongst nurses and other healthcare workers.

The emergence of the SARS outbreak also underscored the need to improve nurses' work environments now more than ever. At the same time, the SARS also highlighted the importance of complying with infection control safety measures. The increased self-reported compliance behaviour amongst nurses who cared for SARS patients and those working in the medical/surgical settings is optimistic – considering that compliance amongst nurses and other health care workers has generally been low. Lessons learned from SARS need to be taken seriously not only by those who experienced the event but by all those involved in direct patient care at a time when new and emerging infections can occur at any time.

STRENGTHS AND LIMITATIONS

Cross-sectional data makes it impossible to confirm causal relationships between variables, creating the major limitation of our study. Nurses who agreed to respond to the ERI scale, work burnout questionnaire, and self-reported compliance scale gave a measure of the perceived levels of each concept at a particular point during their careers. The proposed relationships between these variables would be best tested by a longitudinal evaluation of ERI, burnout, and compliance. Use of self-reported questionnaires for both

independent and dependent variables without an objective measure increases susceptibility to the influence of subject-reporting bias (23). This study, based on a secondary analysis, also poses a limitation in that the data were not collected to answer specific questions of the author. The use of a theory-driven approach to hypothesis testing offsets the use of cross-sectional data in our study to some extent. Within this study, the data were collected with several strategies to reduce report bias (i.e., clear instructions, equal responses, reverse coding), along with the use of standardized instruments with good psychometric properties. The large sample data drawn from the primary analysis provided adequate power to test the stated hypotheses. Furthermore, the fact that this research was completed under the supervision of one of the main study investigators (2) ensures the quality of research data, and thus, somewhat defuses the limitation of utilizing a secondary analysis. 

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continued on page 174



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Cathy Munford, RN, CIC
President, CHICA-Canada

A new season, an old issue

A question comes up this time every year, "Why don't more staff get immunized?" For those of us responsible for vaccination programs in facilities, and those of us involved with influenza outbreak management it is a difficult concept to understand.

Each year I sit and examine the evidence both for and against immunization. At one time I was one who insisted that influenza vaccination was not necessary and then I got the flu. The next year my husband's grandmother, an independent living 75 year old, picked up influenza from the adult day care she attended and died shortly thereafter from pneumonia. Since then I have reexamined my thoughts and beliefs on flu and flu vaccine.

In young, healthy people, influenza is not a serious infection, although people with it may feel miserable for several days. In people over the age of 65, or those with chronic heart or lung disease, it causes more severe symptoms and may be complicated by congestive heart failure, pneumonia, or an asthmatic attack. In elderly people with chronic illness, about 1 in 20 people may need to be admitted to hospital because of complications of influenza, and still may acquire infection. Approximately 4,000-6,000 Canadians die every year from influenza complications.

Vaccination with a yearly influenza vaccine will help prevent infection with the three main circulating strains seen yearly. This vaccine is 70-90% effective in adults younger than 65 when closely matched to the circulating strain and 50-77% effective when not a close match. Many of the older population do not respond effectively to vaccination; however vaccination is 90% effective in preventing related hospitalizations. Yet only approximately 40-50% of health care workers get vaccination against influenza. So why would

health care workers not get the flu vaccine?

Health care workers are in close intimate contact with the high risk populations and with those actively infected with the virus. Under the code of ethics for the Canadian Nurses Association (June 2008), Part I: Nursing Value and Ethical Responsibility: one of the registered nurses responsibilities is to "Providing Safe, Compassionate and Ethical Care". In the Canadian Medical Association's code of ethics (update 2004) physicians are to "Take all reasonable steps to prevent harm to patients ..."

Since an individual can be infectious up to 24 hours prior to having symptoms, are we still meeting this standard? We may be causing harm to those at highest risk by exposing them to the virus if we are not protected. We know with staffing shortages and economic turn down, our nurses must work in order to feed our families. I have personally witnessed ill staff coming to work, and working at multiple sites. We

know that staffs are not as compliant as we would like with hand hygiene and routine practices, going from task to task without hand hygiene.

My question remains, why are more staff not opting for vaccination? Does influenza vaccination need to be mandatory? My hope is that it doesn't come to this. Health care workers have a moral and ethical duty to provide safe care to those most venerable. This would include protecting them from picking up influenza from us. We need to take to heart, do no harm. Yearly influenza vaccination is needed by all staff to meet this ethical obligation.

With the fear of nH1N1, will we see a rise in the season influenza uptake? Will staff be only looking at themselves and their families or looking at protection of the patient? What will make a difference? My hopes are that the vaccine uptake will be good this and every year, as well as that we all have a mild flu season. ☺

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Cathy Munford, RN, CIC
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Nouvelle saison, vieille question

Chaque année à cette saison-ci, la même question revient : « Pourquoi ne vaccine-t-on pas plus de membres du personnel? ». Pour ceux et celles d'entre nous qui sont responsables des programmes de vaccination dans les établissements de soins ou qui participent à la gestion de l'écllosion de grippe, c'est difficile à comprendre.

À une certaine époque, je soutenais qu'il n'était pas nécessaire de vacciner les gens contre la grippe, puis je l'ai attrapée. L'année suivante, la grand-mère de mon mari, une femme de 75 ans vivant seule, a attrapé la grippe au centre de jour qu'elle fréquentait et est décédée peu après des suites d'une pneumonie. Depuis lors, j'ai révisé ma position sur la grippe et les vaccins contre la grippe.

Parmi les jeunes gens en bonne santé, la grippe n'est pas une infection grave, bien que les gens puissent malgré tout se sentir mal en point pendant quelques jours. Chez les personnes de plus de 65 ans ou celles souffrant de maladies cardiaques ou pulmonaires chroniques, elle provoque des symptômes plus graves et peut se compliquer d'une insuffisance cardiaque globale, d'une pneumonie ou d'une crise d'asthme. Parmi les aînés souffrant de maladies chroniques, une personne sur vingt peut devoir être admise à l'hôpital en raison de complications de la grippe et malgré tout être infectée. Chaque année, de 4 000 à 6 000 Canadiens environ décèdent à la suite de complications de la grippe.

La vaccination contre la grippe saisonnière contribuera à prévenir l'infection par l'une des trois souches principales qui circulent chaque année. Le taux d'efficacité du vaccin est de 70 à 90 % chez les adultes de moins de 65 ans quand il correspond de près à la souche en circulation et de 50 à 77 % quand la correspondance est moins exacte. De nombreux aînés ne réagissent pas efficacement à la vaccination; celle-ci est toutefois efficace à 90 % pour prévenir les hospitalisations découlant de cette infection. Et pourtant, environ 40 à 50 % des travailleurs de la santé seulement sont vaccinés contre la grippe. Alors, pourquoi les travailleurs de la santé ne se font-ils pas vacciner contre la grippe?

Les travailleurs de la santé se trouvent en contact intime avec les populations qui

présentent le plus de risques et celles qui sont infectées de manière active par le virus. Selon la Partie I – Valeurs infirmières et responsabilités déontologiques du *Code de déontologie* de l'Association des infirmières et infirmiers du Canada (édition de juin 2008), une des responsabilités des infirmières et des infirmiers consiste à : « fournir des soins sécuritaires, compatissants, compétents et conformes à l'éthique ». Selon le Code de déontologie de l'association médicale canadienne (Mise à jour 2004), les médecins sont tenus de « prendre toutes les mesures raisonnables pour éviter de causer un préjudice aux patients [...] ».

Comme une personne peut être infectieuse jusqu'à 24 heures avant de ressentir des symptômes, satisfaisons-nous encore à cette norme? Il se peut que nous causions un préjudice à ceux qui présentent les risques les plus élevés en les exposant au virus si nous ne sommes pas protégés. Nous savons qu'avec les pénuries de personnel et le ralentissement économique, nos infirmières et infirmiers doivent travailler pour nourrir les leurs. J'ai été personnellement témoin de cas où des employés malades se rendaient

à leur travail et travaillaient dans plusieurs endroits. Nous savons que les membres de notre personnel ne se plient pas autant que nous le voudrions aux règles d'hygiène des mains et aux pratiques courantes.

Ma question demeure : Pourquoi ne vaccine-t-on pas plus de membres du personnel? La vaccination contre la grippe doit-elle être rendue obligatoire? J'espère qu'on n'en viendra pas là. Les travailleurs de la santé ont les responsabilités morales et déontologiques de fournir des soins aux personnes les plus vulnérables. Tous les membres du personnel doivent se faire vacciner chaque année contre la grippe pour remplir cette obligation déontologique.

Devant la crainte du virus nH1N1, assistons-nous à une hausse de la vaccination contre la grippe saisonnière? Les membres du personnel ne penseront-ils qu'à eux-mêmes et aux membres de leur famille ou tiendront-ils compte de la protection des patients? Cela fera-t-il une différence? J'espère que le taux de vaccination sera bon cette année et chaque année par la suite et que nous connaissons une saison de la grippe clémente. ☺

Parce que vous êtes en contact quotidien avec vos clients, il est recommandable de prendre toutes les précautions possibles pour ne pas transmettre les germes et les infections.



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Gerry Hansen, BA

Executive Director, CHICA-Canada

Working hard to work harder

Is CHICA's national profile lacking? Yes.

This strong statement came directly from those members who participated in the St. John's Strategic Planning Session.

Certainly there is no question that CHICA's value has increased impressively since its 1976 incorporation. From 1988, when I began my career with CHICA, membership has grown from 250 to approximately 1600. There are 20 chapters across Canada. Revenues have increased to the point where we can now afford full-time staff and anticipate the engagement of other resource persons and agencies. Annual conferences attract 500-800 attendees and have become a benchmark for infection prevention and control education. *The Canadian Journal of Infection Control* and the CHICA website are constantly changing and improving.

But who knows who we are?

With over 3,000 infection prevention and control practitioners in Canada and another 5,000 or so healthcare workers who are occupationally mandated to IP&C, why do we only have 1,600 members?

Why are we not first on the media call list? We have all seen media stories about hand hygiene or influenza, for instance, which do not have a comment from CHICA-Canada. With the level of expertise in our organization, CHICA should be known as the authoritative voice of IP&C in Canada. The commentators are all expert in the field, and indeed some are CHICA members, but media should be coming to CHICA itself for comment.

How do we rectify this pixilated image?

- ❖ The CHICA board will address the promotion of CHICA as an invaluable educational and networking opportunity to many disciplines. This will take some creativity, some perseverance, and will definitely require the enthusiasm of current members to introduce their colleagues to CHICA and its many member benefits.
- ❖ Member services and benefits will move forward with training tools, templates, and progressive educational initiatives.
- ❖ We will underscore CHICA's visibility to the media by working with a communications firm to blast out statements when the issue is up front, not one step behind.
- ❖ We will continue to work with our established friends in national agencies and organizations. At the same time, we will seek new, affirming and mutually beneficial roles with national and international compatriots.

As our new Vision Statement affirms, CHICA-Canada WILL be a major national and international leader and the recognized resource in Canada for the promotion of best practice in infection prevention and control. ❖

The CHICA-Canada bylaws have received ministerial assent and are now in effect. The new bylaws were ratified by members at the 2009 Annual General Meeting. Bylaw No. 5 can be found in the Members Area of www.chica.org.





Genevieve Thompson

By Cheryl Parisien

Genevieve Thompson always wanted to be a nurse and help people. She had an uncle who was a family physician and credits his influence for catching the nursing bug. Little did she know she would find herself focused on bugs of all kind.

The Thunder Bay, ON native began her career as a registered nurse and enterostomal therapist. She was a founding member of the Canadian Association of Enterostomal Therapy, and served as its first president. She was instrumental in establishing ostomy rehabilitation programs in Northwestern Ontario, Manitoba and Saskatchewan. She subsequently changed careers and began to pursue the field of infection prevention and control in Winnipeg.

Her first position was a maternity leave replacement at Seven Oaks General Hospital. When that was over, she moved to Concordia Hospital to serve a combined infection control and quality assurance coordinator role, and subsequently became the department head for Infection Prevention and Control and Occupational Health at Misericordia Community Hospital.

Switching career tracks meant thinking in a new way. "It was a totally new learning curve," says Thompson. "The common element is that you have to work independently and problem solve. The major difference is everyone likes you as an enterostomal therapist because patients physically and emotionally feel the difference from your care, whereas in infection control your message is not always well taken."

Thompson found her new profession challenging and interesting, and stuck with it. "I sort of replaced the patient with the people I work with."

With over 25 years of experience as an ICP, Thompson now works as the senior infection control practitioner for Manitoba Health and Healthy Living, providing leadership and advice.

Joining a professional organization such as CHICA and becoming certified are important steps for any ICP, says Thompson. "Certification is important, but it is also important to sustain it. It gives you credentialing and ensures you are kept current with standards and practices – the field is ever-changing."

She served as president in CHICA at both the provincial and national level, and has been certified since 1985. She

also served as a director on the Certification Board of Infection Control. She now instructs tutorials at the faculties of nursing, medicine, occupational and physical therapy.

"I learned a lot by being on the executive of CHICA-Canada. You meet the people who have the most knowledge and have the opportunity to network internationally; it's really an education in itself."


"Joining a professional organization such as CHICA and becoming certified are important steps for any ICP."


Attending national education conferences is another way to keep current, Thompson says. "The collaboration that is going on now between infection control practitioners on a national level promotes provincial guidelines based on best practice."

A successful ICP has to have good communication skills, and be able to reach all sectors of the healthcare spectrum from patients, to cleaning staff, to administration. Making everyone feel they are part of a team is paramount. "Your program can only be as good as the people in it. You can write all the policies in the world, but if people aren't going to do it, it doesn't have much effect."

A sense of humour is also a benefit. While working at Misericordia Community Hospital, Thompson had a cart built to look like a yellow VW, which was christened the Bugmobile. "I didn't know how to get people's attention, so I had the Bugmobile made. I could put supplies in it, it fit in the elevator and it even had a flashing light on top. When I arrived on the ward and put the light on, they knew what I was there for."

Other strategies Thompson has used include putting on skits during Infection Control Week, and *Family Feud*-style games with the IC team facing the superbugs, with people in full bug costume. Thompson herself has donned a bug costume to bring home her point.

Becoming an ICP is not for everyone, Thompson says. "If you like a challenge and like learning something new everyday, and are interested in promoting healthcare in general, it is an excellent opportunity." 



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- OHTAC Recommendation, Portable Bladder Ultrasound, April 18, 2006
- Using a Portable Bladder Scan to Reduce the incidence of Nosocomial UTI, Moore, DA
- Preventing Hospital-Acquired UTI in the U.S.: A National Study, Saint, et.al., 2008

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Reference: 1. Saint S, Kowalski CP, Kaufman SR, Hofer TP, Kauffman CA, et al. Preventing Hospital-Acquired Urinary Tract Infection in the United States: A National Study. *Clinical Infectious Diseases* 2008; 46: 243-56. 2. CDC document: Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006. Siegel JD, Rhinehart E, Jackson M, Chiarello L, The Healthcare Infection Control Practices Advisory Committee. Accessed at: <http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>. 3. Data on file, Verathon Inc. 4. Ontario Health Technology Advisory Committee Recommendation, Portable Bladder Ultrasound, April 18, 2006.

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The Registered Nurses' Foundation of Ontario Molson Canada SARS Memorial Fund providing grants to ICPs

The SARS Memorial Fund for Infection Control Practitioners is a tuition/certification/professional development reimbursement program funded by Molson Canada SARS Concert (2003) and supported by the Ontario Ministry of Health and Long Term Care.

RNFOO manages the SARS Memorial Fund, initiated in January 2005. The fund provides grants to Infection Control Practitioners **from any discipline** to support them in advancing their knowledge to lead infection control practices within their healthcare settings. Grants can be applied to continuing education, certification/re-certification and professional development.

The fund of \$175,000 is to be administered over three years, allowing for the allocation of approximately \$58,000 per year in support of individual pursuing formal education and certification in the area of infection control. ●

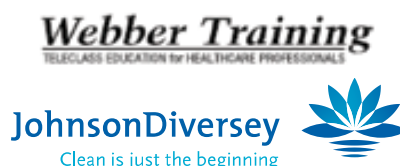
See www.rnfoo.org for details.

2010 Technologies Partners Scholarship

Through the financial support of the Virox Technologies Partnerships, 14 CHICA-Canada members were awarded scholarships to attend the 2009 CHICA Education Conference in St. John's. CHICA-Canada and its members thank Virox Technologies and their partners Deb Canada, JohnsonDiversey, Steris Corporation, Virox Technologies, and Webber Training for their initiative to make the national education conference accessible to those who may not have otherwise been able to attend.

The Virox Technologies Partnership will again provide a scholarship to assist CHICA-Canada members with attending the 2010 Education Conference in Vancouver, British Columbia. The 2010 Virox Technologies Partnership Scholarship application is available on www.chica.org.

The deadline date for applications is January 31, 2010.



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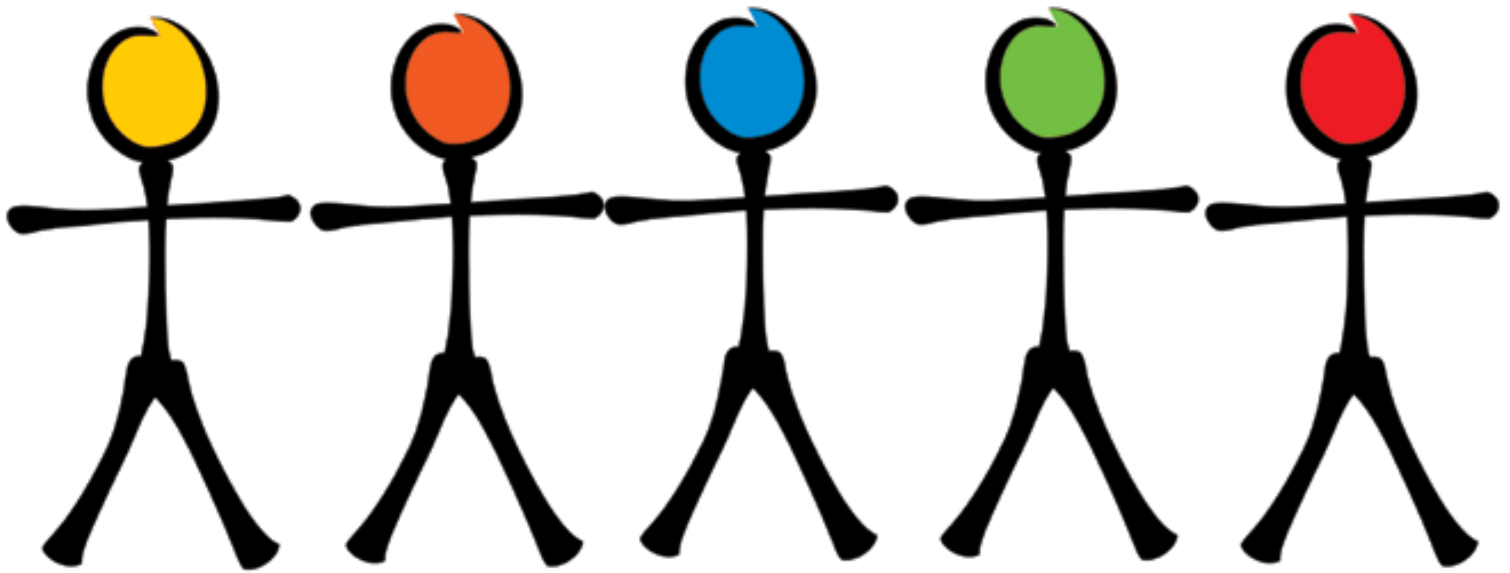

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2010 **ECOLAB**[®] POSTER CONTEST

An annual poster contest is sponsored by Ecolab and supported by a chapter of CHICA-Canada to give infection prevention and control professionals (ICPs) an opportunity to put their creative talents to work in developing a poster which visualizes the Infection Control Week theme.

YOU ARE INVITED to design a poster that will be used for Infection Control Week 2010 using the following theme:

Infection Control – It's Simple!



Prize: Waived registration to 2010 CHICA-Canada Conference plus \$500

REMINDER: Posters should have meaning for patients and visitors as well as all levels of staff in both acute and community settings. The poster should be simple and uncluttered, with strong visual attraction and few if any additional words.

Judging will be on overall content. Artistic talent is helpful but not necessary. The winning entry will be submitted to a graphic designer for final production. Your entry will become the property of CHICA-Canada.

Host Chapter: **CHICA Newfoundland/Labrador**

Send submissions to:

Mail: Director of Programs and Projects
PO Box 46125, RPO Westdale, Winnipeg MB R3R 3S3

Fax: 204-895-9595

Email: chicacanada@mts.net

Courier: c/o CHICA-Canada
67 Bergman Crescent, Winnipeg MB R3R 1Y9

Submission format:

- Electronic file in Word or PDF format only.
or
- Paper copy not larger than 8.5" x 11".
- Include your name, address and phone number on the covering email or on the back of your entry.

DEADLINE: January 31, 2010



Protecting Patients from Hospital-Acquired Infections

When checking into a hospital or surgical centre, patients expect to be treated and released. But according to the U.S. Centres for Disease Control and Prevention, each year nearly 1.7 million patients in the United States get more than they bargained for – a hospital acquired infection. Worse yet, some 99,000 of those patients will die each year from such infections.

“The number of deaths resulting from hospital-acquired infections is concerning,” said Elaine Tardif, Professional Service Advisor, 3M Canada, **“Should such a high death rate occur beyond the healthcare industry, people would demand a national focus on identifying the problems and finding ways to prevent them.”**

As the most serious, most deadly and most costly hospital-acquired infection, central line-associated bloodstream infections (CLA-BSIs) threaten patient lives.¹

Experts estimate each bloodstream infection costs the Canadian healthcare system over \$50,000², with infections occurring in one in six patients³, extending hospital stays by five to 20 days⁴.

“Hospitals are meant to heal, not hurt,” explained Tardif. “Fortunately, with proper education and implementation of best practices, CLA-BSI rates can be reduced.”

A leading Canadian organization focused on safe healthcare practices created a campaign outlining steps that, when followed correctly, should help healthcare facilities reduce the incidence of CLA-BSIs.

The campaign also highlights emerging trends, including dressings impregnated with Chlorhexidine Gluconate (CHG) such as the 3M™ Tegaderm™ CHG IV Securement Dressing. Tegaderm™ CHG offers the powerful effectiveness of CHG at insertion sites to reduce the regrowth of skin flora commonly associated with the incidence of CLA-BSIs, while still allowing healthcare professionals to see the insertion site, potentially detecting early signs of infection.

“All patients deserve the best treatment possible,” continued Tardif. **“Preventing hospital-acquired infections is essential.”**

¹ Centers for Disease Control and Prevention. Guidelines for the prevention of intravascular catheter-related infections. MMWR2002; 51(No.RR-120):[inclusive page numbers].

² Ministry of Health and Long-Term Care. The Science Behind Just Clean Your Hands. Accessed @ www.justcleanyourhands.ca/.../5_20_Education_Science_Presentation.ppt

³ Jarvis WR. Evidence-based practice to prevent catheter-related bloodstream infections: seeking zero tolerance. Webinar, presented October 7, 2008.

⁴ Ryder, M. Journal of Consumer Attorneys Association of Southern California, 2006.

Elaine Tardif, Professional Service Advisor, 3M Canada, offers this advice for healthcare professionals looking to properly care for IV sites, potentially reducing central line infections:

Prep – Apply proper skin antiseptic per facility protocol under the whole dressing area, allowing antiseptic to air-dry thoroughly.

Protect – Apply a sterile skin protectant to the area where the dressing will be applied, protecting skin from adhesive trauma associated with repeated dressing changes.

Secure – Secure the IV site with a transparent film dressing, allowing healthcare professionals to see the insertion site and potentially detect early signs of infection.



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"Bug a Doc!"



They have a specialty – infectious disease, microbiology, epidemiology – that enhances the practice of infection prevention and control.

They should be part of CHICA-Canada.

If you have a 'Doc' in your department who is not yet a CHICA-Canada member, encourage your 'Doc' to join CHICA. Their immediate benefit is an expansion of their professional resources and networking opportunities. Go to our website and see the many benefits available to membership so you will have the information on hand when the discussion comes up!

Send us the name of your 'Doc' when he or she joins CHICA. You and your Doc could each win a free 2010 membership (value \$125).

"Bug a Doc" contest closes March 1, 2010.

CHICA-Canada Member _____

Address _____

Telephone _____

Email _____

New 'Doc' Member _____

Address _____

Telephone _____

Email _____

Forward to CHICA-Canada, Fax 1-204-895-9595 or email chicacanada@mts.net

"Bug a Doc!"

The media release may be used by CHICA-Canada chapters or members who wish to forward a message about 2009 Infection Control Week to media. The text of the message is not to be changed but the contact information can be individualized. Text can be found at www.chica.org



NCIW MEDIA RELEASE

The Power of One – Your Role in Infection Control *National Infection Control Week, October 19-23, 2009*

“The Power of One – Your Role in Infection Control!” is the theme of this year’s National Infection Control Week, October 19-23, 2009. Infection Prevention and Control programs have been widely recognized to be both clinically effective and cost-effective in preventing and controlling the spread of infections in health care settings. However, ultimately the most effective way to prevent the transmission of infection is through hand hygiene.

In health care facilities, hand hygiene is to be performed by staff, patients and visitors. Each person must take individual responsibility for performing hand hygiene which is why “The Power of One” was chosen as this year’s theme. Each time one person performs hand hygiene, whether they be in the hospital environment or in the community, the risk of infection transmission is decreased.

Now that is POWER!

National Infection Control Week will provide Infection Prevention and Control Professionals within facilities and the community alike the opportunity to promote “The Power of One” theme. Infection Prevention and Control Professionals will be providing multi-modal education and collaborating with other organizations

*“One life can make the difference,
One touch can show you care,
One action can spark a change,
You see, it’s in your hands.”*

Author Unknown

in order to deliver the message that each and every person has the power to decrease infection transmission.

Keep in mind that National Infection Control Week is just the beginning. This invaluable lesson is one that must continue to be taught so that the

impact of infections can be minimized.

“The Power of One – Your Role in Infection Control”: It’s that simple! Perform hand hygiene because the power is all in your hands!

CHICA-Canada is a national, multi-disciplinary, voluntary association of Infection Prevention and Control Professionals (ICPs) with 20 chapters across the country dedicated to the health of Canadians by promoting excellence in the practice of infection prevention and control.

Contact the Infection Prevention and Control Professional in your hospital or community for further information on activities planned for National Infection Control Week. Visit CHICA-Canada’s web site (www.chica.org) for infection prevention and control information. For additional information or to contact your Local CHICA-Canada Chapter:

(ADD CHAPTER CONTACT INFORMATION HERE)



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Bathing with Sage Antiseptic Body Cleanser resulted in a 53% reduction in the rate of blood stream infections.¹ The same study also reported a significant reduction of inguinal colonization with all gram-positives, MRSA, VRE, yeast and gram-negatives.

Each disposable washcloth rapidly reduces bacteria on the skin that can cause infection. Unlike other CHG solutions, it's designed to stay on the skin. So it provides maximum antimicrobial persistence against a wide variety of microorganisms. Sage Antiseptic Body Cleanser makes it easier to address skin decolonization.

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1. Bleasdale SC, et al., Skin Cleansing with 2% Chlorhexidine Gluconate (CHG): Infection Control and Clinical Benefits of Source Control. Presented at the 2006 Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC), Sep 2006, San Francisco, CA.

2010 Conference

May 29-June 3, 2010 Sheraton Vancouver Wall Centre

See the Preliminary Program at www.chica.org

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Vancouver Coastal Health
Vancouver, British Columbia

Amanda Knapp, BASc, CPHI(C), CIC
Kingston Frontenac and Lennox
& Addington Public Health
Kingston, Ontario

Closing speaker announced

Yvonne Camus will deliver the closing address at the 2010 conference. Yvonne is one of North America's most assured speakers. On stage, to rapt attention and applause, she has shown hundreds of organizations how ordinary people – such as she – can achieve extraordinary things. A deeply relatable speaker, Camus interweaves her personal experiences – three young children, two decades as a business executive, a long athletic career – into revelatory keynotes on human performance. It is simply impossible to overstate her impact on audiences.



Camus was a participant in the Eco-Challenge, the world championship of adventure racing conceived by Mark Burnett of *Survivor* fame. (Hers was the first rookie team to complete the grueling competition.) Punchy, deeply moving, and often humorous, Camus draws on her experiences to show how to rise to the challenges of training, preparation, and execution. In the process, she helps you to see and realize the potential for greatness in yourself, your co-workers, and your entire organization.

I thought you'd never ask...

Someone has just made your day... they have either asked an Infection Prevention and Control (IP&C) question that you have been "itching" to answer or asked a question that allows you to flex your IP&C muscles, pulling up the right (and politically correct) comments.

Let us know about these interesting questions and answers in time for the 2010 conference. We are looking forward to an engaging and lively session on **Thursday, June 3, 2010**.

The purpose of this session is to discuss challenging IP&C questions with your colleagues. No registration discounts for the 2010 conference are provided for submitters.

The IP&C Vignettes Committee will select one individual's submission to receive a waived registration to the 2011 CHICA-Canada conference (Toronto, Ontario, Date TBA)

At this time, CHICA-Canada members are asked to submit interesting questions with responses for consideration. **The deadline for submission of Infection Prevention and Control vignettes is April 12, 2010.** Interesting questions must be submitted by e-mail to CHICA-Canada chicacanada@mts.net. Please include:

- 1) the question
- 2) an outline of the problem
- 3) your response (if you had one)
- 4) if possible a short discussion on the instructive value of the case
- 5) your contact information including name, address, telephone, fax, and email address.

If your interesting question has been accepted for presentation, you will be notified by the end of April 2010.

We look forward to receiving your "I thought you'd never ask..." and to seeing you at the 2010 CHICA-Canada Scientific Education Conference.

Jim Gauthier, MLT, CIC

Providence Care, Kingston, ON

Pamela Kibsey, MD, FRCPC

Royal Jubilee Hospital, Victoria, BC



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Watch for more information in the registration brochure (January 2010)

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Watch for more information in the registration brochure (January 2010).

2010 Conference Abstract Submissions can now be made online at www.chica.org. Deadline date for submission: February 26, 2010.



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CHICA endorsement of courses for novice ICPs: What does it mean?

By Donna Moralejo, PhD
CHICA-Canada Director of Education

As we all know, infection prevention and control (IP&C) issues have been making headlines for a number of years: from SARs to norovirus to “superbugs” to pandemic (H1N1) 2009 influenza. The upside of all this otherwise frequently negative publicity is an increased awareness of the need for more infection prevention and control professionals (ICPs) and IP&C initiatives, with some funding to make it happen.

We welcome the new ICPs to the profession. Moral support is not enough, however. ICPs need a variety of skills and a comprehensive knowledge base in multiple subjects in order to be able to function. Traditionally, ICPs have learned IP&C by experience, in a non-systematic way, or from the person who did the job before them. Fortunately, a new model of training has emerged with a trend toward more formal courses. Centennial College was one of the first to offer such a comprehensive course; now a number of universities provide relevant courses and even some infection control networks have developed educational programs that are longer than a webinar or a one-day workshop. It’s good to have a choice of options to meet one’s learning needs.

But how does a novice know what to choose? First they must identify their learning needs and be sure of what they are looking for in a course. No single program will meet the learning need of every ICP, but a basic Infection Prevention & Control course for Novice ICPs can lay a critical foundation. Several such courses are now available in Canada, and CHICA-Canada members are frequently asking CHICA and each other if they should take them. Several of the courses had been endorsed by CHICA over the past few years, but a formal process had not been created

for such endorsement. We now have a policy and a procedure for endorsement. It was developed by a committee with experience in educating novice ICPs, and approved by the board of directors in May 2009. It is being launched this fall.

What does endorsement mean?

Endorsement refers to the official approval of CHICA-Canada that the course or program of courses have met certain criteria. Endorsement is given for three years, with an annual update required for the endorsement to be maintained during that time period. The criteria to be met are:

1. The content and learning objectives reflect the standards and content identified in the CHICA/APIC practice and professional standards.
2. The organizational resources, course time, course content, learning resources and delivery methods are sufficient to enable students to meet the learning objectives.
3. Instructors are qualified to teach the material to the target audience and sufficient in number to achieve stated objectives.
4. Student learning outcomes are measured in a systematic way and assess the extent to which learners have met learning objectives.
5. The educational provider is recognized by the relevant province or territory as having a mandate for education.
6. The minimum length of the course is one standard academic term (36 hours).
7. The criteria used to evaluate student performance must be clearly defined in writing, be made known to students at the start of the course, and be based on more than a single requirement.

8. There is a reasonable method of evaluating the content and processes used in the course, for purposes of improving the course.
9. The course content and processes are updated at reasonable intervals, with a sound rationale for changes made.

What does it mean if a course is not listed as endorsed?

A list of CHICA-endorsed courses/programs will be posted on the CHICA website, which also lists courses that have not been endorsed. No reasons will be listed as to why a course has not been endorsed. Application for endorsement is confidential so CHICA members should assume that the education provider has not applied for endorsement, rather than assume that they did not meet the criteria. Since many continuing education offerings are shorter than the required 36 hours, they are not eligible for endorsement. At present, workload precludes the possibility of endorsing these shorter courses or workshops or webinars.

How does a course become endorsed?

For a course to become endorsed, a representative of the education provider, e.g., university or network, must complete a formal application and provide the required information to CHICA-Canada. These applications will be reviewed by a Review Committee for Endorsement, who will assess whether the criteria are met and make a recommendation to the Board for approval or rejection. New applications will be reviewed twice a year. The first Review Committee, volunteers from a variety of CHICA chapters, will begin its work this fall.

What are the implications of endorsement?

Being able to identify whether courses have met the set of criteria should be helpful to novice ICPs as they look for courses to help them get the basic knowledge and skills they need in their work. While they still need to be sure the course meets their learning needs, and fits their budget and lifestyle, it should be reassuring that the course has been reviewed for quality of content and delivery. The endorsement process also provides CHICA members with an opportunity for getting involved with CHICA – by participating on the Review Committee for Endorsement. Membership is revolving,

with new members required every year, and a spot reserved specifically for a novice every year.

What's next?

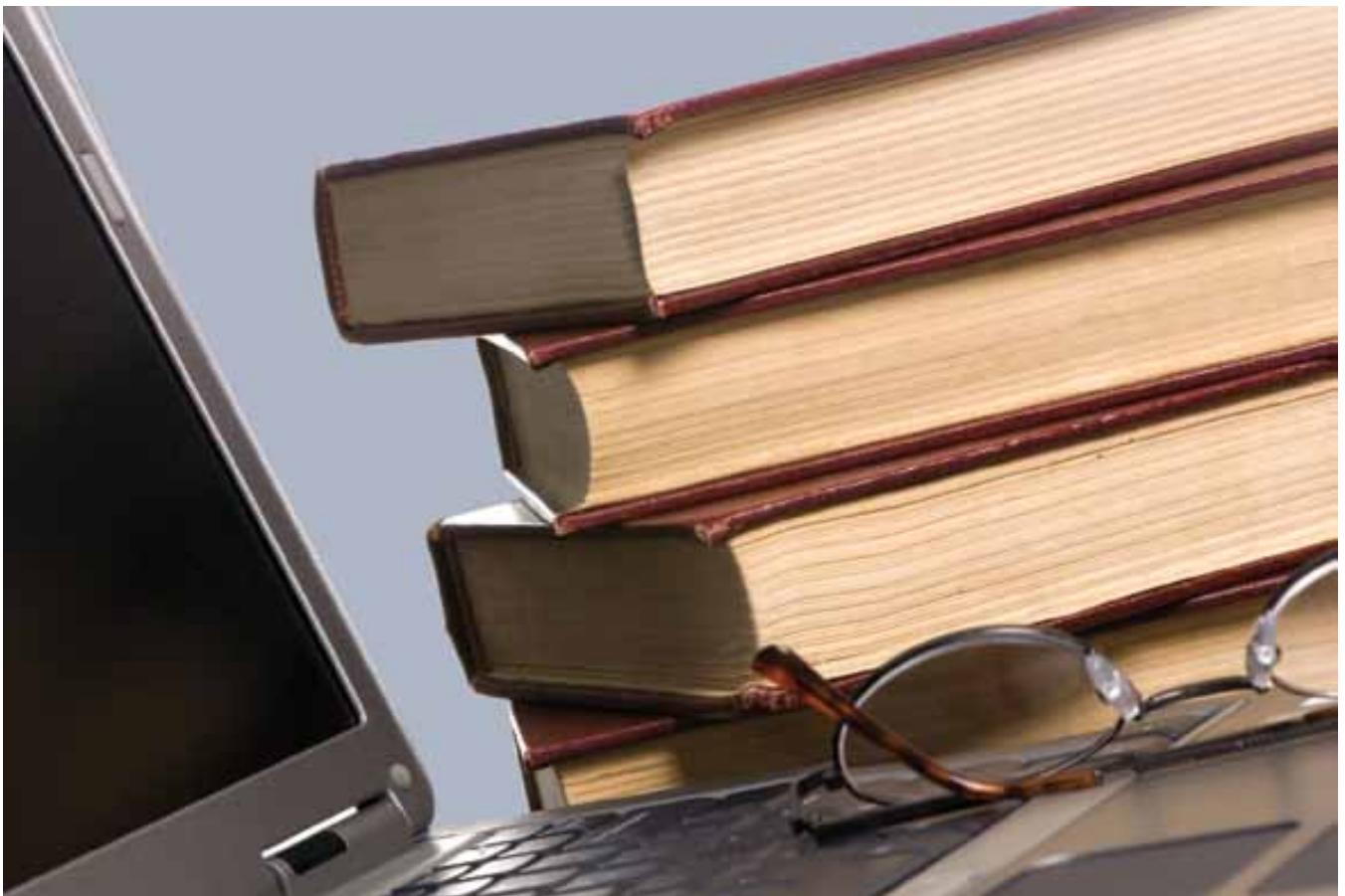
The Policy and Procedure, review criteria and application form for endorsement, and the terms of reference for the committee can all be found on the CHICA-Canada website. The first set of reviews will take place this fall, and results will be posted to the website in December. Keep an eye on the website; there may be more CHICA endorsed courses to choose from.

CHICA-Canada thanks the following for their input into the endorsement policy and process:

Clare Barry, BN, MSc, CIC
Elizabeth Bryce, MD, FRCPC
Elizabeth Ann Henderson, PhD
Donna Moralejo, PhD
Diane Roscoe, MD, FRCPC
Elizabeth Van Horne, RN, CIC
Mary Vearncombe, MD, FRCPC

CHICA-Canada also announces the 2009 Endorsement Review Committee:

Barbara Catt, RN, BScN, MEd, CIC
Karen Lambert, LPN, RN, BScN
Donna Moralejo, PhD
Daphne Murray, RN
Deborah Norton, RN, BEd, MSc, CIC
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The Grand Prix of PPE in Long Term Care

A new DVD resource created by Regional Infection Control Networks in Ontario, this teaching tool focuses on the essentials of personal protective equipment. Although targeted to the long-term care setting, the messages are equally engaging for acute care as well. The DVD employs a humorous approach that makes it a great teaching tool for new and existing staff alike. English and French versions included.

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• “After [the video] was previewed, there was an audible buzz of excitement in the room (with about 185 people present). They laughed at the funny parts and nodded heads at the messaging and were mesmerized for the duration of the show.”

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Superbugs – A Nightmare on Your Hands! is perfect for in-house education sessions. The video uses a humorous approach to keep front-line staff interested in the education and health value of the information. The superbugs C-Diff and MRSA (played by two actors) look for someone loaded with antibiotics, get into their system and cause as much mayhem as they can! The two superbugs believe this is possible because health care providers do not always practice safe hand hygiene, sometimes ignoring the alcohol hand rub and not wearing gloves. What are the safe practices to kill off these nasty Superbugs?

The DVD will encourage use of the effective slogan “*Squirt, swirl, switch, swirl, and scrub until dry*” before and after contact, after exposure to bodily fluids and before aseptic procedures.

English and French versions provided.

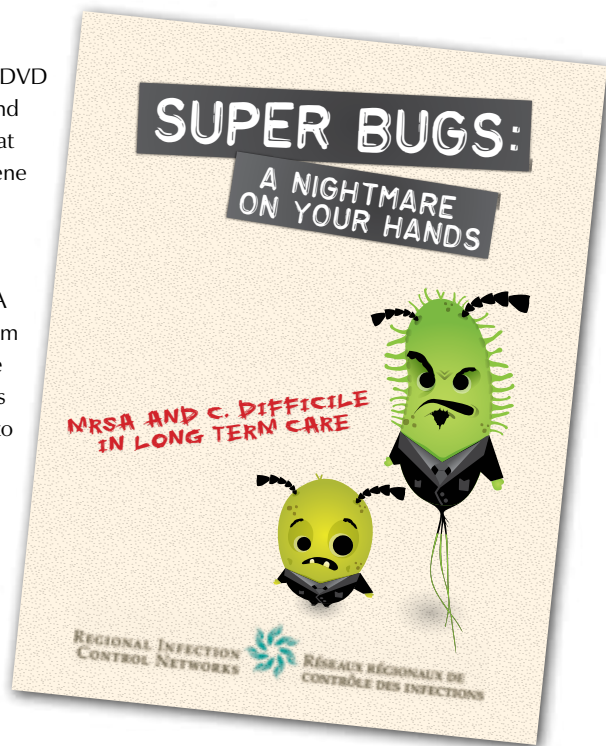
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CHICA-CANADA 2009 BUYERS' GUIDE

CHICA-Canada Infection Control Audit Toolkit

Available from CHICA-Canada through the CHICA-Canada Programs and Projects Committee, this series of infection control audit templates will assist you in your practice of infection prevention and control in a variety of health care settings. Topics include:

- Dental Audit
- Endoscopy Audit
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- High Level Disinfection - Outside SPD Audit
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- Ophthalmology O.R. Cluster Investigation and Procedure Assessment
- O.R. Audit
- Patient/Resident Service Units Audit
- Renal Unit Infection Control Audit

CHICA-Canada members may download this document from www.chica.org at no cost. Additional cost to purchase printed copy. Audit Toolkit (Version 2) to be launched at 2009. More information will be available at a later date.

Enhanced Teleclass Recordings on CD

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The Buyers' Guide is now available at www.chica.org

ESBL Toolkit

Best Infection Control Practices for Patients with Extended Spectrum Beta Lactamase Enterobacteriaceae – An infection control toolkit developed by the International Infection Control Council (APIC, CHICA-Canada, ICNA (UK, Ireland)).

"Just Wash 'Em" / "Lavez les"



A 7 minute video directed to Elementary School aged children.

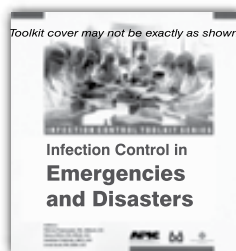
CHICA-Canada members may download the video and workbook from www.chica.org at no cost. Additional cost to purchase VHS or DVD.

Superbugs – A Nightmare on Your Hands!

MRSA and Clostridium difficile in Long Term Care. Developed by the Erie St. Claire Infection Control Network, this 12 minute DVD provides a resource for Long Term Care to clearly promote the use of hand hygiene and alcohol hand rub as the gold standard for cleaning hands that are not visibly soiled. The DVD explains simple yet important hand hygiene tasks we all need to practice as health care personnel. English and French versions provided.

The Infection Control Toolkit: Infection Control in Emergencies and Disasters

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The only disaster planning document that presents information specific to the key issues of infection control. Includes all the tools and materials necessary for surveillance, education, communication, laboratory, and management of personnel and patients are included. Handy forms, references, fact sheets, flowcharts, checklists, and samples provide the framework to interface with healthcare facilities and local

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A new DVD resource created by Regional Infection Control Networks in Ontario, this teaching tool focuses on the essentials of personal protective equipment. Although targeted to the long term care setting, the messages are equally engaging for acute care as well. The DVD employs a humorous approach that makes it a great teaching tool for new and existing staff alike. English and French versions included!

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Grand Prix PPE DVD		24.00	24.00	
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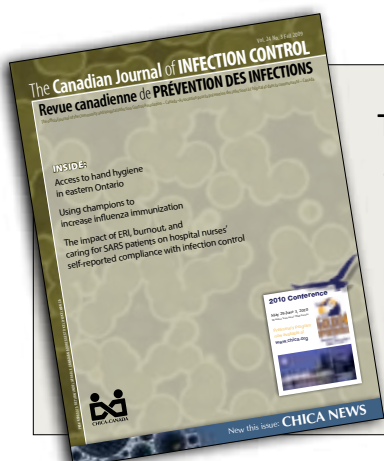
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