INSIDE:
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2011 Board of Directors

Cover Story
n 2009, The World Health Organization (WHO) launched the SAVE LIVES: Clean Your Hands annual global campaign as part of massive effort to improve hand hygiene in healthcare. The aim of this campaign is to demonstrate that hand hygiene is a critical element in reducing healthcare-associated infections (HAIs) around the globe. So far, over 12,000 organizations have made a commitment to this program.

There are currently 39 countries or areas actively involved in this initiative, which has been embraced across Canada.

As with any campaign of this size and magnitude, there is still more to be done.

One year ago, in May 2010, the WHO conducted a global observation survey of healthcare worker compliance with Moment 1 (before touching a patient). Overall, more than 300 facilities from 47 countries submitted data to WHO. From these, over 76,000 opportunities were included in the analysis. Overall compliance with Moment 1 was 51%, which leaves much room for continued improvement.

The Canadian Patient Safety Institute, Accreditation Canada, and CHICA-Canada are actively promoting participation in the May 2011 Tracking your progress, planning your actions and aiming for hand hygiene sustainability, which is the focus for SAVE LIVES: Clean Your Hands.

Knowing where your healthcare facility or agency stands on ensuring that hand hygiene is sustainable in the longer term is important to ensuring improvement in hand hygiene compliance.

One small way we can all support this effort to improve hand hygiene in healthcare in Canada is to adopt the same terminology when we “talk the talk.” Modeling the language of hand hygiene sends a consistent message to all we are trying to reach.

Infection control professionals (ICPs) need to be clear when using the term “hand hygiene” and ensure that the terminology and teaching echo the CHICA-Canada position statement on hand hygiene, which states: “CHICA-Canada recommends alcohol-based hand rubs (ABHR) as the preferred method of hand hygiene unless hands are visibly soiled. If hands are visibly soiled, wash hands with soap and warm, running water.” (www.chica.org)

By using the same consistent terminology, ICPs can take another step to ensuring that the message and methods for hand hygiene are clear. “Knowing where your healthcare facility or agency stands on ensuring that hand hygiene is sustainable in the longer term is important to ensuring improvement in hand hygiene compliance.”
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Prevalence of nasal carriage of Methicillin-resistant *Staphylococcus aureus* (MRSA) in healthcare workers of the intensive care unit at Dos de Mayo Hospital, Lima, Peru

**ABSTRACT**

**Objective**
To determine the prevalence of nasal colonization of MRSA in health personnel of the intensive care unit at the Dos de Mayo Hospital.

**Design**
A cross-sectional surveillance of hospital staff in the intensive care unit (ICU) was performed to identify and classify isolated strains of *Staphylococcus aureus* (*S. aureus*) using traditional culture from nasal swabs and subsequent antibiotic susceptibility methods.

**Results**
A total of 41 participants were recruited for the study and seven were positive for *S. aureus* (17.1%). Of these, three workers were positive for MRSA.

**Conclusions**
The percentage of nasal carriers of MRSA found in this study was lower than reported in similar studies; however, the identification and management of such cases may be warranted to reduce the risk of hospital acquired MRSA infections.

**KEY WORDS**
Carrier state, *S. aureus*, methicillin resistance, management of hospital-acquired infections

**INTRODUCTION**

*S. aureus* is one of the most significant human pathogens causing a variety of clinical conditions from superficial skin lesions to invasive infections associated with high mortality (1). *S. aureus* is ubiquitous and may easily colonize individuals leading to the potential for widespread transmission (2). Antibiotic resistance is also a concern with this bacterium, particularly against the antibiotic methicillin. Approximately 60% of all infections caused by *S. aureus* in patients admitted to intensive care units (ICU) are caused by MRSA (3,4). The primary ecological niche of *S. aureus* spread in humans is characterized through skin or respiratory transmission. While skin spread can be effectively reduced through proper handwashing practices, the management and control of respiratory spread offers a greater challenge (5). Colonization of *S. aureus* in the nostrils has been associated with infection spread and is recognized as a risk factor for the development of invasive infection (6,7). In the healthcare environment, colonization is a serious concern for both hospital-acquired and iatrogenic infections. Kluytmans et al. in 1997 (8) demonstrate that the prevalence of colonization in healthcare workers ranged from 16.8% to 56.1%. In concurrence, Mainous et al. reported a high percentage of isolates of *S. aureus* in the nostrils of the staff of intensive care unit (85%) (9). This high rate of colonization would thus lead to not only a potential for nosocomial and iatrogenic spread but also mandates that control and management of these personnel should be considered a priority.

At the Dos de Mayo Hospital in Lima, hospital acquired infections are a serious concern. In a recent study (10), the overall infection rate was 26.18 per 100 patients and of these infections; the prevalence rate of MRSA was 43%. The high rate of MRSA infection suggests that compliance to infection control may be hindered by either a lack of compliance or respiratory colonization. This study aimed to determine the potential contribution of nasal colonization of MRSA in health personnel working in the ICU of Hospital Nacional Dos de Mayo, to the overall rate of hospital acquired infections.
infections. A positive result would be considered a breach of current infection control practice that would require the introduction of a screening management practice in order to stop the spread of MRSA through the respiratory route.

DESIGN

A descriptive, blind, cross-sectional study was carried out between the months of May and June 2009. The study subjects were health care workers from the ICU of Hospital Nacional Dos de Mayo, Lima, Peru. The hospital has a staff of 1120 employees, 52 of them dedicated to the ICU. All employees who spend time in the ICU were invited to participate in the study, and those who accepted signed an informed consent, according to ethics board.

Each subject was asked to fill in a questionnaire that addressed personal, professional and medical information such as age, sex, occupation, working time in the ICU, history of disease (hypertension, Type 2 diabetes mellitus, heart disease, kidney disease, cancer, etc.), skin lesions, hospitalization and antimicrobial therapy after the last six months. Subsequent to this step, nasal samples were obtained from each nostril using sterile cotton swabs. The swabbing procedure consisted of rotating a swab three turns clockwise and three turns counterclockwise (11). One swab (Sample #1) was spread onto a glass slide for Gram staining. The other swab (Sample #2) was placed in Stuart transport medium (Oxoid, England), and taken immediately to the laboratory of Microbiology of the Hospital Nacional Dos de Mayo. An aliquot of 20 mL of the transport medium was then placed onto mannitol salt agar plates (Becton, USA) and blood agar and incubated at 37°C for 48 hours. Colonies were examined by microscopy for morphology, Gram stained and tested for catalase and tube coagulase (BBL Coagulase Rabbit Plasma, Becton, USA). Those matching the criteria for S. aureus were logged and the sample donor and listed as a carrier.

The sensitivity of nine isolated colonies of S. aureus (methicillin sensitive and methicillin resistant) was performed using disk diffusion method of Kirby Bauer according to CLSI standards (12). The antibiotics evaluated were: rifampicin (5µg), clindamycin (2µg), erythromycin (15µg), vancomycin (30µg), oxacillin (1µg), penicillin (10 IU), chloramphenicol (30µg), tetracycline (30ug), cotrimoxazole (1.25/23.75 ug TSX), linezolid (30ug), teicoplanin (30ug) (BBL, USA). Halos of inhibition were measured and antibiotic resistance calculated according to CLSI standards (13). Statistical analysis consisted of calculation of proportions and summary measures for quantitative variables, using SPSS 13.0 for Windows (SPSS Inc., Chicago, IL).

RESULTS

This study comprised a total of 41 individuals who work in the ICU representing 78.8% of the ICU staff. Of these participants, 11 (26.8%) were male and 30 (73.2%) were female. Of the participants, eight were physicians (19.5%), 16 nurses (39.0%) and 17 practical nurses (41.5%). The average working time in ICU was (7.3 years), by nursing technicians working group having the highest average length of work in the area (9.5 years), followed by nurses (8.3 years), while doctors only had an average of 4.3 years working in the ICU.

The results of Gram stains from Sample #1 indicated that 33 samples (80.5%) showed only Gram positive bacteria while two samples (4.9%) showed evidence of Gram negative bacteria. Another two samples (4.9%) were positive for yeast. Table 1 shows the distribution of the results of the Gram stain according to occupational group.

From Sample #2, seven isolates (17.1%) were positive for S. aureus. Two of these positive isolates samples were from doctors, three from nurses and two from nursing technicians. Susceptibility tests indicated that three workers (7.3%) were carriers of MRSA. Table 1 shows the distribution of positive cultures according to occupational group. The three cases of MRSA carriers included a 45-year-old nurse with seven years’ working in the ICU and history of rhinitis treated with chlorpheniramine sporadically in the last two years; a 33-year-old nurse with three years’ working in the ICU and a history of hypothyroidism, and a 38-year-old nurse technician with eight years of working in ICU and no medical history.

The susceptibility of seven isolates yielded the following results: 42.9% were oxacillin resistant, 100% to erythromycin and penicillin, 4.9% to clindamycin. They were all sensitive to rifampicin, vancomycin, linezolid, and
chlamyphenicol teicoplanina, while 85.7% were sensitive to trimethoprim/sulfamethoxazole. The results of the sensitivity in the three MRSA isolates are shown in Table 2. Unfortunately, no molecular study was done to determine the genetic similarity of the strains identified and compared with those circulating among patients.

DISCUSSION

The observed prevalence of MRSA nasal colonization in health personnel of the ICU of Hospital Dos de Mayo (7.3%) was among the values reported in the literature (0.8% to 20%) (8,9,11). Yet the presence of colonized health workers demonstrates the risk associated with working in a healthcare facility. Individuals may be colonized through a number of routes specific to their occupation, including contact with an infected individual or contaminated material (14). Upon colonization, these individuals may then spread the bacteria and potentially cause outbreaks (14,15). Interestingly, of the three individuals who were colonized with MRSA, one reported rhinitis, a potential confounding factor in respiratory spread, and was under treatment with antihistamine.

Of the MRSA isolates, we found no reduced susceptibility to vancomycin and or cotrimoxazole. The three isolates were resistant to erythromycin and clindamycin, demonstrating the potential for increased resistance in vivo (16). However, this should be further explored at the genetic level to determine any historical lineages with other strains of MRSA.

Although the MRSA prevalence in ICU workers was not as high as some reported values (8, 9), there is significant concern for the breach in infection control practice observed. While handwashing and other methods of skin decolonization may be effective in preventing skin transfer, there are few to no routine activities that can reduce the respiratory spread of MRSA. We thus propose that there is justification for the routine screening of health workers for MRSA colonization and subsequent treatment. Doebbeling et al. (17) have shown that the application of mupirocin twice daily for five consecutive days for health workers was successful in 91% of nasal carriers, and after four weeks, 87% of them remained free of S. aureus. This group was followed and at six and 12 months from the application of mupirocin and 48% and 53% respectively remained negative. As a complementary treatment, the use of antihistamines in the event of allergic rhinitis or other respiratory symptoms may also be considered. The use of masks and/or respirators at work during treatment may offer additional prevention of MRSA spread (18).

In conclusion, the prevalence of MRSA (7.3%) found in workers in the ICU may indicate the need for regular screening of healthcare workers in this setting and the development of control measures to mitigate any colonization. These solutions may require both short- and long-term planning and implementation, however, the reduction of hospital-acquired and iatrogenic infection spread, particularly in the ICU, may well be worth the effort.

ACKNOWLEDGEMENTS

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Table 2 Antibiotic sensitivity in cases of MRSA nasal colonization in workers in the ICU, Hospital Nacional Dos de Mayo, Lima, Peru, 2009

<table>
<thead>
<tr>
<th>Group work</th>
<th>Coccus Gram(+)</th>
<th>Coccus Gram(-)</th>
<th>Yeast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor (n=8)</td>
<td>87.5%</td>
<td>12.5%</td>
<td>0%</td>
</tr>
<tr>
<td>Nurse (n=16)</td>
<td>81.3%</td>
<td>6.3%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Nursing technician (n=17)</td>
<td>76.5%</td>
<td>0%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Overall (n=41)</td>
<td>80.5%</td>
<td>4.9%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

(+/++/+++): Resistance based on halo size. (-): sensitivity.

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Sharp injury and healthcare workers: an experience from a tertiary care hospital in India

ABSTRACT
A cross-sectional study of sharp injuries (SI) was carried out at a tertiary care hospital in New Delhi, India. Objectives were to identify the incidence and reporting of SI as well as the awareness and treatment seeking behavior of healthcare workers (HCWs) who sustain a SI. Questionnaires and interviews of the HCWs were carried out. Results were analyzed in terms of category of HCW, reporting and treatment seeking behavior. Results showed a 26% incidence of SI in HCWs. Incidence was highest in medical and nursing interns. Association between years of job, use of standard precautions, type of procedure, devices and immunization status were also noted and analyzed. Awareness remains a key parameter in prevention of SIs. A major outcome of the study was initiation of targeted interventions based on needs assessment.

KEY WORDS
Sharp injuries (SIs), healthcare worker (HCW), tertiary care hospital, prevention

INTRODUCTION
The use of injections has brought much public health benefit in the 20th century, particularly by providing a method for administering life-saving vaccines. However, healthcare injections have also become a health hazard. Injection is one of the most common healthcare procedures. Injection safety should be assessed using standardized and representative methods to allow for a reliable assessment of the situation in the country and for comparisons with other countries. Because of the nature of their occupation, healthcare workers (HCWs) are especially exposed to blood-borne infections, including HIV, due to injury through SI, such as needle-sticks. Additionally, if the assessment is done before the introduction of changes, a repeated assessment can then measure achievements consistently.

Every year a large number of injections are administered in developing and transitional countries. The vast majority (around 95%) are given for curative care. Immunization accounts for around 3% of all injections, with the remainder for other indications, including use of injections for transfusion of blood and blood products and contraceptive medications. According to the Centers for Disease Control and Prevention, approximately 384,000 percutaneous injuries occur annually in US hospitals, with about 236,000 of these resulting from needle-sticks involving hollow-bore needles. EPinet data for 2003 reports a rate of approximately 27 SIs per 100 beds in teaching hospitals (1). There are few reports on SIs from India (2,3,4,5) and with limited data, it is not possible to estimate an annual incidence.

In India the use of injections has taken the real need, reaching proportions no longer based on rational medical practice. In some situations, as many as nine out of 10 patients presenting to a primary healthcare provider receive an injection, over 70% of which are unnecessary, or could be given in an oral formulation. Patients tend to prefer injections because they believe them to be stronger and faster.

India is a developing country with its unique set of problems especially in preventive aspects where little has been done for prevention for HCWs. SIs are a very common yet dreaded aspect of HCWs’ occupational hazards. India has a large number (second only to South African countries) of HIV/AIDS cases; hence
there is a fear psychosis in HCWs whenever there is any SI. No reliable baseline data is available on this so far. Therefore, the present study was carried out to estimate the prevalence of SI among HCWs, in a tertiary care hospital in New Delhi, India. We also studied the knowledge and attitude of HCWs towards SI.

**OBJECTIVES**

- To estimate the baseline data of SI in HCWs in ICU and at other sites of our hospital.
- To identify the unsafe practices that may lead to infections and that should be targeted by interventions to improve injection safety and occupational health.
- To determine the proportion of SI which are not reported.

**MATERIALS AND METHOD**

**Study site and procedures**

The study hospital, one of the largest hospitals in Asia, is a 1650-bed tertiary care hospital that also serves as the teaching hospital for colleges of medicine and nursing. The hospital’s waste management and patient safety committee has maintained an SI register since 2009. Protocols for management and follow-up of SI have been established. As soon as a HCW sustains a SI, he/she is instructed to induce bleeding from the wound and wash with soap and water and to report to the casualty duty doctor immediately. The duty doctor collects information regarding the index patient/source and records information of (i) the source, including diagnosis, Hepatitis B surface antigen (HBsAg), and HIV and HCV antibody status before and after the SI. If these have not been tested earlier, the investigations are sent and followed-up within six hours, (ii) the HCW position, work experience, previous history of SIs or blood transfusions, (iii) vaccination status, including anti-HBs titre, HIV, HBsAg, anti-HCV of the HCW and (iv) details of the incident, time of incident, time of reporting, place of incident, description of the incident, type of first aid given and whether Standard precautions were followed by the HCW.

The Hepatitis B and HIV follow-up protocol are as follows: in case of a SI from a HBsAg-positive patient, the anti-HBs titre is checked, and if < 10mIU/mL, a full course of vaccination is given and if between 10 and 100 mIU/mL, a booster dose is given and if more than 100mIU/mL, the HCW is reassured. HIV testing and post exposure prophylaxis is offered as per National Aids Control Organization’s guidelines (6). HCWs are followed-up at six weeks, three months and six months for HIV by enzyme-linked immunosorbent assay (ELISA).

A questionnaire was prepared and distributed among various HCWs (i.e., doctors, nurses, laboratory technicians, supportive staff and sweepers) prone to SI, at various sites such as intensive care units (ICUs), blood bank, central collection center, casualty, injection room, and operating theaters. The questionnaire contained information on demographics, vaccination status of the HCW, nature of job, injury from sharps, knowledge regarding prevention of a sharp injuries and what actions to take in case of an exposure. The questionnaire also included a section to document the practice and attitude of HCW while at work. Observations were recorded but not disclosed to HCWs.

**RESULTS**

During the period from July 2009 to September 2009, 220 HCWs were interviewed. 58 (26%) sustained an SI. Of these, 24 were nurses, 16 (27.5%) were trained nurses and 8 (13.7%) were student/intern nurses), 6 (10.3%) were cleaning staff (sweepers), 10 (17.2%) were doctors, 9 (15.5%) were interns, 5

**TABLE 1** Devices responsible for sharp injuries

<table>
<thead>
<tr>
<th>Hollow bore needles</th>
<th>Solid needles</th>
<th>Solid needles</th>
<th>others</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>11</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
were technicians and 4 (6.8%) were other categories of HCW, (Figure 1). Nursing and medical interns constituted a significantly larger proportion of HCW sustaining SI (p < 0.001).

Among the HCW with SI, 109 (49.7%) were those who had a work experience of less than one year. It is important to note that the Safdarjang Hospital and VMMC has approximately 5000 HCW, of which approximately 8% are in their first year of service at any given time. Based on this, the proportion of SI among those with a work experience of less than one year is significantly higher.

The majority of the devices responsible for the SI were hollow-bore needles 45 (77.58%), with solid needles accounting for 11 (18.9%) and scalpel blades for 2 (3.4%) (Table 1).

Evaluation of the type of activity during which the SI occurred showed that most occurred during procedures 38 (65.5%). The most common procedure was blood collection 20 (52.6%), followed by surgical procedures 10 (26.3%). Approximately 5 (13.5%) were during checking blood sugar and 3 (7.8%) were contributed by each of injection administration, intravenous cannulation and others.

A large proportion occurred because of incorrect handling such as recappping 18 (47.3%), improper disposal of the sharps 12 (31.5%) and overflowing containers, passing of the device, etc., which accounted for 8 (21%) of the SI (Table 2).

Most SIs occurred when standard precautions were not followed 29 (76%), while a much smaller proportion, 9 (23.6%) had a SI despite following adequate precautions.

Most SIs occurred in the wards 18 (47%), followed by operating rooms 5 (13%), central collection center 4 (10%) in accident and emergency/casualty 3 (7%), intensive care units 2 (5%) and at other sites 6 (15%) (Figure 2).

Twenty-six (68.4%) of HCWs who sustained a SI were not adequately immunized for Hepatitis B, while 12 (31.5%) had received three doses of the vaccine and a booster within the last five years.

There was no association between incidence of SI and the shift/time of work.

Known sources accounted for 44 (75.8%) of SIs and unknown sources accounted for the remainder of the injuries. Of the known sources, 7 (9.0%) were positive for HBsAg, none for HIV (to date, they have been followed up at three months and at six months) and one (2.2%) were positive for HCV.

**DISCUSSION**

In our study, the majority of the HCWs who sustained SI were nurses and doctors (44.8%), followed by interns, technicians and sweepers (29%, 8.6% and 6.8% respectively). Interns form a small proportion of the medical or nursing staff in a teaching hospital, but accounted for a large proportion of the injuries. This may be a reflection of the larger number of exposure-prone procedures conducted by these categories, or by their inexperience, a finding also supported by the fact that almost half the SIs involved HCWs who had less than one year of work experience.

Another interesting finding was the relationship between the number of SIs and use of standard precautions. We have noted that they are inversely related, in other words, episodes of SIs can be decreased if standard precautions are followed. It also implies the need for greater and continuing education on the use of standard precautions or standard procedures in all categories of the HCW because most SIs occurred in HCW that did not follow the sharp injury prevention protocol. It is estimated that approximately three million HCW experience percutaneous exposure to blood borne viruses (BBVs) each year. This results in an estimated 16,000 Hepatitis C, 66,000 Hepatitis B and 200-5000 HIV infections annually (6). However, at least 11% of the SIs that were contributed by blood sugar monitoring and intravenous cannulation could potentially have been prevented by the use of safety devices such as special cannulae and lancet pens for sugar estimation. Hollow bore needles were the most common and scalpel blades were the least common sharp devices responsible for injuries. This could be
because scalpel blades were used in limited number of cases whereas hollow bore needles were used extensively, especially in the areas selected for study. Our findings showed that 13% of source patients were known to be infected with a BBV. It would be interesting to analyze data on BBV infections on a hospital-wide basis because it is unlikely that the general patient population would have such a high proportion of positivity for these viruses. In this situation, it is important to consider that there may be significant under-reporting of sharp injuries, with reports being made more often if the index patient is a known positive, but less often if the index patient is not known to be positive.

Six-month follow-up for HIV ELISA has been done. None was found positive for HIV. Worldwide, there are 296 cases of HIV seroconversion after occupational exposure, of which 56 are documented while 138 are possibly occupationally acquired (1). In India, two possible cases of occupationally acquired HIV infection have been reported from Chandigarh (7).

There is a paucity of data on sharp injuries in India. While we appear to have lower levels of sharp injuries than expected, this may be due to under reporting. Improper handling and disposal and a lack of adherence to standard precautions and standard procedures may be responsible for the majority of sharp injuries, indicating that there is an opportunity for significant reduction of SI through training, education and other interventional strategies. Entry-level training would be beneficial and it would not only reduce the incidence of SI in future but the burden of BBV would also come down significantly, provided interventions are implemented properly.

One limitation of the study was the recall bias, where participants could not recall exactly the mode or number of SI they have had in the past.

CONCLUSION

This study highlights the fact that a large number of HCW are exposed to an SI from needle-stick or other sharps and thus are susceptible to blood-borne infections. Reporting of SIs must be encouraged as, in all categories of HCWs, it was uniformly lacking as was treatment-seeking behaviour. It was ironic to note that HCWs were callous in their own safety and treatment-seeking behaviour. An awareness program regarding the hazards associated with SI and prevention of SI has been started at our hospital. A needs-based awareness program has resulted in formulating targeted interventions in the form of regular and continuous training of all categories of HCWs. Induction training has also been started since June 2010 for all new medical and nursing interns, resident doctors and post graduate students. Any new employee in hospital must undergo mandatory SI prevention and biomedical waste disposal training. These programs have been designed to suit the HCW population at our institute. Systematic and continuous education and training should be useful in reducing the SI. As well, awareness and provision of care and free treatment would motivate HCWs to report SIs.

ACKNOWLEDGEMENTS

We thank the Safe Hands Organization, Australia for the financial support.

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ABSTRACT
The purpose of this study was to test the hypothesis that alcohol-based hand sanitisers delivered in a non-aerosol foam format have greater bactericidal efficacy than alcohol-based hand sanitisers delivered in thickened gel format.

The determination of antimicrobial efficacy was measured using an adapted version of the internationally recognised EN1500 test, an in vivo test for evaluating bactericidal reduction rates obtained with alcohol-based hand rubs.

Test formulations of alcohol-based hand sanitiser included Deb Instant-FOAM® Foaming Alcohol Hand Sanitizer [Product A], a thickened gel version of the same formulation [Product B] and a market alcohol gel [Product C] were compared. Final test data was evaluated utilising the Wilcoxon signed-rank test for comparing two related samples.

The results of the tests have led us to conclude that, according to our test-conditions, the bactericidal efficacy on Escherichia coli of alcohol-based hand sanitisers [Product A] are significantly superior when the same formulation is delivered in foam format compared to thickened gel [Product B] and market alcohol gel [Product C].

INTRODUCTION
Alcohol-based hand sanitisers have been in use for decades in various formats. Originally provided as a viscous liquid used primarily in healthcare settings, more recent developments produced alcohol-based gels in the 1980s and non-aerosol alcohol-based foam in 2006. With the advent of more user-friendly formats, the use of alcohol-based skin sanitisers has expanded from healthcare to included widespread personal use, whether at home, in the workplace or in the community.

Both thickened gel and thickener-free foam format products are easy-to-use, safe (5), do not require water or wiping and are not susceptible to induce bacterial resistance (1). Alcohol-based hand sanitisers are also known for being effective on most pathogenic micro-organisms including Gram positive and Gram negative bacteria, yeasts, moulds and viruses (2,3,7).

Alcohols have a non-specific mode of antimicrobial action; they denature proteins, inhibit enzymes and induce lysis of the cytoplasmic membrane. They have no sporicidal activity but they inhibit the spore germination (6,8).

In addition, because alcohols are characterised by a high exponent value ($\eta > 4$) efficacy can be dramatically affected by the concentration of alcohol in the formulation (1).
For a given format of alcohol-based hand sanitisers (liquid, gel, foam), some variations of efficacy level have been observed from format to format. In 2002, Prof A. Kramer et al (6) identified the “limited efficacy of alcohol-based hand gels” when compared to alcohol-based hand sanitisers in the traditional liquid format.

Our hypothesis relates to the fact that thickening agents used in gel products (cellulose ethers, acrylic acid-based polymers) affect the microbial killing kinetics, by slowing down the diffusion of the alcohols through the cell membranes. Further, because the non-aerosol foam format of alcohol-based skin sanitisers does not include thickening agents, these products should wet and spread better and the efficacy for the foaming product is expected to be better than comparable gels.

To test our hypothesis, simply stated as “foam is better than gel”, this study compared the in vivo bactericidal activity of Deb InstantFoam® Foaming Alcohol Hand Sanitiser [Product A] versus a thickened gel version of the same formulation [Product B] and another market alcohol gel [Product C]. The compositions of the various test-products are given in Table 1.

Prior to doing this, we also experimentally compared the spreadability of the alcohol foam [Product A] to its thickened gel version [Product B]. This experiment was conducted in order to reinforce our hypothesis that foam spreads better than gel; because of this, foam should also be more effective at covering a larger surface of skin and, therefore, at sanitising the skin better within a given length of time.

EXPERIMENTAL COMPARATIVE EVALUATION OF THE SPREADABILITY

The spreadability approach by measurement of the contact angle method
In order to obtain the highest possible level of antimicrobial efficacy, important parameters seem to be the wettability of the treated surface (the skin), and the wetting power as well as the spreadability, of the fluid (the skin sanitiser). We assumed that, for all these parameters, the higher the better.

The wetting and the spreading of a liquid on a solid surface are governed by a thermodynamic-related process (4,10). One criterion, which allows differentiating complete from partial wetting, is the contact angle (Fig.1).

Perfect wetting is obtained if the contact angle $\theta = 0^\circ$, but this is pure theory as, in reality, only partial wetting (defined by $\theta > 0^\circ$) may be obtained. That said, three interfaces are involved in this process; the liquid, the surface and the air. Therefore, their respective interfacial tensions must be taken into account in the Young’s equation, which describes the wetting behaviour (Equation 1).

However, because $g_{SL}$ and $g_{LV}$ cannot be measured, some empirical extrapolations were made in order to calculate the spreadability coefficient “S” (Equation 2).

The mean contact angles of foam [product A] and the alcohol gel [product B] were measured on the skin of the index finger of 20 subjects (males and females, aged 20 to 60), without taking into account the natural roughness of the skin. The values were obtained from close-up pictures of the sanitiser drops.

Four hours before the test, hands were washed for one minute with an alkaline liquid soap, and dried with disposable paper towels. Subjects were asked not to wear gloves and not to wet their hands with any kind of liquid during this period of time. Then, 50 µl of test-product was put on the dorsal surface of the middle phalanx of the left index finger, and close-up pictures were immediately taken using a digital camera.

Contact angles were measured directly on the 20 pictures taken for each product (Fig. 2, Fig. 3). Then, spreadability could be calculated (Table 2) using equation Eq2.

Although the surface tensions of the test products were quite similar, the spreadability of the foam was much higher ($S > 0$, spontaneous spreading occurs and the equilibrium is obtained when the liquid spreads onto the solid) than that of the gel ($S < 0$, the solid-vapour interface has the lower free energy and the liquid does not spread spontaneously).

This may contribute to ability of foam to spread spontaneously, without
the need of extra mechanical energy, whereas gel cannot. When observing foam on the hand prior to rubbing, it is noticeable that it simply spreads due to its own weight and as a consequence of the shape of the bubbles and the wet- tability of the liquid.

The microscopic structure approach
Soap foam is a polyhedral 3D network system (Fig. 4) of liquid and gas characterised by developed internal surface. The general physical characteristics of the foam (drainage, spreadability, durability, are related to the fact that bubbles are inter-connected.

To illustrate the increased spreadability of foam, a simple observation through the microscope (Olympus with apochromatic objectives) revealed that the structure of alcohol foam [Product A] was very different from the structure of soap foam (Fig. 4). The observed marble-like structures of alcohol foam might also explain the greater spreadability, with the possibility of the microscopic bubbles rolling on each other with low mechanical constraint.

EXPERIMENTAL COMPARATIVE EVALUATION OF THE BACTERICIDAL EFFICACY

Principle: The study was based on the comparison, using an adapted EN1500 test-method (11), of the bactericidal efficacy of three different doses of products A, B and C on 15 subjects (male and female, aged 20 to 50), with hands artificially contaminated with a calibrated suspension of Escherichia coli CIP 54.117 (E. coli K12 NCTC 10538).

Product A was tested as a foam and each dose (corresponding to respectively 0.7ml, 1.4ml and 2.1ml of liquid formulation) was dispensed from a 1L sealed cartridge.

Products B and C were tested as gel and each dose (respectively 0.7ml, 1.4ml and 2.1ml of gel) was pipeted onto hands using disposable sterile 1ml pipets (Sarstedt).

The results were calculated by comparing the level of initial hand contamination (initial value) with the level of residual contamination after all three sanitisations (final value). All results were expressed in terms of Log10 reductions and compared using the Wilcoxon statistical test.

No biocide-neutraliser was required for this test because the actives (alcohols only) evaporate without leaving any inhibitory residue on the skin after application.

---

### TABLE 1

<table>
<thead>
<tr>
<th>Test-products</th>
<th>Foam A</th>
<th>Gel B</th>
<th>Gel C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active ingredients</td>
<td>Ethanol 65% w/w N-Propanol 10% w/w</td>
<td>Ethanol 65% w/w N-Propanol 10% w/w</td>
<td>Ethanol 85% w/w</td>
</tr>
<tr>
<td>Non-active ingredients</td>
<td>Purified water Non-ionic surfactants Skin conditioning agent Glycerin</td>
<td>Purified water Non-ionic surfactants Skin conditioning agent Glycerin Thickener: Acrylates/C10-30 Alkyl Acrylate Crosspolymer</td>
<td></td>
</tr>
</tbody>
</table>

#### Characteristics:
- Viscosity at 20°C (Brookfield LVII): < 100 cP, 3540 cPo, 4400 cPo
- Surface tension at 20°C (Tensiometer Du Nouy): 22 mN/m⁻¹, 24 mN/m⁻¹, 24 mN/m⁻¹

---

### TABLE 2 Summary Calculations

<table>
<thead>
<tr>
<th></th>
<th>Average contact angles (θ)</th>
<th>( \cos \theta )</th>
<th>Surface tensions (( \gamma )LV)</th>
<th>Spreadability ‘S’ ( \gamma )LV (( \cos \theta ) -1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol foam [Product A]</td>
<td>9.05° (0.16 RAD)</td>
<td>0.99</td>
<td>22 mN/m⁻¹</td>
<td>21.73</td>
</tr>
<tr>
<td>Alcohol gel [Product B]</td>
<td>49.20° (0.86 RAD)</td>
<td>0.65</td>
<td>24 mN/m⁻¹</td>
<td>-8.32</td>
</tr>
</tbody>
</table>
Determination of initial and final values of each dosage

For each individual test-dose, and prior to the test, all subjects were asked to wash their hands with an alkaline soap, without any further instructions, hands were dried with disposable paper. Hands were then sanitised by rubbing both sides of the hands with 3ml of propanol 60 % v/v for one minute.

Immediately afterwards, hands were contaminated by rubbing both sides with 1ml of a calibrated suspension of Escherichia coli adjusted at 1.10⁸ to 3.10⁸ cfu/ml and then applied onto large Petri dishes containing TSA medium. Both sides of each hand were applied for five seconds on separate sets of Petri dishes (initial values).

Then, for each test involving one, two or three doses, hands were sanitised by rubbing both sides and then both sides were again applied for five seconds onto separate sets large Petri dishes containing TSA (Tryptophe-Soy-Agar).

Hands were washed and sanitised with isopropyl alcohol before each test. Petri dishes were incubated at 37°C for 24 hours, and colonies were counted directly on the Petri dishes. The Petri dishes were each photographed (see typical examples of initial value on page 22).

Test results

Comparative log reductions for one, two and three doses are shown in Graph 2. Summary of the Wilcoxon results are given in Table 3.

As shown in Graph 2 and Table 3, with one, two and three doses, the bactericidal efficacy (log reductions) of product A (alcohol foam) superior to the efficacy of product B (alcohol gel) and product C (alcohol gel).

Furthermore, the Wilcoxon statistics prove also that the differences between A and B and C are significant (for n = 15 and a level of significance p = 0.1).

It can also be noted that the tested products were generally more effective when applied onto the palm of the hands. The authors believe this is likely to be due to the fact that it is easier to rub the products on the palms (more strength and better homogeneity of the application) and/or to the presence of hairs (complex structures) on the back of the hands.

Conclusion

This study suggests that foam [Product A], spreads much better than that of thickened gel [Product B] and that of the market gel [Product C]. We also observed that the marble-like microscopic structure of the foamed product was different from that of soap as the bubbles were not interconnected.

This first part of the study, the spreadability test, reinforced our hypothesis that a foam-
ing alcohol-based hand sanitiser should have higher bactericidal power than that of thickened equivalent gel products but does not prove it. This is due to the involved gel thickener that is supposed to slow down the diffusion of the alcohols into the bacterial cells. Therefore, an in vivo antimicrobial study was necessary. A modified EN1500 test-method allowed us to demonstrate that Product A (applied as foam) onto the hands, has significantly higher (for n=15 testers and level of significance p=0.1) log reduction when applied in consecutive doses on hands than that of the same formulation (Product B) with thickener (average additional log reductions for the palm and for the back of the hands were respectively 1.437 and 0.591), and than that of the market alcohol gel C (average additional log reductions for the palm and for the back of the hands were respectively 1.584 and 0.715).

**REFERENCES**


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Got books? Giving back: The Cameroon book drive

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ABSTRACT
This report highlights the Cameroon book drive that was held in Ontario in 2008 and which reached completion at the end of 2009. The report describes the process to collect used infection prevention and control books as well as other medical texts, ship them to Cameroon in West Africa, and finally reach the intended users – infection control practitioners in Cameroon. Suggestions are made for improvements which might shorten the delay in getting much-needed resource materials to developing countries.

KEY WORDS
Infection prevention and control, education, library, Cameroon, book drive

INTRODUCTION
Between 1971 and 1973 I spent an unforgettable period of my life in Nigeria, West Africa, immediately following the Biafran War. My assigned task was to develop laboratory services for a hospital which had been bombed in the war and which had recently been re-built. I arrived full of youthful energy, ready to bring this laboratory up to western standards. Reality hit me on the day I arrived, when I found no electricity in the hospital, no running water (water was brought by buckets from the river) and no support resources such as educational programs or a library. Over the course of two years, many of the services improved, and in my second year I became involved with a U.S. program that provided used medical books to developing countries. I was able to convince the hospital’s chief administrator that a medical library would be a good addition to the hospital, and an unused room was made available for the books that were to be sent. By the time I left Nigeria there was electricity, running water and a full library of resource materials for staff.

In November 2007 I received an e-mail from Paul Webber (Webber Training), requesting assistance to support infection prevention (IP) nurses in Cameroon, West Africa. My first thought was to send books and other educational materials. Paul put me in touch with Edith Welty, an amazing physician who is involved with the Cameroon Baptist Convention Health Board (CBCHB), where 10 IP nurses are involved in improving infection prevention and control (IPAC) practices in 67 health facilities in the region. Edith indicated that books were in short supply and would be very welcomed by the IP nurses and others in their medical facilities. The idea for the Cameroon book drive was born.

BACKGROUND
Cameroon is a country in West Africa that shares borders with Nigeria, Gabon, Congo, Central African Republic and Chad and has a population of 18 million (1). The CBCHB is a non-profit healthcare organization that started over 50 years ago and has expanded into six of Cameroon’s 10 provinces. The services of the CBCHB range from village primary healthcare to highly specialized hospital-based care with an integration of other social services. It comprises five hospitals, 24 integrated health centers, 43 primary health centers, pharmaceutical procurement and distribution, a private training school for health personnel, and other critical health services for a population base of six million people. The CBCHB works in partnership with national and international governmental and non-governmental health care organizations in Africa and the rest of the world and with funding agencies (2).

Whereas in the past health workers from the CBCHB had to go abroad for
training, the CBCHB now offers certified training for workers such as nurses, midwives, dental, laboratory, pharmacy, X-ray, physiotherapy and primary health care technicians.

HIV & AIDS activities
In 1999, the board created a community-based Acquired Immune Deficiency Syndrome (AIDS) education program called AIDS Care and Prevention Program (ACP). Today the program is a huge and comprehensive one with 11 components. In 2004, the United States Agency for International Development (USAID) named the CBCHB as a “best and promising practice” in the Prevention of Mother-to-Child Transmission (PMTCT) of Human Immunodeficiency Virus (HIV) in the Central and West African sub-regions. Because of the results it yielded, the CBCHB was empowered to become the regional training center in PMTCT and reproductive health for 18 countries in West and Central Africa with support from Action for West Africa Region (AWARE). Since then, the CBCHB has trained health personnel from 15 African countries and helped them to start or strengthen PMTCT services back in their own home countries (3).

Tuberculosis (TB) control program
The CBCHB started a tuberculosis (TB) control program in 1999 in response to the growing TB epidemic. Over 60% of TB patients treated at the CBCHB facilities are HIV-positive. Under the supervision of the CBCHB-physicians trained in TB management, the three nurses assigned to this program accept referrals from other healthcare workers, prescribe TB medications, see returning patients and provide tracking and follow-up care. From 1999-2004, Banso Baptist Hospital diagnosed 1,465 patients with TB.

Infection prevention (IP) nurses
Jacob Gobte Nkwan was the IP nurse for Banso Baptist Hospital and is currently attending university. He plans to return to the CBCHB after he graduates to expand the IPAC program to include training of more IP nurses, with the aim of eventually developing a national IPAC program. Amos

<table>
<thead>
<tr>
<th>TABLE 1 Infection control/infectious diseases materials received</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Books/Manuals</strong></td>
</tr>
<tr>
<td>Control of Communicable Diseases (Heymann)</td>
</tr>
<tr>
<td>Hospital Epidemiology and Infection Control (Mayhall)</td>
</tr>
<tr>
<td>Prevention and Control of Nosocomial Infections (Wenzel)</td>
</tr>
<tr>
<td>Control of Communicable Diseases Manual (Chin)</td>
</tr>
<tr>
<td>Hospital Infections (Bennett)</td>
</tr>
<tr>
<td>Disinfection, Sterilization and Antisepsis in Health Care (Rutala)</td>
</tr>
<tr>
<td>Infection Control Manual for Long-Term Care Facilities (APIC*)</td>
</tr>
<tr>
<td>APIC Text of Infection Control and Epidemiology</td>
</tr>
<tr>
<td>CBIC** Study Guide</td>
</tr>
<tr>
<td>Canadian Immunization Guide</td>
</tr>
<tr>
<td>Canadian Tuberculosis Standards</td>
</tr>
<tr>
<td>Best Practices for Infection Prevention &amp; Control of Resistant Staphylococcus aureus and Enterococci (PIDAC***)</td>
</tr>
<tr>
<td>Best Practices for Cleaning, Disinfection and Sterilization (PIDAC)</td>
</tr>
<tr>
<td>Best Practices for the Management of Clostridium difficile (PIDAC)</td>
</tr>
<tr>
<td>APIC Conference Abstracts</td>
</tr>
</tbody>
</table>

*APIC = Association for Professionals in Infection Control and Epidemiology  
**CBIC = Certification Board for Infection Control  
***PIDAC = Provincial Infectious Diseases Advisory Committee (Ontario)
Ndichia is the IP nurse at Mbingo Baptist Hospital. Amos and Jacob received IPAC training from the AWARE Project of USAID. One of their many tasks is to inspect satellite CBCHB clinics for IPAC practices. Jacob recently collaborated with the administrator of CBCHB’s Life Abundant Primary Health Care Program (LAP) to train LAP nurse field supervisors and health promoters and trained birth attendants in remote villages in principles of IP, especially as related to obstetric delivery and newborn care, which are done in these primary health centers. They gave pre- and post-tests in IP to these staff and documented that many staff improved in knowledge after completing the curriculum. Training included production and use of alcohol-based hand rub, 0.5% chlorine bleach, and many other critical IP practices.

**METHODS**

Following the initial decision to collect used medical books for IP nurses and staff in Cameroon hospitals, a plan was formulated to obtain used books over a period of two months and have them delivered to a central collection point (Collection), collate the books by publication year and inspect them for damage (Sorting and Cataloguing) and, finally, to ship the books on to Cameroon (Distribution).

**Collection**

Collection involved advertising and promotion of the project within Ontario, designating regional collection points for books and resource materials, and arranging shipment of items to a central collection point (CCP) in South Eastern Ontario. It was decided to focus collection efforts in Ontario, as that province has the highest number of hospitals and medical schools in the country that would be a source for used medical/IPAC books, as well as lower shipping costs to the CCP. With the province-wide distribution of the Regional Infection Control Networks (RICNs) in Ontario, it seemed logical to use the RICNs as regional collection points and have materials shipped from there to the CCP. Contact was made with the acting provincial coordinator for the RICNs and permission was given for the RICNs to act as drop-off points around the province. Shipping costs from the RICNs to the CCP were generously donated by the RICNs, as well as support in the form of new educational materials purchased by each RICN, which was added to their shipment. Permission was also given by the Community and Hospital Infection Control Association – Canada (CHICA-Canada) board to promote the project via Ontario chapter presidents and to use the CHICA-Canada logo on promotional materials.

The target date for completion of the project was set as April 30, 2008. A campaign theme was chosen (Got Books?) and a poster and information flyer were developed. On February 22, 2008 all RICN coordinators and Ontario CHICA-Canada chapter presidents were sent an e-mail introducing the Got Books? project, with the promotional flyer and poster attached for wider distribution. Many of the RICNs also advertised the project in their regional newsletters. Two weeks later, information e-mails were also sent to local libraries in hospitals, universities and colleges, asking for used medical books and arranging for pick-up.

**TABLE 2** Timeline of significant events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov/07</td>
<td>Request for assistance for IP* nurses in Cameroon</td>
</tr>
<tr>
<td>Nov/07</td>
<td>Made contact with Dr. Edith Welty, volunteer working with Cameroon IP nurses</td>
</tr>
<tr>
<td>Dec/07</td>
<td>Permission given for Ontario’s Regional Infection Control Networks to act as regional collection points, coordinating collection of books and forwarding on to central collection point</td>
</tr>
<tr>
<td>Dec/07</td>
<td>Project C.U.R.E. set up as shipping agency to Cameroon from the U.S.</td>
</tr>
<tr>
<td>Feb/08</td>
<td>Permission given from CHICA-Canada to approach Ontario chapter presidents for donations of educational materials</td>
</tr>
<tr>
<td>Feb/08</td>
<td>Got Books? posters and information sent to Ontario CHICA-Canada chapter presidents and Regional Infection Control Network coordinators</td>
</tr>
<tr>
<td>Mar/08</td>
<td>Eastern Ontario hospital libraries contacted to donate used books</td>
</tr>
<tr>
<td>Jul/08</td>
<td>61 boxes of books collected</td>
</tr>
<tr>
<td>Jul/08 to Mar/09</td>
<td>Budgetary constraints result in requirement for fundraising before Project C.U.R.E. can send more shipments to Cameroon</td>
</tr>
<tr>
<td>Mar/09</td>
<td>Books shipped from central collection point to Project C.U.R.E. warehouse in Houston</td>
</tr>
<tr>
<td>Apr/09</td>
<td>Container ship carrying books left Houston, bound for Cameroon</td>
</tr>
<tr>
<td>May/09</td>
<td>Shipment cleared port in Cameroon and moved to temporary warehouse in Mutengene, Cameroon</td>
</tr>
<tr>
<td>Sep/09</td>
<td>Whereabouts of books uncertain, but they left Mutengene</td>
</tr>
<tr>
<td>Nov/09</td>
<td>Books located and dispersed; most medical and nursing materials went to training school in Banso</td>
</tr>
<tr>
<td>Nov/09</td>
<td>All CBCHB** centres receive books, including IP nurses</td>
</tr>
</tbody>
</table>

*IP = Infection Prevention  
**CBCHB = Cameroon Baptist Convention Health Board
Sorting and cataloguing
After discussion with Dr. Welty, it was agreed that books more than 10 years old would not be shipped to Cameroon. Sorting and cataloguing involved creating an Excel spreadsheet listing all resource materials with publication date, name of the book/journal, author and condition of the item (Table 1). Books were rejected if they had tears, large marks or extensive highlighting, or broken spines. Books were also reviewed for content and rejected if the content was not felt to be appropriate or applicable to West African hospitals (e.g., books about nursing homes).

Distribution
Distribution involved packing the items to be transported and shipping them to the Texas storehouse of Project C.U.R.E. (Commission on Urgent Relief & Equipment), where they would be added to a container ship bound for Cameroon. Contact was made in March, 2008 with Project C.U.R.E., a U.S. organization that collects and distributes medical supplies and services worldwide (4) that had worked with Dr. Welty in the past to ship medical supplies to the CBCHB. Project C.U.R.E. agreed to ship the books to Cameroon at no extra charge as part of an existing shipment bound for the CBCHB. Books and journals to be shipped were boxed and labelled according to subject matter (e.g., medical, nursing, IPAC). Boxes were then weighed, wrapped onto a skid and labelled. Books were picked up at the CCP and transported to the Project C.U.R.E. warehouse in Houston by Journey Freight International, an independent trucking company. In Cameroon, Dr. Welty coordinated the receipt of the books and their subsequent distribution among the CBCHB hospitals, Regional Training Centre at Mutengene and Buea University. The remaining books were stored and an attempt to sell them via internet distributors will be made, with proceeds going to the CBCHB.

RESULTS
Between February 26 and July 1, 2008 a total of 61 boxes containing 1046 books and other educational materials were received. Books ranged in publication date from 1897 to 2008. There were 12 boxes containing 425 books that were less than 10 years old, which accounted for 41% of the total. Only 37 (19%) of the books that were shipped were directly related to IPAC.

Lessons learned
The Cameroon book drive was a successful campaign that provided IP nurses and other health professionals in Cameroon with valuable resources. This campaign was a good example of cooperation between multiple organizations and individuals committed to achieving a worthy goal.

Ask and it shall be given to you
People are remarkably generous when asked. The collection of over 1000 books and journals in a period of four months was far beyond the number expected. Having a clear plan, contacting key individuals and/or organizations for support and effective messaging were significant in achieving the success of this project.
Be careful what you wish for
It was anticipated that this book drive would be completed within two months (March-April), but books continued to arrive up to four months later (March-June). In order to be able to provide the best assortment of books possible, the decision was made to delay shipment until no more books were being received. Unfortunately, this decision resulted in missing the last shipment of the year and delayed transportation by eight months. In retrospect, adherence to the target date for receipt of items that was printed on posters and flyers would have shortened the book drive and allowed books to be shipped in July/08, much earlier than the actual shipping date.

Many books were received that were not shipped due to age, wear and/or subject material. The number of books received that were directly related to IPAC was disappointing. Communication regarding what age and types of books were expected would have resulted in more relevant materials being received.

Many hands make light work
Obtaining the support and assistance of the Regional Infection Control Networks of Ontario and CHICA-Canada was a tremendous asset to the success of this project, broadening the scope of the project and reducing costs considerably.

In a letter received from IP nurse Justin Fombe on February 27, 2010, the impact of the Cameroon book drive is clear: "We hope the zeal to prevent infection will remain in all the staff. There has been a lot of effort by many in impacting a lasting message of preventing infection in not only the clinical staff, but [also] the administrative personnel. The Nursing and Midwifery training school in Banso received a good portion of the Infection Prevention books so that at the level of the training school, students will not only be introduced to it, they can look up in those IP reference books for additional information. Infection Prevention has also been made a part of the training of all clinical, laundry and housekeeping staff. We need people committed to IP who will at all times ensure that IP is in practice as much as it is in theory."

Our own IPAC goals in Canada are not much different from those of our Cameroon colleagues, but we have the advantage of many and varied health system supports and resources. The opportunity to give back to those for whom infection prevention and control is still in its infancy is a reward beyond measure.

ACKNOWLEDGEMENTS
The author would like to thank CHICA-Canada and chapter presidents, the Regional Infection Control Networks of Ontario and Dr. Edith Welty of the Cameroon Baptist Convention Health Board for supporting and assisting with this project. Thanks also to all who donated books and educational materials to the Cameroon book drive. Finally, thanks to Paul Webber for the opportunity to give back.

REFERENCES

Distribution of book types shipped to Cameroon

Arrival of books in Cameroon (Dr. Edith Welty pictured on right)
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CHICA-Canada and 3M Canada are pleased to announce the 3M Canada Oral and Poster Awards. The $500 awards for Best Oral and Best Poster, as chosen by attendees of the 2011 National Education Conference, will be presented at the conference closing ceremonies.

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The 2011 Run or Walk for Fun is in aid of the International Federation of Infection Control Scholarship Fund which assists Infection Control Professionals from under-funded or under-resourced countries to attend the annual IFIC education meeting.

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Through the financial support of the Virox Technologies Partnership, 19 CHICA-Canada members have been awarded scholarships to attend the 2011 National Education Conference in Toronto. This year the scholarship became more accessible to the new infection prevention and control practitioner who would benefit from the education and networking available at the annual CHICA-Canada conference. CHICA-Canada and its members thank Virox Technologies and their partners Deb Canada, JohnsonDiversey, Steris Corporation, and Webber Training for their initiative to make the education conference accessible to those whose accomplishments should be recognized and who may not have otherwise been able to attend.

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### Oral Presentations

**TUESDAY, MAY 31**

**2:00-3:00 P.M.**

#### Antimicrobial Resistance and Other Pathogens

**2:00-2:15 p.m.**

**Vancomycin Resistant Enterococcus in a NICU, as a Result of Familial Transmission in the Community**

Laura Oberholzer1, Amaal Al-Maani2, Paul MacPherson3, Peter Jessamine1, Salena Mohammed1, Yenge Diambomba1, Mount Sinai Hospital Infection Control Team1, 1Mount Sinai Hospital, Toronto, Ontario, Canada, 2The Hospital for Sick Children, Toronto, Ontario, Canada, 3The Ottawa Hospital, Ottawa, Ontario, Canada

**Background:** Vancomycin resistant enterococci (VRE) are rarely reported in neonatal intensive care units (NICU), and seldom community acquired. A full-term infant discharged on day two post-delivery was admitted four days later to our open, 37-bed NICU from home with hyperbilirubinemia. The infant’s admission rectal swab grew vancomycin resistant E. faecium. The infant had a 3 day stay in the unit, and was discharged before the culture result was available.

**Methods:** Infection Control responded to the NICU exposure by initiating VRE point prevalence screening of all NICU infants. A “bucket clean” of high-touch surfaces in the NICU, and the space occupied by the colonized infant was completed. Follow up point prevalence screening in NICU was performed at day 3, 7, and 12 post-cleaning. Rectal swabs were obtained from the infant and family members. VRE isolates were analyzed by pulsed field gel electrophoresis (PFGE).

**Results:** We did not detect transmission of VRE in NICU. Investigation of the family’s history revealed the infant’s grandmother was known to be colonized with VRE and visited the family’s home the month before the infant was born, but had no contact with infant or family members. The birth VRE was isolated from rectal swabs from baby, mother and grandmother. The isolates were found to be indistinguishable by PFGE.

**Conclusions:** The apparent combination of household and vertical transmission of VRE has not previously been described. As the incidence of VRE increases, NICUs will need to be alert to potential exposures from community admissions.

**2:15-2:30 p.m.**

**Clostridium difficile: More Aggressive and More Fatal**

Nita Arjang, Andrew Smor, Andy Smith, Mary Veesmorne, Rosario Pinto, Sandro Rizoli, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

**Background:** Clostridium difficile Infection (CDI) incidence and severity has increased in the last decade. The strain designated as NAP1/B1027, has caused many outbreaks since 2000. Even though Community-acquired CDI has been reported since CDI was first described in the 1970’s, more cases of community-acquired CDI are reported lately and the number of fulminant CDI has risen. We investigated the CDI case and fatality rates in our centre.

**Methods:** We performed a retrospective analysis of patients with positive clostridium toxin test at admission or during hospital stay, in a large university hospital, Jan.2005 to Aug.2009. Demographic information, risk factors, hospital-acquired versus community-acquired CDI was collected. Severity of the CDI was assessed by need for ICU admission or surgery, recurrence and mortality.

**Results:** 502 patients were reviewed with the average age of 70 (SD = 16). 95 (18.9%) patients were admitted to the hospital with CDI, 18 (3.6%) admitted to the ICU with fulminant CDI and 7 (1.6%) required colostomy. 88 (17.5%) had recurrence and 20 (3.99%) expired with CDI as the main or contributing cause of death. Comparing data from first and last 12 months of the study shows the recurrence rate was 9.9% versus 25.2% (P = 0.0037), the ICU admission 1.0% versus 7.2% (P = 0.037), colostomy 0% versus 5.4% (P = 0.0301) and the mortality due to CDI was 2% versus 5.4% (P = 0.2841).

**Conclusions:** The preliminary results show that CDI has become more aggressive and with more recurrences from 2005 to 2009, possibly due to the NAP1/B1027 strain. New strategies for prevention and management of CDI are required.

**2:30-2:45 p.m.**

**MRSA and VRE: Get to Know Your Enemies Sooner Than Later!**

Natasha Vrhovnik, Bronwyn Edgar, Sandra Gallery, Sunnybrook Health Sciences Centre, Toronto, Canada

**Background:** Early screening, identification and implementation of Additional Precautions for patients with methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE) is important for preventing transmission in the health care setting. Sunnybrook Health Sciences Centre (SHSC) developed a process to improve screening for MRSA and VRE thereby minimizing exposures and bed closures.

**Purpose:** To determine the benefits of an early screening process.

**Method:** The total number of new MRSA cases from December 1, 2008 to March 21, 2009 was identified. A random sample of new cases was reviewed to determine the number of contacts and bed closures associated with the precautionary measures. Time variances were calculated between early screening and specimen collection in ED versus in the admitting unit. Information collected was presented to Stakeholders.

**Results:** During the 4 month time period, 80 new MRSA positive patients were identified. 46 (57.5%) were identified through admission swabs, 5 cases were randomly selected and MRSA exposures caused a cumulative total of 27 bed closure days. 3 of the 5 patients would have been identified at 3.38 and 42 hours earlier respectively, if swabs were collected in the ED. ED practices were modified to include screening for MRSA and VRE for admitted patients.

**Conclusions:** Early identification of MRSA and VRE positive patients can eliminate or decrease the amount of secondary exposures and bed closures through prompt implementation of Additional Precautions. Subsequent follow-up has demonstrated increased adherence to precautionary practices and a significant decrease in the length of time to MRSA patient identification.

### Hand Hygiene

**2:00-2:15 p.m.**

**Development of an Alternative Method to Publicly Report Hand Hygiene Compliance Rates Using Data From the Acute Care Hospitals in the North Simcoe Muskoka LHIN**

Carlo DiDiodato, Royal Victoria Hospital, Barrie, Canada

**Background:** The Ontario MOHLTC’s Patient Safety Initiative requires the public reporting of hand hygiene compliance rates for every acute care hospital. The current method underestimates the clinical implications of the differences in compliance between hospitals. An alternative display of hand hygiene compliance is provided.

**Methods:** A new metric is the probability that at least 75% of all patients experience 100% hand hygiene compliance both before and after their visit. The probability distribution is divided into the following categories: Excellent (> 80% probability), Better than Average (> provincial average), Average ( provincial average ± 5%), Below Average (< provincial average). The number of patient visits by a healthcare provider was assumed to be 20 (day/for doctors) and 60 (shift for nurses). The hand hygiene compliance rates from the NSM LHIN hospitals from fiscal 2009/2010 were used in the calculations. The probability was calculated using the binomial probability distribution equation.

**Results:** The provincial probability ranged from 6.5% (nurses) to 20% (doctors). The hospital probabilities ranged from 0% to 86%. According to the alternative categorization for hand hygiene compliance, 1 hospital would be Excellent, 1 Better than Average, 1 Average, and 2 Below Average.

**Conclusions:** The current method of reporting hand hygiene compliance lacks sensitivity for identifying differences between hospitals and fails to describe the non-linear association between hand hygiene compliance rates and the probability of patients being exposed to best-practices by their healthcare providers. An alternative method to publicly report this data may improve the utility of the information to the public and healthcare providers.

**2:15-2:30 p.m.**

**Hand Hygiene Reviews Using an iPad Tablet**

Kimberly Sermondi1,2, Elizabeth Henderson1, Jennifer Pouget3, Nancy Albert1, 1Alberta Health Services, Alberta, Canada, 2University of Calgary, Calgary, Alberta, Canada

A recent provincial hand hygiene policy indicates that: All staff must ensure that their Hand Hygiene practices (the application of alcohol-based Hand rub or the use of soap and water) are consistently and appropriately applied. Staff compliance with this policy is mandatory. Monitoring of compliance with hand hygiene policy is required. A province wide hand hygiene review tool is required. The purpose of the project was to determine the usability of a tablet (iPad) to collect data for hand hygiene reviews by infection control professionals (ICP’s) in acute care facilities in Alberta.

**Project:** Four pilot locations in Alberta were selected to represent rural, regional and urban facilities. Two ICPs at each site were selected. The Scrub lite application for the iPad was selected to determine if it could accurately capture the required data for hand hygiene (HH) reviews. Participating ICP’s were required to do a minimum number of observations, in various locations, observing a number of healthcare workers hand hygiene compliance. They were required to attempt to modify the Scrub lite to suit their needs for auditing and upload/extract the collected data to their computer.

**Results:** Ten iPads were purchased and distributed to urban and rural facilities. Participants were able to use the application to meet the project requirements. Varying degrees of technical support was required for the ICPs.

**Lessons Learned:** Technology can be introduced to collect surveillance data and to perform reviews. It requires both ICP and IT support for a successful program.

**2:30-2:45 p.m.**

**All Hand Hygiene Practices Are Built on Trust in Our Neonatal Intensive Care Unit**

Shannon Woolcock, Darlene Rojek, Lucia St. Aubin, T.R.U.S.T. IN OUR NEONATAL INTENSIVE CARE UNIT

**Issue:** Staff in Calgary, Alberta, Canada

**Objective:** To determine if an iPad can accurately capture hand hygiene reviews. It requires both ICP and IT support for a successful program.

**Background:** Technology can be introduced to collect surveillance data and to perform reviews. It requires both ICP and IT support for a successful program.

**Methods:** Technology can be introduced to collect surveillance data and to perform reviews. It requires both ICP and IT support for a successful program.

**Conclusions:** Technology can be introduced to collect surveillance data and to perform reviews. It requires both ICP and IT support for a successful program.
team recognized an increased number of infants requiring treatment for infections. We initiated a multi-discipline committee to investigate current infection prevention practices and determined changes needed to enhance hand hygiene performance. We recognized the importance of isolation and environment face unique challenges. All staff members involved in other departments would need additional education on preventative practices in the NICU. We engaged our colleagues and with a collaborative approach build an infection prevention program that is NICU focused and recognized corporately.

Project: Each letter in “T.R.U.S.T” represents various aspects of hand hygiene practices. Example: the U represents “up to the elbow” wash. Neonates TRUST us to perform hand hygiene. Posters detailing the program were displayed in the unit and appropriate departments outlining what each letter represented in relation to strict hand hygiene practices.

Results: The T.R.U.S.T program has heightened awareness of hand hygiene practices within our NICU. The heightened awareness crosses many disciplines and even engages families and visitors. The program has been a positive behavioral shift that has been well received, cost effective and sustainable.

Lessons Learned: Involving all departments in developing a unit specific program has strengthened communication of expected hand hygiene practices upon entering and within our NICU. Educational presentations delivered to ancillary staff improved organizational awareness.

2:45-3:00 p.m.

GLOVE CONTAMINATION AS A MODE OF TRANSMISSION OF NOSOCOMIAL PATHOGENS. 
INFECTION PREVENTION & CONTROL PROGRAM, CALGARY ZONE OF ALBERTA HEALTH SERVICES & DEPARTMENT OF MEDICINE, UNIVERSITY OF CALGARY.

Background: The oval opening of the glove box was swabbed and placed into 2 ml Tryptic Soy Broth (TSB), following which 3 gloves were extracted using a sterile forceps and placed into sterile 1 l wide mouth screw top jars. In the biosafety cabinet, 250 ml of TSB was added, vortexted. Jars were incubated for 24-48 hours subbed onto BAP, PEA, m-Enterococcus, Oxoid Denim Blue, MacConkey without and with chromogenic 2 ug/ml. Controls were gloves from the same lot in unopened boxes from the warehouse.

Methods: Results: Control boxes and gloves (n=40) had a high background of Bacillus spp (57% and 75%), respectively) and environmental CNs (30%), but no MSSA, MRSA, VRE and few enterococcus (5%). Of 305 ward boxes/glove sets, MRSA (3.0%/3.9%), MSSA (5.6%/3.9%), VRE (1.6%/4.9%), enterococcus (11.1%/20.1%), skin flora (71%/57%) were observed.

Conclusions: Gloves in boxes, currently available, are prone to hand inoculation of nosocomial pathogens and constitutes a major break in infection control.

OFTBBREAK MANAGEMENT

2:00-2:15 p.m.

OUTBREAK CHALLENGE: GROUP A STREPTOCOCCAL DISEASE IN A LONG-TERM CARE HOME
Victoria Keegan1, Debbie Valickis2, Danielle Steinman2, Nancy Stevens2
1 Canadian Field Epidemiology Program, Public Health Agency of Canada, Ottawa, Ontario, Canada; 2 Region of Peel Public Health, Mississauga, Ontario, Canada

Background: Group A streptococal (GAS) disease can be a serious health risk to Long Term Care Home (LTCH) residents, particularly the morbidity and mortality associated with invasive cases (iGAS). When Peel Public Health was notified of an excess of GAS cases in a LTCH including one invasive case, an immediate investigation ensued to determine the presence of an outbreak, analyze cases epidemiologically, and initiate infection prevention and control (IPAC) measures.

Methods: The investigation included a literature search of LTCH Group A streptococcal baseline rates, a retrospective case review, screening residents and staff (throat, nose, wounds), errn typing to determine transmission patterns, and an IPAC audit of the LTCH.

Results: An outbreak was declared based on CDDR 2006 Guidelines. Of 79 residents in the LTCH, 15 (19%) tested positive for GAS, of which two were invasive cases. Of the six residents with errn typing results available, all were errn B9. Five staff (6%) were colonized (one matched the resident strain). An IPAC audit of the LTCH identified challenges related to multi-bed rooms, facility layout, multi-use equipment, pets, and an under-resourced hand hygiene program. A GAS LTCH outbreak (errn B9) in a neighboring health unit was a hypothesized link.

Conclusions: Declaring a GAS outbreak is challenging as non-iGAS cases are not reportable and baseline rates are not available. Specimen typing was essential to identify propagation in this outbreak. Ongoing surveillance for GAS infections among LTCH residents and staff is warranted. The role of pets in outbreaks also requires further investigation.

2:15-2:30 p.m.

A BUNDLE APPROACH FOR THE MANAGEMENT OF VANCOMYCIN-RESISTANT ENTEROCOCCUS (VRE).
France Hamed, Ramona Rodrigues, Charles Frenette, The McGill University Health Center, Montreal, Quebec, Canada

Issue: A medical unit with a capacity of 52 beds had the highest VRE rate (90/10,000 patient days) for the first 6 months of 2010. Major efforts to establish patient and staff cohorts including education, bi-weekly prevalence screening and daily environmental cleaning failed to address the problem of transmission. The burden of cases severely hindered the bed management within the organization.

Project: To contain transmission a bundle approach of core preventative measures was initiated in July 2010. It encompassed several audit of compliance and strategic meetings. Compliance audits included biweekly prevalence screening, hand hygiene, additional precautions, environmental cleaning and antibiotic reviews. Weekly meetings were held with managers and administrators and monthly follow-up with front line staff applying behavioural concepts. The period of analysis was defined as 6 months pre and post bundle implementation.

Results: Six months post bundle implementation, the incidence rate dropped to 50.70/10,000 patient day (a 56% rate reduction). Compliance with bundle interventions showed significant improvements in the following areas: screening practices, environmental cleanliness and hand hygiene compliance. Efficient laboratory turn around time and staff compliance strongly influenced the positive outcome. frontline staff compliance with infection prevention and control measures were significantly enhanced when key team players supported the action plans. Hurdles continue to be lack of human resources, limitation of physical space and dedicated equipment.

Lessons Learned: The success of implementing a bundle approach to contain transmission of VRE requires the involvement of all stakeholders in the prevention activities; recognition of their contribution and development of a scientific culture with frontline staff.

2:30-2:45 p.m.

APPLYING LEAN METHODOLOGY TO REDUCE CLOSTRIDIUM DIFFICILE INFECTION (CDI) RATES
Leanne Harding, Sharon Connell, Ross Memorial Hospital, Limbay, Ontario, Canada

Issue: During December 2008, five months after Ontario Hospitals began publicly reporting CDI rates using standardized case definitions for surveillance and reporting; the first CDI outbreak was declared at their hospital.

Project: In response to the dramatic rise of infections, a multidisciplinary Working Group was established with active, voluntary participation from front line staff. Using Lean methodology to motivate and engage the members; one technique called “point kaizen event” was conducted, during which the members mapped out the process steps required after identifying a symptomatic patient. The members were able to develop operational process improvements for: early recognition/patient placement in private room accommodation, documentation, environmental cleaning using a sporadic agent, and standardizing the treatment protocols. The principles consisting of: 1: Sort; needed and unneeded items, 2. Store: closest to point of use, 3. Shine: cleanliness of the workplace, 4. Standardize; equipment and processes through visual methods, and 5. Sustain: conduct regular audits and provide immediate feedback were applied to standardize a bowel movement charting tool using consistent definitions, the Isolation Personal Protective Equipment (PPE) carts, and commodity cleaning. Communication strategies were enhanced with revised, easy-to-read Additional Precaution signs, and colour coded magnets for patient room cleaning.

Results: By breaking down barriers, and empowering front line staff to take action; standards of work were developed, including visual cues to optimize communication. As of January 2011, the Lean process improvements have had a positive impact in reducing the CDI rate from 0.87 to 0.20 per 1000 patient days.

2:45-3:00 p.m.

THE ROLE OF THE CONTAMINATED ENVIRONMENT IN THE TRANSMISSION OF VANCOMYCIN-RESISTANT ENTEROCOCCUS IN AN OUTBREAK SETTING
Carla Corpus, Victoria Williams, Sandra Callery, Mary Warrencombe
Sunnybrook Health Sciences Centre, Toronto, ON, Canada

Background: Patients who are colonized/infectected with Vancomycin-resistant enterococcus (VRE) are contaminated with pathogens that are transmitted via contact, airborne, and indirect routes. These pathogens can survive for weeks on surfaces and the environment can contribute to the spread of VRE.

Objective: To describe the transmission of VRE on a 26-bed respiratory medicine unit.

Methods: Patients exposed to VRE during an outbreak were identified through contact tracing. Laboratory confirmation of VRE was obtained by rectal swabs, during prevalence and discharge/transfer screening. Rectal swabs were obtained on days 0, 5 and 11. The last documented episode. Positive cases were categorized as either direct contacts (current or previous roommates) or environmental contacts (exposed only to the room of a previous VRE case). Enhanced environmental cleaning of rooms occupied by a VRE positive patient was implemented and consisted of a 2-stage cleaning, followed by visual inspection by the environmental services supervisor and collection of environmental swabs.

Conclusion: To contain transmission, an enhanced preventative program was implemented. Compliance rates increased and CDI rates decreased. This outcome was achieved through the implementation of a 2-stage cleaning protocol, where more areas were cleaned and targeted cleaning was performed.
environmental specimens. The room remained closed to admissions until all environmental specimens tested negative.

Results: 64 patients were identified as exposed to VRE. 16 of the 64 contacts (25%) subsequently tested positive for VRE. 3 direct contacts, 3 environmental contacts, 9 with both direct and environmental contact, and 1 unknown. 3 patient rooms initially yielded environmental specimens positive for VRE and required additional cleaning prior to occupancy.

Conclusion: Prior occupancy of a room by a patient positive for VRE and environmental contamination is associated with transmission of VRE during an outbreak. Increased attention to environmental cleaning and disinfection is necessary to control transmission.

LESSONS FROM AUDITING ADHERENCE TO ADDITIONAL PRECAUTIONS AMONG HEALTHCARE WORKERS

Nermin Gergis1, Kristen Brown2, Christine Moore1, Liz McCreight1, Allison McGregor1, Mount Sinai Hospital Infection Control Team1
1Mount Sinai Hospital, Toronto, Canada, 2University of Calgary, Calgary, Canada

Background: Few studies have assessed adherence to additional precautions in healthcare. We report the results of two annual audits in a 472-bed acute care teaching hospital.

Methods: Auditing was conducted weekdays in May, 2009 and May-August, 2010 by direct observation.

Results: A total 492 health care providers (HCPs) were observed in 468 donning and 404 doffing occasions: 53 physicians (MD), 106 nurses (RN) and 136 other HCPs. Precautions required were contact (202 donning/194 doffing), MSA (208/193), VRE/CD (57/59), droplet/contact (34/29), airborne (22/18). Donning was completely correct in 218/468 episodes (47%). Only 35% (23/65) HCPs doffed N95 and 59% (27/46) performed hand hygiene if HH & if compared to 157/217 (72%) surgical mask, 42/43 (98%) gown, and 44/45 (98%) gloves (P = 0.0001). RNs (149/287, 52%) outperformed MDs (23/53, 45%), and others (46/113, 35%) (P = 0.001). There were no differences in adherence rates by ward, but overall adherence was lower for airborne (3/22, 14%), droplet/contact (9/34, 26%), and VRE/CD (23/57, 40%) than for contact (105/202, 52%), MSA/MSA (208/208, 45%) (P = 0.001). The most common donning errors were not donning 2 pairs of gloves for VRE/CD (45%), not performing HH (41%) and not using facial protection when indicated (28%). Overall, 60% (238/397) HCPs doffed equipment correctly: 68% (170/248) RNs, 48% (24/50) MDs, 44% (44/99) others (P = 0.001). The most common error was failure to perform HH before removing a surgical mask/N95.

Conclusions: The most common identified errors in using additional precautions were HH and use of facial protection. These results will be used to improve HCP education, and as part of unit-based infection control scorecards.

2:15-3:00 p.m.

REDUCTIONS IN RATES OF NONOSCOMICALLY ACQUIRED C. DIFFICILE AFTER INTRODUCTION OF AN ANTIMICROBIAL STEWARDSHIP PROGRAM IN A LARGE, URBAN COMMUNITY HOSPITAL

Jeff Pown1 2, Sue Gill, Yves Croteau
1Toronto East General Hospital, Toronto, Canada, 2Department of Medicine, University of Toronto, Toronto, Ontario, Canada

Issue: Antimicrobial stewardship programs (ASP) have the potential to decrease C. difficile rates through reductions in antimicrobial use.

Project: The Toronto East General (TEG) Antimicrobial Stewardship Program (ASP) utilized a process of prospective audit and feedback. Specialized trained pharmacists collected information on patients receiving antimicrobial agents and reviewed cases with an Infectious Diseases (ID) physician. Recommendations to optimize antimicrobial utilization were feedback to the care team allowing for ongoing and continuous individualized education. The program was implemented in the ICU, on the surgical wards and on the respiratory ward in April, July and October 2010 respectively.

Results: Introduction of the ASP lead to a reduction in antimicrobial use and costs by 42.6% to 46.5%. Without any other change in infection control procedures the rates of nosocomially acquired C. difficile decreased on all wards. In the ICU rates have decreased in the 9 months post intervention by 26.1% from a baseline rate of 1.49 cases/1000 patient days (pdi). On the surgical wards rates have decreased to 0.14 cases/1000pdi (88.5% decrease) in the 6 months after introduction. On the respiratory ward baseline rates were 2.02 cases/1000pdi with no cases seen 3 months after ASP introduction. Rates of nosocomially acquired C. difficile on floors without stewardship have remained stable at approximately 1.00 to 1.20 cases/1000pdi.

Lessons Learned: Optimizing antimicrobial use can lead to substantial reductions in nosocomially acquired C. difficile.

2:30-2:45 p.m.

2009 PANDEMIC H1N1 INFLUENZA PREPAREDNESS IN CANADIAN HEALTHCARE ORGANIZATIONS AND PRIMARY CARE OFFICES: GAP ANALYSIS SURVEY

Christine Wise1, Lynn Johnston2, Lee Donohoe1, Charles Frenette3, Colette Ouellé1, Kathryn N Suh4, Kristalyn Laryea1, Kathleen Dunn1
1Public Health Agency of Canada, Ottawa, Ontario, Canada, 2QUE Health Sciences Centre, Halifax, Nova Scotia, Canada, 3Family Physician, Ottawa, Ontario, Canada, 4Montreal General Hospital, Montreal, Quebec, Canada, 5Champlain Influenza Control Network, Ottawa, Ontario, Canada, 6The Ottawa Hospital, Ottawa, Ontario, Canada

Background/Objectives: During the 2009 pandemic H1N1 influenza, Canadian healthcare organizations (HCOs) and primary care offices (PCOs) had to use infection prevention and control (IPC) measures to prevent transmission. The Public Health Agency of Canada (PHAC) conducted a survey to assess IPC preparedness and management of pandemic H1N1.

Methods: The survey was administered in September 2009 to infection control professionals (ICPs), infectious diseases physicians/medical microbiologists (ID/MMs), and family physicians (FPs).

Results: Of the 189 ICPs, 26 ID/MMs and 563 FPs who responded, 37% reported their HCOs and 29% reported their PCOs had designated areas for patients with influenza-like illness (ILI). The majority of HCOs (98.5%) and PCOs (75%) had visitor signage at entrances. More HCOs (96.5%) than FPs (43%) offered formal education to staff on IPC measures. Variations existed between HCOs and PCOs in applying IPC measures for patients with ILI. The PHAC’s pandemic H1N1 guidance documents were accessed by more ID/MMs (100%) and ICPs (87%) than FPs (32%). Staff education was available in 39.5% of HCOs on potential benefits/risks of antivirals and in 52% on potential benefits/risks of interventions, such as staying home with symptoms and work re-assignments. Major concerns in HCOs and PCOs were availability/access to personal protective equipment (PPE), sufficient staffing, education/training and management support. Of concern in PCOs was access to laboratory testing.

Conclusions: FPs had little knowledge of PHAC H1N1 guidance documents. Both HCOs and PCOs identified concerns about availability of resources to manage the pandemic. These results will inform future IPC planning for pandemic influenza.
SESSION 8 | THE CANADIAN JOURNAL OF INFECTION CONTROL

2:15-2:30 p.m.

**VANCOMYCIN-RESISTANT ENTEROCOCCI AT THE OTTAWA HOSPITAL**

**Background/Objectives:** Development of an automated surveillance system to rapidly screen patients for vancomycin-resistant enterococci (VRE) is crucial in order to prevent transmission. The Ottawa Hospital (TOH) implemented a VRE screening program in 2008.

**Project:** The project was led by a multidisciplinary team comprising of experts from various departments. The team included a project manager, committed IT staff, and senior leadership, all key factors for successful deployment.

**Results:** A VRE screening tool was successfully developed and implemented, leading to a significant reduction in VRE cases. The system has also improved patient safety and guided VRE prevention strategies.

**Lessons Learned:** The success of the program highlights the importance of early end-user involvement, dedicated IT support, and senior leadership commitment.

2:30-2:45 p.m.

**SURGICAL SITE INFECTION INCIDENCE DIFFERS IN ELECTIVE COLON AND RECTAL SURGERY**

**Background:** Surgical site infections (SSIs) are a significant cause of postoperative complications. The National Health Services (NHSN) categorized all colorectal surgeries into a group coded as COLO without differentiating between the different colorectal procedures. This code was associated with a higher SSI rate compared to elective colorectal resection.

**Objective:** To clarify the incidence of SSIs in both colon and rectal surgery.

**Methods:** A prospective study was conducted at Sunnybrook Hospital, examining the incidence of SSIs in colon and rectal surgery. The study used a standardized wound dressing protocol to minimize contamination and infection.

**Results:** The SSI rate for colon surgery was 10.5%, while for rectal surgery it was 15.2%. Logistic regression analysis showed that the difference in incidence was not statistically significant.

**Conclusion:** Time zero cultures should be performed for patients undergoing any colorectal surgery to accurately capture the true incidence of SSIs.

2:45-3:00 p.m.

**EMERGENCY DEPARTMENT SCREENING TOOL: SCREEN AND DETAIN RAPIDLY AND EFFECTIVELY**

**Background:** Syndromic surveillance is integral for early detection of potential epidemics and outbreaks. The Ottawa Hospital (TOH) implemented a syndromic surveillance system to rapidly identify potential cases of VRE.

**Project:** A multidisciplinary team was formed to oversee the implementation of the VRE screening tool. The team included a project manager, committed IT staff, and senior leadership.

**Results:** The VRE screening tool was successfully implemented, leading to a significant reduction in VRE cases. The system has also improved patient safety and guided VRE prevention strategies.

**Lessons Learned:** The success of the program highlights the importance of early end-user involvement, dedicated IT support, and senior leadership commitment.
included more consistent use of sterile saline/water for wound cleansing, less jewellery on the hands of the caregiver and less contamination events. The intervention was not associated with a change in the duration or cost of wound dressing performance. Implications for practice: The adoption of a standardized wound dressing procedure was associated with improvement in both technical consistency and infection control practice without increasing cost or procedure duration.

2:30-2:45 p.m.

ELECTRONIC PATIENT TRACKING TOOL: EFFECTIVE AND EFFICIENT
Judy McCarten, Lyn Bowen, Alice Brink, Chris Brown, Elise Haley, Darlene Heslop, B.J. Macdonald, Teri Murdall, Nicki Saunders, Helen Gibson, Lakelands Health, Ontario, Canada, 2Royal Alexandra Hospital, Edmonton, Alberta, Canada

Issue: The Infection Prevention and Control (IPAC) surveillance line list is an essential tool shared by multiple ICPS (Infection Control Professionals). There were barriers to simultaneous access, editing, timely and safe dissemination of the list and associated information. ICPS felt chained to their office and computer.

Project: To develop an electronic patient surveillance tracking tool that could: be accessed at any time by multiple users on our team; reduce duplication and eliminate transcription errors; provide real time updates; share information with health care partners; be accessible from all hospital computers; have potential to create reports.

Results: IPAC and “in-house” Information Technology team developed a tracking tool that: utilizes electronic patient demographics; reduces time spent in data entry; auto prints specific information to essential healthcare partners; can be used for inpatient and outpatient tracking; is accessible from any computer within the hospital; serves as a communication tool to front line staff. Lessons Learned: The IPAC tracking tool: allowed ICPS to be more visible on unit; reduced data entry and transcription errors using electronic patient information; forced us to use standard terms and approved abbreviations; provided real-time information even if patient was in a temporary location; requires commitment by the Information Technology department for development of the tracker and reports; should utilize drop down menu selections to improve reporting capabilities.

2:45-3:00 p.m.

DESIGNING AN INFECTION CONTROL INTERVENTION USING PHOTOGRAPHIC RESEARCH METHODS: A RESTORATIVE APPROACH
Tricia Mark1, Samantha Woolsey2, Georgia Davis1, A. Mark Joffe3, Mariar Howell4, Sherri Lupin1, Susie Marano5
1University of Alberta Faculty of Nursing, Edmonton, Alberta, Canada, 2Royal Alexandra Hospital, Alberta Health Services, Edmonton, Alberta, Canada

Background/Objectives: Our key research objective was to actively engage hospital workers in exploring facilitators and barriers to infection control on an acute care medical unit.

Methods: We adapted methods from the field of ecological restoration, which is the interdisciplinary study and repair of ecosystems that have been degraded, damaged, or destroyed. Building on the use of restorative visual research methods in previous medication safety research, we conducted practitioner-led unit photo walkabouts, photo narration, and photo elicitation focus groups to examine infection control issues with unit staff and leaders. Visual and textual data were first independently, then jointly, analyzed in an iterative manner for key themes by the PI, Co-PI, and a student co-investigator and subsequently reviewed and finalized by the entire research team.

Results: Key findings included problematic work processes with equipment cleaning, linen management, and stock of supplies; lack of appropriate isolation carts; over-crowded hallways and confusing signage; insufficient standardization of isolation set ups; lack of clarity on cleaning protocols and accountabilities; and a variety of staff workarounds to deal with system constraints.

Conclusions: Every photograph contains many stories. By combining unit walkabouts with practitioner participation and the power of visual narratives, we learned a lot about infection control challenges at the point of care. We are using our findings to work with decision-makers to raise infection control awareness, advocate for specific equipment modifications, redesign several problem processes and practices, incorporate regular photo walkabouts with feedback into quarterly workplace safety inspections, and design future intervention research.

EDUCATION
2:00-2:15 p.m.

POSITIVELY INFLUENCING INFECTION PREVENTION AND CONTROL PRACTICES OF PERSONAL SERVICE SETTING WORKERS
Tara Cretney, Barb Cheung, Selina Nazir, Regional Municipality of York, Newmarket, ON, Canada

Personal service setting workers (PSSW) participate in activities in the workplace that put themselves and their clients at risk of infectious diseases. It was hypothesized that PSSW’s knowledge and skills related to infection prevention and control (IPAC) practices could be improved. An assessment of PSSW knowledge of IPAC practices was needed to determine if IPAC education would be beneficial for this group. Data was gathered through various activities. Survey results indicated a lack of knowledge among PSSW related to cleaning and disinfection, glove use and hand washing and risk of infection related to delivering or receiving services. An environmental scan indicated that most health units in Ontario do not offer formal, standardized education on IPAC to PSSW. A literature review highlighted the need for standardized IPAC guidelines for PSS and education strategies to improve IPAC knowledge of PSSW. The results from key informant interviews supported the proposal to offer a workshop to PSSW on IPAC practices.

Pilot workshops were offered during the spring of 2010. Participants were given pre-test and post-test questions and participated in focus groups to provide an overall evaluation of the workshop. Evaluation results showed an increase in participant knowledge related to IPAC practices and an overall satisfaction with the workshop. Focus group discussions determined that future workshops could be improved by offering workshops targeted to specific services. At the present time, workshops are being planned for 2011 and it is anticipated that this will be a sustainable and successful initiative for many years to come.

2:15-2:30 p.m.

INFECTION CONTROL FOR FAMILIES AND VISITORS – DEVELOPMENT AND EVALUATION OF A KNOWLEDGE TRANSFER TOOL
Marna Salvador1, Abdal Chagla1, Carla Cormack1, Laura Farrell2, Norma Reese1, Christine Moussa1, Tim Cronshbery3
1South Western Ontario Infection Control Network, Ontario, Canada, 2London Health Sciences Center, London, Ontario, Canada

Issue: Visitors are not primarily responsible for transmission infections in healthcare settings, though they are engaged in patient care and have close contact. Stakeholders identified a need for resources to educate visitors about infection control. Challenges associated with educating visitors include a significant time commitment from staff and inconsistent messaging.

Project: Staff at a tertiary care hospital, in collaboration with the South Western Ontario Infection Control Network developed a video to address this challenge. The resulting eight minute video outlines proper hand cleaning technique, donning/doffing of personal protective equipment, and the role of visitors in preventing infections. The video was piloted and then distributed to acute care hospitals and long term care homes throughout South Western Ontario. An evaluation to assess transfer of knowledge and attitudes of those viewers was done.

Results: 61 people completed pre- and post- test surveys. Baseline knowledge of concepts ranged from 64% – 100%, and improved to 85-100%. Notably post-test 85% agreed that alcohol based hand rubs were as good as soap and water for hand cleaning compared to 64% pre-test. The number of respondents afraid of bringing or acquiring a germ from their loved one stayed about the same. 98% of viewers found the video helpful, and 17% felt more afraid of infections.

Lessons Learned: Nurses with access to this educational tool appreciated that visitors were educated in a consistent and comprehensive manner. Visitor knowledge improved, at least in the short run, and all but one visitor found the video helpful.

2:30-2:45 p.m.

INSPIRATION, INNOVATIVE, & INFLUENCING: A NATIONAL ICP ORIENTATION PROGRAM
Marion Yetman1, Donna Morsey2, Sharon O’Reilly3, Alisa Cull4, Betty Anne Ellson5, Cindy Williams5, Joanne Archer6, Stacey Burns6
1Department of Health & Community Services, Newfoundland Labrador, Canada, 2Memorial University of Newfoundland, Newfoundland Labrador, Canada, 3Central Health, Newfoundland Labrador, Canada, 4Western Health, Newfoundland Labrador, Canada, 5Labourer Grenfell Health, Newfoundland Labrador, Canada, 6PICNet, British Columbia, Canada

Project: The inspiration for the project came from the Provincial Infection Control Newfoundlad Labrador (PIC-NL) group who identified a need to have a structured orientation program. A national assessment of current orientation programs was done and during the process a representative from PICNet BC and a representative from Department of Health and Wellness PEI asked to join our committee, giving it a national flavour.

Results: Multiple national/provincial programs were identified but no single comprehensive program was available for adoption. The committee identified twenty topics to be developed into self-learning modules which would be facilitated by an ICP mentor during orientation period. Each module has five sections: i) Overview: description of why the content is important ii) Key Components: information that an ICP must know iii) Methods: how the ICP would use the information in everyday practice with practice scenarios iv) Documentation/Reporting: requirements and v) Other Identified Issues. A pilot project is planned for February 2011.

Lessons Learned: An innovative national orientation program focused on practice can influence engagement of novice practitioners and prevent premature burnout.
2:45-3:00 p.m.

AN INFECTION CONTROL INTER-PROFESSIONAL SIMULATION LAB
Jim Gauthier1, Janet Allen2, Dick Zoutman2
1Providence Care, Kingston Ontario, Canada; 2Queen’s University, Kingston, Ontario, Canada

Issue: Infection control education is part of their training, acted as practicing medical professionals or as observers. Clinical teaching staff and an Infection Control Practitioner also acted as observers.

Lessons Learned: Breaches in Infection Control practices were numerous when students were faced with simulated patients. The ICP observer noted poor glove use, extensive environmental contact with contaminated gloves and a lack of understanding of appropriate PPE required for the different scenarios. Students indicated the sessions were valuable, and recommended that this exercise be a mandatory component of Health Science education in the future.

POTPOURRI #2
2:00-2:15 p.m.

INTERACTIVE INFECTION CONTROL EDUCATION: LEARNING BY GETTING YOUR HANDS DIRTY
Dick Zoutman1,2, Jim Gauthier1, Sheila Pinchin3
1Queen’s University, Kingston Ontario, Canada; 2Kingston General Hospital, Kingston Ontario, Canada; 3Providence Care, Kingston Ontario, Canada

Issue: A MRSA reduction strategy was identified to reduce MRSA transmission rates in the London hospitals. The hypothesis was that MRSA transmission rates would decrease if all initiatives were implemented and successfully sustained in unison.

Project: A program of MRSA reduction based on the five evidence based Interventions validated a bundle of new policy approaches to the management of MRSA, VRE and C difficile. The approach used risk assessment to guide proportionate response and ensured that effort to prevent transmission was focused on those cases posing the greatest risk. Meanwhile, a protracted outbreak of C difficile at a tertiary hospital persisted despite apparently adequate infection control management and housekeeping measures being implemented. In-depth investigation revealed some unexpected features of the outbreak and how control measures were being applied. Seizing the opportunity, the whole bundle of new policy approaches was applied within three days, both in the outbreak environment and across the whole health authority. The effect in the outbreak hospital was truly remarkable, particularly in terms of staff morale and confidence, and news of the changes spread virally through the facility, outpacing our attempts to get information out. The outbreak came to a rapid conclusion, without recurrence, and the changes have been sustained since then. The new policy bundle resulted in an estimated $1.4 million cost avoidance in the small test site alone. Focusing on a risk-based approach has allowed us to achieve much more by doing much less, and allowed infection control to become much more strategic. The presentation will include the co-production methodology used to develop the bundle, the analysis of the outbreak, and the impact of the changes we have made.

2:30-2:45 p.m.

IMPLEMENTATION OF SAFER HEALTHCARE NOW! MRSA REDUCTION BUNDLE IN TWO ACUTE CARE GENERAL SURGERY CLINICAL UNITS
Alice Newman, Mary Lou Card, Michael John, Barb Nancekivell, Kingston General Hospital, Kingston Ontario, Canada

Issue: A MRSA reduction strategy was identified to reduce MRSA transmission rates in the London hospitals. The hypothesis was that MRSA transmission rates would decrease if all initiatives were implemented and successfully sustained in unison.

Project: A program of MRSA reduction based on the five evidence based Interventions validated a bundle of new policy approaches to the management of MRSA, VRE and C difficile. The approach used risk assessment to guide proportionate response and ensured that effort to prevent transmission was focused on those cases posing the greatest risk. Meanwhile, a protracted outbreak of C difficile at a tertiary hospital persisted despite apparently adequate infection control management and housekeeping measures being implemented. In-depth investigation revealed some unexpected features of the outbreak and how control measures were being applied. Seizing the opportunity, the whole bundle of new policy approaches was applied within three days, both in the outbreak environment and across the whole health authority. The effect in the outbreak hospital was truly remarkable, particularly in terms of staff morale and confidence, and news of the changes spread virally through the facility, outpacing our attempts to get information out. The outbreak came to a rapid conclusion, without recurrence, and the changes have been sustained since then. The new policy bundle resulted in an estimated $1.4 million cost avoidance in the small test site alone. Focusing on a risk-based approach has allowed us to achieve much more by doing much less, and allowed infection control to become much more strategic. The presentation will include the co-production methodology used to develop the bundle, the analysis of the outbreak, and the impact of the changes we have made.

2:45-3:00 p.m.

CAN PROFESSIONAL AND PUBLIC AWARENESS PROMOTE THE PRUDENT USE OF ANTIBIOTICS? ANTIBIOTIC AWARENESS DAY CANADA 2010 AND WORLD HEALTH DAY 2011
Kelly Bunzel1, Lynora Saxinger2, Kristalyn Laryea3, Gwen Lovagi4
1Queen’s University, Kingston Ontario, Canada; 2University of Alberta, Edmonton, Alberta, Canada; 3Providence Care, Kingston Ontario, Canada; 4Providence Care, Kingston Ontario, Canada

Issue: Antimicrobial resistance (AMR) is a complex issue that involves not only human health, but also those who work as animal health experts, environmental scientists, and policy makers. Despite ongoing efforts to prevent the emergence of antimicrobial resistant bacteria, resistance appears to be spreading.

Project: A number of tools were developed for Antibiotic Awareness Day including: “prescription pad” for symptomatic treatment of viral illnesses, sample dialogue for doctors, FAQs, information for patients, a webinar series and colloquium, and a bilingual website. Numerous communication methods were also used. As intended, this “pilot” campaign was recognized mostly by health professionals, with the webinars deemed particularly valuable. Similar activities are being planned for World Health Day in Canada, and include website material, a media conference/release, a poster, and factsheets outlining AMR issues as they impact various sectors.

Lessons Learned: Awareness and education programs must be integrated, collaborative, and ongoing. The impact of these educational and awareness days will be reviewed and built upon in upcoming years.

2:30-2:45 p.m.

MOVING FROM A RULES-BASED TO RISK-BASED MODEL FOR INFECTION PREVENTION AND CONTROL: OUTBREAK AS OPPORTUNITY
Martin Wale, Lisa Young, Rev-Dobbey, Vancouver Island HA, BC, Canada

Issue: A MRSA reduction strategy was identified to reduce MRSA transmission rates in the London hospitals. The hypothesis was that MRSA transmission rates would decrease if all initiatives were implemented and successfully sustained in unison.

Project: A program of MRSA reduction based on the five evidence based Interventions validated a bundle of new policy approaches to the management of MRSA, VRE and C difficile. The approach used risk assessment to guide proportionate response and ensured that effort to prevent transmission was focused on those cases posing the greatest risk. Meanwhile, a protracted outbreak of C difficile at a tertiary hospital persisted despite apparently adequate infection control management and housekeeping measures being implemented. In-depth investigation revealed some unexpected features of the outbreak and how control measures were being applied. Seizing the opportunity, the whole bundle of new policy approaches was applied within three days, both in the outbreak environment and across the whole health authority. The effect in the outbreak hospital was truly remarkable, particularly in terms of staff morale and confidence, and news of the changes spread virally through the facility, outpacing our attempts to get information out. The outbreak came to a rapid conclusion, without recurrence, and the changes have been sustained since then. The new policy bundle resulted in an estimated $1.4 million cost avoidance in the small test site alone. Focusing on a risk-based approach has allowed us to achieve much more by doing much less, and allowed infection control to become much more strategic. The presentation will include the co-production methodology used to develop the bundle, the analysis of the outbreak, and the impact of the changes we have made.

A unit based hand hygiene program

Defined cleaning and storage of patient care equipment

Mupirocin/ CHG bathing protocol for positive patients

Universal screening of all admissions at point of entry

A review of Hospital Acquired MRSA bacteremia

Results: The bundle approach provided a framework that allowed for work teams to focus on each component of the project. Each of the five interventions required a review of the current processes and subsequent development of new procedures for the unit staff to follow. Once each work group had decided on the target strategies, the entire team met to review the project and develop the plans for implementation.

Lessons Learned: Targeting a specific plot area within a large facility allowed for more intensive and dedicated implementation processes. Strengths and weaknesses in the plan were easily recognized and tactics to improve the project before a facility-wide release could be developed.

2:15-2:30 p.m.

PHASED IMPLEMENTATION OF AN INFECTION PREVENTION AND CONTROL BUNDLE IN LONG-TERM CARE TO OPTIMIZE PROCESS PROMOTION
Alice Newman, Mary Lou Card, Michael John, Barb Nancekivell, Kingston General Hospital, Kingston Ontario, Canada

Issue: Antimicrobial resistance (AMR) is a complex issue that involves not only human health, but also those who work as animal health experts, environmental scientists, and policy makers. Despite ongoing efforts to prevent the emergence of antimicrobial resistant bacteria, resistance appears to be spreading.

Project: A number of tools were developed for Antibiotic Awareness Day including: “prescription pad” for symptomatic treatment of viral illnesses, sample dialogue for doctors, FAQs, information for patients, a webinar series and colloquium, and a bilingual website. Numerous communication methods were also used. As intended, this “pilot” campaign was recognized mostly by health professionals, with the webinars deemed particularly valuable. Similar activities are being planned for World Health Day in Canada, and include website material, a media conference/release, a poster, and factsheets outlining AMR issues as they impact various sectors.

Lessons Learned: Awareness and education programs must be integrated, collaborative, and ongoing. The impact of these educational and awareness days will be reviewed and built upon in upcoming years.

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POSTER PRESENTATIONS
TUESDAY, MAY 31, 12:30-1:30 p.m.
SHERATON CENTRE TORONTO
(GRAND BALLROOM FOYER)
VIEWING: Monday 8:30 a.m.-Wednesday 3:30 p.m.

Poster Board #1

VIEWS AND EXPERIENCES OF INFECTION CONTROL NURSES IN KARACHI, PAKISTAN (THIRD-WORLD COUNTRY):
Shaheen Asif Sammani, Fatima Noonan, Shireen Lalani, Tobaq Heart Institute, Sindh, Pakistan
Aim: This is a report of study to explore the VIEWS and experiences of infection control nurse in Karachi, Pakistan.
Background: In last decades the concept of infection control nurse in hospital setting is not popular, but due to raise infections rate the situation is change and hospital higher a infection control nurse in hospitals, but on the other hand the purpose of infection control nurses in Pakistan is only to take sessions, and doing some sort of surveillance according to their Max (RN or Microbiologist) qualification. There is no such diploma or degree based qualification in Pakistan especially for INFECTION PREVENTION.
Method: Questionnaire was used to explore the experiences of 7 infection control nurses, from different hospitals, some were interviewed in focus group and they all were analyzed.
Findings: Infection control nurses who are practicing their knowledge and skills in different hospitals have different perspectives.
Facing problems while doing surveillance of different nosocomial infection. 6/7 RN with no previous background from Infection Control, hired as ICN. 7/7 Facing problem with dealing with non-medical persons. 5/7 Want their proper identity or have a specialized degree/certificate course (identifi ed by Govt. of Pakistan) 7/7.
Conclusion: Infection Control is a rapidly developing specialized field within nursing. In the third world they face many problems, due to the absence of specialized diploma from Pakistan Nursing Council, hinders in generating proper measures and giving their views to other HCC. If properly and uniformly trained, they could be a backbone in providing infection control in healthcare setting.

Poster Board #3

INFLUENZA-LIKE ILLNESS (ILI) SURVEILLANCE IN EMERGENCY DEPARTMENTS: THE PROVINCIAL/ICP PARTNERSHIP IN NOVA SCOTIA
Suzanne Rhodenizer Rose1, Jennifer Cutter1,2, Patricia Rawding1, Bev Billard1, Emily Schiehlad1,2, Maureen Baikie2, Nova Scotia Acute Care ICPR, 1Nova Scotia Department of Health, IPCNS, Halifax, Nova Scotia, Canada, 2Nova Scotia Department of Health Promotion & Protection, Halifax, Nova Scotia, Canada, 3Canada Field Epidemiology Program, Ottawa, Ontario, Canada, 4Canadian Public Health Service, Ottawa, Ontario, Canada, 5District Health Authorities/ IWK Health Centre, Nova Scotia, Canada
Issue: In response to the first cases of influenza A H1N1 in April 2009, Nova Scotia Health Promotion and Protection (NS HPP) sought to enhance existing influenza surveillance systems. Emergency Departments (EDs) were targeted for surveillance, as a source of timely and representative data. The surveillance system was implemented through Provincial Infection Control Consultants and acute care Infection Control Practitioners (ICPs).
Project: ICPs in 41 EDs and outpatient centres across the province report ILI data weekly to NS HPP. The ILI case definition and reporting tools are provided by NS HPP. Data are submitted either electronically (via email) or via fax by ICP staff.
Results: ED ILI surveillance was a reliable indicator of community influenza activity during the 2009-2010 influenza season. Weekly reporting rates averaged 79.5% (range 39% to 98%). ILI data are summarized and reported in Respiratory Watch, a comprehensive report published weekly, which is distributed to a large group of stakeholders and posted to the NS HPP website.
Lessons Learned: ICPs across Nova Scotia were responsive and supportive of a key surveillance initiative. ED data are an important contribution to influenza surveillance in Nova Scotia. Collaboration between acute care ICP staff, provincial ICP consultants, and NS HPP epidemiologists led to the successful implementation of ILI surveillance in EDs and outpatient centres. Continued partnership between these groups will allow ongoing ILI surveillance, and will facilitate new linkages for additional enhanced surveillance initiatives.

Poster Board #7

DELIVERING DIRECT OBSERVED THERAPY FOR TUBERCULOSIS BY LONG DISTANCE
Cathie Walker1, Sarah Dekay2
1Middlesex-London Health Unit, London, Ontario, Canada, 2University of Western Ontario, London, Ontario, Canada
Directly Observed Therapy (DOT) for TB treatment traditionally involves a trained observer watching a client take medications at a predetermined frequency for a predetermined time period. The TB Prevention and Control protocol requires a minimum of 8 weeks of DOT for cases of respiratory TB as an effective way to monitor drug regimen compliance. Because DOT is labour-intensive, some public health services are considering alternatives to in-home visits including the use of video and internet technology. Given that many of these options require clients to spend time away from resuming their daily life, the Middlesex-London Health Unit decided to pursue the option of using Skype to monitor therapy compliance. Skype-DOT was trialed with one client after informed consent was obtained and appropriate safeguards were put in place regarding privacy and confidentiality. To date, both the client and the nurse deem the “experiment” to be a success. Draft guidelines have been developed to support future efforts.

Poster Board #9

SEXUALLY TRANSMITTED INFECTIONS: NOVEL PREVENTION AND CONTROL STRATEGIES GET TESTED: WHY NOT?
Suzanne Rowland, Zaida Uddin, Christianne Bouchard, Ottawa Public Health, Ottawa, ON, Canada
Issue: Sexually transmitted infections (STIs) continue to be a significant and increasing public health concern in Canada. Reported rates of chlamydia, gonorrhea and syphilis have been rising since 1997, and this upward trend is continuing unabated. In 2008, the majority of reported chlamydia infections (82.6%) were among the young population under 30 years of age. People under 30 years of age accounted for the majority (71.5%) of reported gonorrhea cases in 2008. (Report on STIs in Canada: 2008, PHAC).
Project: Ottawa Public Health (OPH) is the first Health Unit in Canada to develop a website that offers an online access point for lab requisitions to test for chlamydia and gonorrhea. The results of this campaign may be of particular interest to health service providers in Canada who are interested in adopting new technologies to offer an alternative option to youth to get tested for STIs.
“Get Tested. Why Not?” The campaign goal is to increase public awareness and promote regular testing for STIs as part of a routine health check-up for sexually active people.
Results: The audience will be provided with information on the multi-stakeholder strategy OPH developed to implement this campaign, and a description of why we chose to focus on SMS testing, on-line screening, a social media presence and a new website. Detail of promotional communications campaign will be shared as well as preliminary findings of the campaign and lessons learned so far.
Implementation results showed a reduction in CLI rates to below the provincial average. With a goal of eliminating CLIs, staff felt that there was an opportunity to further improve.

An audit of best practice and equipment utilization was completed. This was done to determine what other resources would be available to the healthcare worker to further improve their ability to deliver patient care and decrease CLI risk. It was decided that an antimicrobial IV connector (V-Link) would be introduced. Upon implementation of the IV connector, CLI rates were further decreased.

This presentation will show how the combination of best practice and the introduction of an antimicrobial IV connector (V-Link) decreased CLI rates.

**Poster Board #15**

**CRACK-COCAINIE USE AND SAFER CRACK USE INITIATIVES IN DOWNTOWN KELOWNA, BRITISH COLUMBIA**

Frances Beswick1, Alison McEachern1, Lisa Solestii, Wilda Watts1, Adam Wylle1, Shirley Chiu1

1University of British Columbia Okanagan, Kelowna, BC, Canada. 2Interior Health Authority, Kelowna, BC, Canada

**Background:** Disease transmission through crack-pipe sharing has been identified as an infection control concern, thought to occur through open sores in and around the mouths of those who smoke crack. The study was designed to assess knowledge, practices, and needs of individuals who use or have previously used crack, as well as participants’ perceptions of a recently introduced safer crack use (SCU) mouthpiece distribution program, which had been poorly utilized since its inception.

**Method:** Fifty-five individuals, self-identifying as either currently or previously having used crack, were surveyed at an outreach clinic in a mid-sized city in the southern interior of British Columbia, Canada. Data collection was performed using a 46-item questionnaire, adapted with permission from The SCORE Project Team, UBC Vancover School of Nursing/NEXUS (Johnson et al., 2008).

**Results:** Results indicate that a majority of participants were supportive of the mouthpiece program, although only two participants had used the service. Identified barriers were: being unaware of the program and being identified as a crack user through the process of obtaining a mouthpiece. Additional comments included not liking the mouthpieces, preferring other mouthpieces, not sharing pipes, or being in the process of stopping crack use.

**Conclusions:** The need for additional program advertising is apparent through participant reports. Additional information on SCU may be successfully received during clinic interactions with clinic staff should the client self-discontinue crack use. Finally, issues of accessibility may be of further interest, as participants mentioned the process of accessing mouthpieces was a barrier to program utilization.

**Poster Board #17**

**ROLL OUT OF MATERNAL NEWBORN IPAC RECOMMENDATIONS IN ONTARIO**

Isabelle Langlois1, Ann Bouchier1, Donnalee Simes1, Gordon Bond1, Madeline Ashcroft1, Janet Allen1, Tim Cronberry1, Sarah Eden1, Clare Barry2, Mary Wamcom1,3, Brigitte Lemery1

1OAHP/ICIN, Toronto, Canada. 2IPAC Consultant, Toronto, Canada. 3The Ottawa Hospital, Ottawa, Canada. 4Sunnymbrook Hospital, Toronto, Canada

The purpose of this Maternal Newborn Project was to enhance current Infection Prevention and Control (IPAC) practices in Ontario’s maternity newborn programs by adequately delivering and providing resources and education sessions to these programs on the Provincial council for Maternal and Child Health’s IPAC recommendations. The provincial goals were to decrease health care associated infections leading to a reduction of bed closures and increase client satisfaction with the maternal/newborn experience.

Given the vulnerability of the newborn population, the importance of high quality, evidence-based infection prevention and control (IPAC) in maternal and newborn care is of critical importance. The RICNs were asked to develop a dissemination plan that would reach all programs in Ontario. Connection was made with each program and champions were identified. A pre-survey was sent to ascertain the current needs within these programs. Education sessions were then developed and offered that also included an education session for physicians. Following the education sessions, we felt a need to allow false discussion between programs. As a result, we organized Community of Practice sessions and invited both ICPs and front-line staff from those programs to join us for open discussions on various related topics. A series of sessions were held and well-attended. To complete this project, a Resource kit was developed and sent to RICNs via Champ’s research program. A post project survey revealed that the material offered was well-received and participants wanted more. A detailed report was completed that clearly demonstrated additional support is needed out there in the future.

**Poster Board #19**

**PROPHYLACTIC ANTIBIOTIC (PAB) TIMING, AND HIP AND KNEE JOINT REPLACEMENT SURGICAL SITE INFECTIONS (SSI) PLUSS ACCREDITATION CANADAS (AC) MANDATORY REPORTING**

Diane Weinswurm, Krystyna Ostrowska, Filomena Travassos, Trillium Health Centre, Mississauga, Ontario, Canada

**Objectives:** To demonstrate that prophylactic antibiotic (PAB) administration is an important component of perioperative care by decreasing the rates of elective hip and knee SSIs. To fulfill AC’s PAB and SSI mandatory reporting.

**Methods:** AICE (Automated Infection Control Expert) is interfaced with the operating room’s Medical Information System to download data which the Infection Control Practitioner (ICP) uses to generate a record on every patient. The record includes patient and surgical information, wound classification, surgery start and stop times, American Society of Anaesthesiology (ASA) score, prophylactic antibiotics and timing. AICE calculates the composite index (0, 1, 2, 3) for predicting the risk of the patient developing a SSI. Centre for Disease Control definitions for SSIs are followed and rates are compared to the National Healthcare Safety Network Report 2009. Surveillance includes 30 days post-op for superficial SSIs and one year for deep, organ/space SSIs. The ICP reviews microbiology reports, emergency/urgent care visits, re-admissions, consultation notes, antibiotic prescribing and surgery post-discharge feedback. The ICP presents an annual SSI report to the Orthopaedic Team. Decision Supports submits percent correct PAB timing and the ICP submits 30-day superficial hip plus knee SSI rates quarterly to AC.

**Results:** Comparing in-hospital plus post-discharge SSSs from 2004-2009, hip SSI rates were 3.9%, 0.5%, 3.0%, 2.4%, 1.1% and knee SSI rates were 2.8%, 2.8%, 2.4%, 2.6%, 2.0%. Correct annual PAB timing was 90%, 92%, 96%, 97%, and 98% respectively. AC’s 30 day superficial hip plus knee SSI quarterly rates were: 1.7%, 1.5%, 1.4%, 1.2%, 1.5% and percent correct PAB timing was: 99%, 99%, 100%, 99%, 99%, respectively.

**Conclusions:** As PAB timing improved, hip and knee SSI rates decreased.

**Poster Board #21**

**ALBERTA STOP ORDER ON REUSE OF INTRAMUSCULAR STIMULATION (IMS) PLUNGERS**

Bernice Heinrichs, Dawn Friesen, Martin Lavoie, Alberta Health and Wellness, Edmonton, Alberta, Canada

**Issue:** In March 2008 a concern was raised about manufacturers’ instructions for the cleaning and sterilization of IMS plungers. The IMS plunger is a critical medical device designed to hold a sterile needle while the needle is repeatedly plunged through skin and into muscle.

**Project:** Alberta Health and Wellness (AHW) is responsible for setting direction and standards for the provincial health care system and monitoring compliance with standards. The Chief Medical Officer of Health directed that where clear manufacturers’ instruction are not available or sufficiently detailed to enable users to correctly reprocess these products, reusable IMS plungers must not be reprocessed; in these cases, the IMS plungers may only be used as a single-use device.

**Results:** All regional infection prevention and control (IPAC) executives, medical officers of health and registrars of all health professional regulatory bodies in Alberta were informed of the stop order. AHW communicated with Health Canada about this issue and the need for pre-market validation of reprocessing processes for all classes of medical devices. An expert Alberta advisory committee recommended that the stop order remain until the users’ instructions and third-party validation of the cleaning and sterilization instructions for the IMS plunger are received. Manufacturer/distributors of the IMS plunger device have been notified of this decision.

**Lessons Learned:** Inconsistencies exist in interpretation and application of Health Canada’s Medical Device Regulation Requirements for validated reprocessing instructions and the Medical Device Classification System that categorizes medical devices as to their potential risk. Potentially, this issue has relevance across Canada.

**Poster Board #23**

**MULTIPRONG APPROACH TO IMPROVING HAND HYGIENE COMPLIANCE IN A SMALL COMMUNITY HOSPITAL**

Anne Augustine, Headwaters Health Care Centre, Orangeville, ON, Canada

**Issue:** April 2009, the province of Ontario required all hospitals to publicly report compliance to hand hygiene (HH). At that time our organization reported an overall compliance of 64.7% which was unacceptable understanding that, “adherence to hand hygiene recommendations is the single most important practice for preventing the transmission of pathogens in healthcare and directly contributes to patient safety” (PIDAC 2009).

**Project:** Increase HH compliance by 10% per year for the next two years. To support health care workers’ (HCW) compliance, hand hygiene products were installed at all patient care and were standardized across the facility to ensure compatibility. An Occupational Health physician was available to HCW with skin integrity concerns. HH education was provided (face-to-face, self learning package, chocolate pudding challenge). Two HH audits were done per unit per month. Immediate feedback was provided to HCW regarding practice. Written HH audit reports were provided to managers of all units/HCW observed. Senior management and hospital board support was provided through participation in HH audits and reporting of HH compliance to the Board Quality Committee monthly. Good practice by individuals/units/departments was publicly acknowledged and the monthly HH compliance award was implemented in 2010. Award culminates in the HH High Point award at the end of the year.

**Results:** April 2010 overall HH compliance was 72.2%. To date for the 2010/2011 fiscal year, overall HH compliance is 85.3%.

**Lessons Learned:** Make it easy, never let up, celebrate success! Point-of-care HH
Products A, B, and C each met EN 1500 requirements, demonstrating non-
log reductions for Products A, B, D, WHO-EOH, and WHO-IPA were 3.58, 3.55, 3.12, 3.07, and 3.12, respectively after one application; and 3.50, 4.00, 1.80, 2.39, and 2.04, respectively after the tenth application. Only A and B met Health Canada requirements for a 3 log reduction using EN and ASTM methods.

**Conclusions:** Product formulation was found to have a greater influence over efficacy than alcohol concentration as well formulated products containing 70% ethanol were more efficacious than products with higher alcohol levels. These results demonstrate that alcohol concentrations in excess of 70% are neither necessary nor sufficient for efficacy.
and Safety. There is a separate Infection Control Committee and a Communication Board dedicated to Infection Control. Infection Control is also becoming a regular topic at General Staff, Family Council and Resident’s Council meetings. This has brought Infection Prevention and Control into the forefront of everyday practice at this long term care facility.

**Poster Board #43**

**NURSE JACKSON**

Tricia Hutton, Jackie Nugent, Louise Koyanagi, Trillium Health Center, Mississauga ON, Canada

Nurse Jackson is an improvisation conducted on a long term care unit thru the method of Positive Deviance. It has been an outstanding revelation for the reduction in transmission of Antibiotic Resistant Organisms and has created a totally new and open communication system on the unit. Nurse Jackson is someone who shows how easy transmission can occur. The character also shows how it is not always done intentionally. The beauty of this improvisation is that it is conducted in a non-threatening, light hearted, humorous way. The improvisation included staff members from the unit, a physician, senior management and family members. (The improv has been done more than once and has become know hospital wide). The term “Nurse Jackson” is used regularly on the long term care unit to let someone know (may it be a nurse, physician, environmental services, etc.) that they are doing something that breaches good infection control practices. Staff and students were surveyed. 97% stated they are aware of what Nurse Jackson represents. High percentages were also recording reflecting that staff were comfortable using the term towards another individual. Statistics also have shown that since positive deviance and the Nurse Jackson improvisation were introduced to the long term care unit that they have maintained a zero transmission rate of Antibiotic Resistant Organisms. And the best thing about this whole process is that it was fun for everyone involved. The window for communication has opened and staff feel engaged, empowered as they have made the difference.

**Poster Board #45**

**SURVEY ON THE USE OF THE PUBLIC HEALTH AGENCY OF CANADA’S INFECTION PREVENTION AND CONTROL GUIDANCE DOCUMENTS FOR THE 2009 PANDEMIC H1N1 INFLUENZA BY CANADIAN HEALTHCARE ORGANIZATIONS**

Christine Weir1, Lynn Johnston2, Robin Mitchell3, Mary Vearncombe, Kathleen Dunn1, Robert Cervais1

1Public Health Agency of Canada, Ottawa, Ontario, Canada. 2Que Health Sciences Centre, Halifax, Nova Scotia, Canada. 3Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

**Background/Objectives:** In response to the 2009 pandemic H1N1 influenza, the Public Health Agency of Canada (PHAC) developed infection prevention and control (IPC) guidance documents to assist healthcare organizations manage H1N1. The PHAC conducted a survey to determine the use of these guidance documents in Canadian acute, long-term, prehospital and home care settings.

**Methods:** A survey was distributed in August 2010 by email/web-posting to members of CHICA-Canada, Canadian Home Care Association, Canadian Healthcare Association, Council of Chief Medical Officers of Health, and Prehospital Care Group.

**Results:** Of the 421 respondents, the majority were from long-term care (70%), residred in Ontario (31.4%), were IPC professionals (32.4%) and reported using the PHAC H1N1 guidance documents (80.7%). The documents were easy to understand (60.6%), considered useful (56.5%), and comprehensive (56.3%). Specific measures (source control, respiratory hygiene, hand hygiene, contact/dropout precautions, respiratory protection) were often/always used a 75% of the time. Reasons the documents were not used included the lack of awareness of their existence (37.5%), timely availability (26.8%), and difficulty finding the documents on the internet (21.8%). The major areas where PHAC could improve included earlier notification that new/updated documents are available (53.7%), providing tools and resources (45.8%), ensuring documents are available sooner (36.0%), informing organizations that guidance documents exist (32.5%), and making documents easier to find on the internet (29.6%).

**Conclusions:** Most healthcare organizations used the PHAC H1N1 guidance documents, and implemented most components of practice. Knowledge about their availability and their timeliness were suboptimal and highlight areas for improvement.

**Poster Board #47**

**SOCIAL MESSAGING PROVES USEFUL AND YES, THERE CAN BE A DIFFERENCE BETWEEN NIGHT AND DAY**

Lindsay Whitmore, Leslie Sharkey, Mark Anderson, Nancy Todd-Giordano, Ottawa Public Health, Ottawa, ON, Canada

**Background:** In June 2010, there was a significant increase in the number of reports of Salmonella Typhimurium in the Ottawa area among 20-24 year olds. Investigations of nine lab-confirmed cases revealed a common source. All cases frequented the restaurant in the late evening on the same dates after bars nearby.

**Methods:** Cases had difficulty recalling where they may have been exposed. Investigators used email to contact cases. Investigators encouraged individuals to use their cell phones or other devices to assist recall of where they had been that specific weekend. Confirmed cases provided a detailed food history using an online questionnaire. The cases were asked to also e-mail the questionnaire link to friends who were with them that weekend. Several food premise inspections were completed at different times of the day and night. Results: Nine lab-confirmed cases and four suspect cases ranging from 19 to 26 years of age identified an exposure to the same shawarma restaurant. Food safety inspections identified that standards and practices were different during the daytime than in the evening when the premise was busier.

**Conclusions:** Social messaging tools can be used to assist in identification of health risk exposure. E-mail and online surveys tools can be effective for collecting data in this population. Restaurants should be inspected at peak times rather than slow times when food handling regulations are more likely to be followed.

**Poster Board #53**

**ENGAGING PATIENTS IN HAND HYGIENE PROMOTION**

Sandina Noble, Carlos Bautista, Dona Renzetti, West Park Healthcare Centre, Toronto, Ontario, Canada

**Issue:** Visitors to a complex continuing care and rehabilitation facility did not use hand sanitizers when entering or exiting the facility. Consequently, there was a potential for increased transmission of infections. The project examined if hand hygiene compliance could be increased by engaging patients as hand hygiene promoters.

**Project:** During periods of high traffic, staff counted the number of visitors to the facility and the number of visitors using the hand sanitizers. Lack of knowledge about the importance of hand hygiene was a pervasive barrier to utilization based on random visitor polls. Many patients reside at the facility for an extended period of time and are frequently visited by the same individuals. This provided ample opportunities for patients to educate visitors. After receiving training on the importance of hand hygiene, patients approached visitors and provided reminders about hand hygiene. Patients communicated key messages prepared by Infection Control to visitors and distributed small bottles of hand sanitizers to them. The improvement project was initiated over a 90-day period and evaluated monthly for 9 months to ensure improvements were sustained.

**Results:** Usage of hand sanitizer before implementation: 15.7%; Usage of hand sanitizer during implementation: 78.5%; Usage of hand sanitizer at 9 months: 61.8%.

**Lessons Learned:** Patient involvement made a significant improvement in visitor hand hygiene and contributed to patient satisfaction. However, it was difficult for patients to get all visitors to adhere to weather and scheduling factors. Recruiting a large number of patients from the onset would have helped overcome these issues.

**Poster Board #55**

**INVESTIGATION OF A SERRATIA MARCESCENS CLUSTER IN A TERTIARY HOSPITAL IN BRITISH COLUMBIA**

Michael Arel, Rebecca Countess, Dale Paty, Royal Columbian Hospital, Fraser Health Authority, New Westminster, British Columbia, Canada

**Background/Objectives:** Serratia marcescens is a well known cause of hospital-acquired infections. Since many people are colonized with S. marcescens, it can easily spread throughout a hospital when infection control measures are not followed. The purpose of this study is to describe a cluster of nosocomial S. marcescens infections between June 1 and September 30, 2010 at Royal Columbian Hospital (RCH).

**Methods:** A review of laboratory data was conducted to determine cases of S. marcescens during the period in question. Retrospective chart reviews were conducted to determine case specific variables such as age, sex, surgery, location of infection/colonization. Both environmental and clinical samples were collected and typed using the Vitek 2.0 system. A subset of clinical samples (6) was sent for Pulsed Field Gel Electrophoresis (PFGE) to investigate genetic relationship.

**Results:** 41 clinical samples of S. marcescens were resulted with 25 cases identified as nosocomial to RCH. 16 cases underwent cardiac surgery; 6 underwent other surgery, and 2 remaining cases were related to time spent in the Intensive Care Unit (ICU). S. marcescens was isolated from a variety of sites: blood (3), sputum (7), leg wounds (5), urine (5), other wounds (5). One environmental culture yielded colonies of Gram negative bacilli in a sink, but no samples grew S. marcescens. Both typing and PFGE showed a variety of S. marcescens strains with two cases sharing identical PFGE patterns.

**Conclusions:** These findings suggest that infection control measures related to surgery need to be reviewed to identify potential sources of contamination.

**Poster Board #57**

**CHICA-MONTREAL EDUCATION HALF DAYS: AN INNOVATIVE FORMAT FOR PROMOTING PARTICIPATION**

Guylaine Morin, Silvana Pema, Anne Desmarais, Connie Forget Falkiccio, Caroline Duchesne, Josiane Letourneau, Leila Ramman-Haddad, Joosette Charles, Johanne Cagné, Paul Orenstein, Fernanda Cordeiro, Lucie Boudreau, Mélanie Lecours Frédéricas Gaspard, CHICA Montreall, Montreal, Quebec, Canada

**Issue:** CHICA-Montreal is the chapter in the province of Quebec. The majority of the members are nurses, namely IPC professionals from the Greater Montreal area. One of the Chapter’s main goals is to expand the education initiatives in an effort to
meet the member’s needs, promote up to date best practice in IPC and provide an opportunity for networking.

**Project:** The results of a member survey guided us in choosing topics, speakers, and format for future educational events. Our members indicated that they would appreciate half education days. Our education committee members implemented the following strategies: inviting out of town experts, no charge for members, giving door prizes, offering lunch, extending our invitation to long term care and community health groups, and using expert opinion from the Regional Infection Control Network.

**Methods:** OMC issued a number of stringent directives for implementation at both hospital sites. The Communication Officer circulated memos describing intervention measures. Education sessions were offered to staff. Specific interventions included twice daily cleaning of all rooms occupied by VRE patients and thorough cleaning of every inpatient room and outpatient areas. Regular screening of patients identified with risk factors for Antibiotic Resistant Organisms was changed to universal screening in all admitted patients. Weekly point prevalence screening was initiated on all inpatient units and continued until the outbreak was declared over. Every patient, regardless of ARO status was subject to 2% chlorhexidine bath.

**Results:** The outbreak was terminated in six weeks. Experiential application of aggressive protocols resulted in decreasing the outbreak incidence rate from 5.74 to 1.71 per 1000 patient days in April with further decrease to 0.00 in May.

**Conclusion:** No single intervention is adequate to resolve an outbreak. With Senior Leadership supporting hospital-wide implementation of aggressive interventions and adoption of multiple communication strategies, hospital staff acknowledged the potential significance of this outbreak and demonstrated excellent compliance to outbreak protocols.

**Poster Board #58**

**AN INNOVATIVE MULTICENTER APPROACH TO STANDARDIZED ISOLATION SIGNS: THE JEWISH GENERAL HOSPITAL (JGH) EXPERIENCE**

Silvana Perna, Pearl Orenstein, Barbara Armitshed, Anne Desmaraies, Mark Miller, Jewish General Hospital, Montreal, Quebec, Canada

**Issue:** The JGH is a 627-bed tertiary care McGill affiliated hospital that serves a multicultural population. Hospital employees speak English or French, but their literacy levels vary. Many medical personnel rotate between institutions. The current JGH isolation sign (IS) relies on accurate completion, is not easily seen when posted, and is not similar to other McGill hospitals.

**Project:** A multidisciplinary JGH committee was convened to create a simple, visible IS system. A need for standardization was also identified by other McGill institutions and an interhospital committee was formed. An extensive review of IS was conducted. The focus was to have easily-understood, standardized pictographs, colors and messages based on Additional Precautions, as developed by Public Health Agency of Canada (PHAC).

**Results:** After two years of collaborative effort, an IS system was developed including color-coded pictograph signs, a summary sheet, and an alphabetical listing of infectious diseases. A pilot project was undertaken on two units using an evaluation form for HCWs and families. The IS system was very well received and fulfilled all of the essential criteria.

**Lessons Learned:** Standardization of an IS system can be achieved, with production of easy-to-use, language-independent, highly visible signs. However, the collaborative effort to create such a system can take a long time to reach consensus and to overcome logistic barriers. Such an IS system, if successfully implemented, may lead to improvement in the practice of IPC by all hospital employees and a reduction in the incidence of healthcare associated infections.

**Poster Board #59**

**GUIDELINES AND STANDARDS HELP IMPROVE PRACTICE (SURVEYS BEDPAN MANAGEMENT IN THE NETHERLANDS, 1990 & 2010)**

Gertie van Knippenberg-Gordebeke, KNIP consultancy infection prevention, Venlo, The Netherlands

In the Netherlands infection control teams followed the Spauldings scheme (1968) for cleaning, disinfection and sterilization. This was recognized as not sufficient for bedpans because of the multiple risks of contamination and transmission by manual handling. Since 1970 Dutch hospitals use Washer disinfectors (WD) which reduce these risks. However, the survey 1990 showed poor quality and maintenance in WD, poor practice and lack of knowledge. Guidelines did not exist yet. Awareness about the risk of manual handling bedpans and the use of validated and maintained WD improved in the Netherlands since 1995. One of the reasons for improving was implementing the Dutch guidelines for WD of the Working Party Infection Prevention (WIP) which were developed and published after the 1st survey episode. The WIP guidelines (http://www.wip.nl/UK) is declared by the Minister of Health as professional standard and can be controlled by thematic monitoring by the Healthcare Inspectors. Other reasons of improvement came from Industry by building effective machines. And finally the Netherlands adopted in 2006 the ISO 15883 Standard for WD. The Survey 2010 showed better results in awareness, knowledge and practical behaviour in handling bedpans and urinals.

**Poster Board #60**

**IPAC FOR YOU AND ME: SELF MANAGEMENT OF INFECTION PREVENTION AND CONTROL IN THE CONTINUUM OF CARE FOR THE PATIENT ON PRECAUTIONS**

Maureen Acomb, Lucia Cook, Southlake Regional Health Centre, Newmarket

**Issue:** Patients make decisions regarding self management of their care throughout their lifespan. One important element that may produce positive patient outcomes in self management is the education of hand hygiene and the use of personal protective equipment while in an acute care setting. Providing the patient and their families with tools to succeed includes not only traditional methods such as paper-based materials, but also the practice of patient education at the bedside. Patient-centred care in infection prevention and control is a unique partnership which includes demonstration of principles while enabling the patient through education to achieve best outcomes of their stay. In this educational endeavor over 30 patients and families were educated on hand hygiene and the use of personal protective equipment during their hospitalization. The main theme that was evident in this educational endeavor was the confidence in the ability to choose behaviour that led to a desired result. When surveyed on their response to the education on self management the overwhelming theme was that the patient and family were empowered as they understood the need for hand hygiene and proper use of personal protective equipment. They became an integral member of the healthcare team through empowerment of their participation in their overall care. The concepts of education and self management had an overwhelming response because education personal confidence and motivation for patients and families resulting in a positive acute care stay.

**Poster Board #61**

**A PRACTICAL CONCISE TEACHING TOOL FOR PREVENTING URINARY TRACT INFECTIONS (UTI) IN NEUROLOGY PATIENTS**

Susan Rachel, Ramona Rodrigues, Charles Frenette, The McGill University Health Centre, Montreal, Canada

**Issue:** Neurology patients often have alterations in sensory motor function and diminished communication abilities creating challenges in assessing UTI. This difficulty contributes to an increase in urine sent for cultures and inappropriate antibiotic prescribing. A pilot study performed in 2008, found a high incidence of UTI with higher than average usage of indwelling (Foley) catheters. The essential elements and criteria for surveillance of UTI were found in only 50% of the cases.

**Project:** A teaching tool was developed that focused on concise practical interventions to decrease CAUTI. The tool included appropriate indications for Foley catheters, removal and alternatives for Foley’s, daily assessment, identifying clinical symptoms suggestive of UTI and diagnostic criteria for UTI. An algorithm was incorporated to help decrease the likelihood of inappropriate antibiotic use.

**Results:** The teaching tool was successful in increasing the utilization of urinalysis for appropriate surveillance monitoring and reducing the number of urine cultures sent for testing. There was a 50% reduction in UTI. The mean Foley use dropped from 27.3 days to 12.1 days post education. The incidence of Foley associated UTI and duration of Foley use decreased. However, there was no impact on the antibiotic prescribing of physicians as inappropriate treatment of positive urine cultures continued.

**Lessons Learned:** Close monitoring of neurological patients with unmodifiable risk factors for UTI using a practical teaching tool can decrease the frequency of UTI and Foley use, however it must be accompanied with a targeted antibiotic stewardship program to help reduce inappropriate antibiotic prescribing behaviour.
**POSTER PRESENTATIONS**

**WEDNESDAY, JUNE 1, 12:30-1:30 p.m.**

**Poster Board #2**

THE PATIENT’S VOICE HAS BEEN HEARD: THE QCH HH PROGRAM IMPROVES THROUGH PATIENT FEEDBACK

Donna Perron, Inez Landry, Hand Hygiene Task Team Queensway Carleton Hospital, Ottawa, Canada

**Issue:** The “Just Clean Your Hands” Task Team was asked to test the Hand Hygiene Change Practices at QCH as well as to assess the value of the team’s current strategies before rolling out additional strategies.

**Project:** A multidisciplinary task team developed a Patient Interview Tool on Hand Hygiene. Using the Patient Interview Tool, the team conducted interviews with patients and families during National Infection Prevention and Control Week (October 2010). The three objectives of the interviews were as follows: to validate the positive hand hygiene results obtained from the Observational Hand Hygiene Audits; to confirm that the Hand Hygiene Buttons and Posters were noticed by QCH’s patient and visitor population; to determine how QCH was doing in regards to assisting its patients practice good hand hygiene techniques.

**Results:** 1,125 patients were interviewed. 2. Results did validate improved Hand Hygiene culture at QCH and also confirmed that QCH needs to help make hand hygiene more accessible for all patients.

**Just Clean Your Hands Task Team Lessons Learned:** Multiple strategies are important to change hand hygiene culture. It is important to pilot some strategies before implementing them hospital wide. Our patients/families receive QCH with an excellent opportunity to see if some of our strategies are working. QCH staff was also interested in what our patients had to tell us about Hand Hygiene at QCH. Just Clean Your Hands Task Team had validation that QCH strategies were on the right track.

**Poster Board #4**

THE USE OF POOLED SWABBING AS A COST EFFECTIVE MEANS OF SCREENING FOR MRSA

Jane Y Van Toen, Heather Candlon, Latha Jacob, Chinizg Aliw, Baycrest, Toronto, ON, Canada

**Issue:** Baycrest is a geriatric centre in Toronto comprised of outpatient clinics, research, senior’s apartment complex, 472-bed nursing home and 300-bed continuing care hospital. Methicillin-Resistant Staphylococcus aureus (MRSA) screening swabs are collected on new admissions to the nursing home and hospital and on readmissions from medical leave. Our MRSA screening procedure requires swabs from nasal, perianal and from the site of any wounds or devices. MRSA cultured from any site would flag a patient as MRSA positive. Like many healthcare facilities and specifically geriatric centres, Baycrest does not have an onsite microbiology laboratory. All microbiology testing is contracted out. Our culture and sensitivity cost is $10.77 per swab. This is comparable to the average cost in the Toronto area. At least two swabs are collected on each patient and often more depending on the number of devices and wounds. Therefore, each MRSA screen was costing a minimum of $21.54.

**Project:** Conduct a literature review, compare MRSA yield from pooled vs. non-pooled swabs and implement pooled swabbing.

**Results:** Without changing our ability to detect and manage MRSA, implementation of pooled swabbing saved, on average, $30,000 a year.

**Lessons Learned:** Information Management collaboration was required for system modifications and to provide instructions for ordering, labelling and submitting samples for testing. Education was necessary to assist with interpretation of pooled swab results.

**Poster Board #5**

CHECKING THE DASHBOARD: REFLECTING INFECTION CONTROL PERFORMANCE BACK TO THE FRONT LINE

Lesley Kowalchuk, Lorraine Dales, Liz McCraight, Christine Moore, Sheena Schuck, Mount Sinai Hospital Infection Control and Support Services Teams, Mount Sinai Hospital, Toronto, Canada

**Issue:** A concise grid, according to a quarterly distribution schedule. Included are a range of devices and wounds. Therefore, each MRSA screen was costing a minimum of $21.54.

**Project:** Dashboard reports were created to provide each nursing unit with an overall representation of its IC standing. Routinely collected metrics are presented in a concise grid, according to a quarterly distribution schedule. Included are a range of IC practices and outcomes. The grid includes timelier, and more unit-specific feedback on their IC performance.

**Results:** The inaugural set of dashboards was distributed to all inpatient units. Feedback from unit leaders has been largely positive and some have requested further specialization and expansion of their dashboards. New interest was also expressed by diverse stakeholders in departments and management echelons beyond those targeted. The dashboards have informed a recent round of goal-setting and initiative-planning by units and broader hospital departments. Inquiries have also prompted the IC department to internally evaluate and formalize some established processes in order to improve data reliability.

**Lessons Learned:** Routinely gathered IC data is of great interest and use to a wide range of hospital departments. Usefulness of this data is enhanced by delivery in a clear format and according to a predetermined schedule.

**Poster Board #6**

CONNECTING THE DOTS: COLLABORATING TO AUDIT THE ROUTINE CLEANING OF THE PATIENT ENVIRONMENT

Lesley Kowalchuk, Lorraine Dales, Liz McCraight, Christine Moore, Sheena Schuck, Mount Sinai Hospital Infection Control and Support Services Teams, Mount Sinai Hospital, Toronto, Canada

**Issue:** The cleanliness of patient environments impacts the risk of acquiring healthcare-associated infections. Changes in one hospital’s organizational structure, weakened relationships between IC, housekeeping, and nursing departments, and the publication of provincial best practice guidelines led to an increased concern with environmental cleaning quality. The IC Committee passed a policy incorporating a commitment to audit routine cleaning of the patient environment, with subsequent feedback and education.

**Project:** IC, housekeeping, and nursing stakeholders were engaged to develop tools and procedures for two complementary components of auditing: Visual Assessment (the housekeeping supervisor visually inspects 37 criteria for cleanliness in a patient environment) and Environmental Marking (a nursing representative uses ultraviolet-reflective gel to mark a patient environment and after it has been cleaned, the nurse and housekeeping supervisor assess whether the marks have been cleaned away). After piloting the process, packages were distributed to housekeeping supervisors to implement four audits using each method, per inpatient unit, quarterly.

**Results:** Housekeeping supervisors are able to provide immediate post-audit feedback to cleaning staff. IC collates and analyses the data; the inaugural quarters of auditing indicating compliance between 70-100%. Results of the Visual Assessments are used primarily by the housekeeping department to inform focused training initiatives, while nursing units and management receive Environmental Marking results quarterly.

**Lessons Learned:** Working relationships have improved between IC and housekeeping, and between housekeeping and some nursing units. The project has established a performance baseline and has advanced engagement in the continuous quality improvement of patient environment cleaning.

**Poster Board #8**

CLOSTRIDIUM DIFFICILE OUTBREAK, OR NOT?

Pam Sidell1, Ruth Collins1, Diane Weinbaum2

1Trillium Health Centre, Mississauga On, Canada, 2Peel Public Health, Mississauga On, Canada

**Background:** On November 1, 2010, Public Health declared a Clostridium difficile (C. difficile) outbreak at an 800-bed two-site tertiary care community hospital. Infection rates exceeded two standard deviations above the established baseline. The Microbiology Laboratory uses a Rapid Immuno Assay (Rapid IA) commercial test kit. The outbreak investigation revealed discrepancies in test results and a higher than expected weak positive rate for the Rapid IA test.

**Methods:** Investigation of the outbreak and discrepant test results included additional testing at Provincial Laboratory for culture, pulse field electrophoresis, polymerase chain reaction (PCR) from culture and antibiogram patterns, and PCR testing at another acute care hospital.

**Results:** The Provincial Laboratory reported 31 of 56 (55%) Rapid IA positive samples sent for C. difficile culture were negative. Additional PCR testing completed at another community hospital in our region reported 16 of 19 (84%) Rapid IA positive results as PCR negative. The investigation also revealed an increase in weak positive Rapid IA results from 10.5% in September 2010 to 62.5% in November of 2010. Ontario’s Public Health declared the outbreak over on December 21, 2010. The hospital executed full disclosure for 23 patients with discrepant results. Laboratory processes have been amended to support the challenges of Rapid IA testing. The Microbiology Laboratory is pursuing the feasibility of on site PCR testing. Strong partnerships between Infection Prevention and Control microbiology laboratories and regional health units are required for thorough investigations of outbreaks.

**Poster Board #10**

DECREASING SURGICAL SITE INFECTION WITH TWO PERCENT CHLOROXIDE: A PRACTICE CHANGE STRATEGY

Alison McQueen, Cathy Wood, Southlake Regional Health Centre, Newmarket, ON, Canada

**Issue:** The Cardiac Surgery Program at Southlake Regional experienced an increased prevalence of Clostridium difficile (C. difficile) outbreak at an 800-bed two-site tertiary care community hospital. Infection rates exceeded two standard deviations above the established baseline. The Microbiology Laboratory uses a Rapid Immuno Assay (Rapid IA) commercial test kit. The outbreak investigation revealed discrepancies in test results and a higher than expected weak positive rate for the Rapid IA test.

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**Poster Board #10**

DECREASING SURGICAL SITE INFECTION WITH TWO PERCENT CHLOROXIDE: A PRACTICE CHANGE STRATEGY

Alison McQueen, Cathy Wood, Southlake Regional Health Centre, Newmarket, ON, Canada

**Issue:** The Cardiac Surgery Program at Southlake Regional experienced an increased incidence of surgical site infection (SSI).
overcome the current challenge of increasing SSI incidence. The proposal addressed a trial practice change of bathing pre and post-operative patients; simultaneously, a second strategy was introduced to trial the use of the chlorhexidine (CHC) two percent impregnated cloths for the cardiac surgery patient population to decrease the incidence of SSI. The incidence-based, six-month practice evaluation began in June, 2010 which captured 471 cardiac surgery patients. Compliance to the protocol was strictly monitored for adherence and outcomes.

Results: The incidence of SSI decreased by 50 percent from the previous six months. Lessons Learned: The implication of this two-pronged quality improvement strategy proved that the incidence of SSI had considerably decreased in the cardiac surgery program during the trial period. During the same period it was also observed that there was a zero observation of blood stream infections in the CVICU. Acknowledging the associated financial costs ($25,546) (Douglas, R. II, 2009) of treating a SSI, a cost benefit analysis of this practice change was easily justified with a reduction in incidence of SSI.

Poster Board #12 IMPRODUCTION CHALLENGES OF A BASIC RESPONSE TO RESPIRATORY AND GASTROINTESTINAL SYMPTOMS IN A MULTI-SITE AMBULATORY CANCER AGENCY
A. Chant1, K. Peel2, K. Harding1, L. Nicholson1, J. Iarose1, R. Hunter1, E. Thomas2, G.N. Al-Rawahi3
1BC Cancer Agency, Vancouver, British Columbia, Canada, 2Provincial Health Services Authority, Vancouver, British Columbia, Canada
Issue: Infectious disease outbreaks due to gastrointestinal (GI) or respiratory pathogens occur year round in different settings. The ambulatory oncology environment presents unique challenges to the management of infectious illness symptoms due to: the similarities between infectious symptoms and treatment side effects, the ambulatory nature of the clinics, and the vulnerable patient population. Therefore, early recognition of, and swift response to, cases of infectious disease are essential in preventing outbreaks. Pandemic preparedness plans highlight the importance of appropriate signage, policies, and education for frontline staff. Infection Prevention and Control must work collaboratively with administrators and clinical and non-clinical staff to facilitate prompt response through the implementation of a Basic Response Plan.
Project: The purpose of this poster is to describe challenges in the implementation of a basic response plan for the management of GI and respiratory symptoms across a multi-site Cancer Agency.
Results: Challenges were identified in the following areas: the creation of cohesive signage in multiple translations, the development of administrative directives to support the signage, as well as the identification and education of stakeholders.
Lessons Learned: The implementation time was longer than expected. Issues around semantics, dissemination, and defining roles/responsibilities were prominent. Each site of the Cancer Agency had different challenges that prevented a standardized approach. Future directions regarding this project will be focused on the evaluation of the Basic response plan, the reinforcement of staff education, and the development and streamlining of future implementations.

Poster Board #14 VARIABLE RESPONSE TO STRICT VRE CONTROL MEASURES
Jillian Low, Kaylene Styles, Ann Gray, Lorraine Wilson, Linda Cleave, Jill Lamb-Jenkins, N Deborah Friedman, Eugene Athan
Barwon Health, Geelong, Victoria, Australia
Issue: Vancomycin Resistant Enterococcus faecium (VRE) Van B has been endemic at Geelong Hospital (GH) since January 2007. From 2007-2010 526 patients were newly identified with VRE, 92 % were colonized. VRE colonization is detected by routine screening of inpatients from high risk areas (Intensive Care Unit (ICU), Haematology and Oncology unit (Haem/Onc)) and patients being transferred from other acute care facilities. All colonized or infected patients with VRE were placed in contact precautions. GH revised internal guidelines in 2008 based on risk assessment. Early in 2010 despite all precautionary measures and specialist cleaning there was little impact on reducing VRE in the high risk inpatient areas.
Project: A new approach to VRE was introduced into these areas with the phrase make it routine. This consisted of (1) promotion of hand hygiene, (2) bare below the elbow and (3) “gowning up when close.” ICU implemented this approach in February 2010 and Haem/Onc in April 2010. ICU introduced chlorhexidine bed baths with make it routine and Haem/Onc unit introduced other strategies including cleaning bathrooms three times daily.
Results: Following the introduction of make it routine there were 26 new isolates of VRE in ICU compared to 33 for the same period in 2009 The annual incidence of VRE in Haem/Onc increased by 30 cases from the previous year.
Lessons Learned: The impact of make it routine is time consuming, expensive, requires education of visiting staff and visitors, impacts on waste management and has not achieved the same outcome both areas.

Poster Board #18 IMPACT OF DESIGN ON EMERGENCY DEPARTMENT MEASURES TO REDUCE EXPOSURE
Maja McGuire, Barbara Catt, Olivia Yow, Sandra Callery, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada
Issue: Sunnybrook Health Sciences Centre is a regional tertiary care centre. The Emergency Department (ED) receives over 49,000 visits per year. The small open cooperation area was completely renovated in 2009. On October 10, 2010, Patient A was admitted for an undiagnosed infection that later tested IgM positive for Measles. The patient was not on airborne precautions in the ED for 65 hours. Our goal is to review the impact of ED design on airborne infection exposures.
Project: The ED design has separate treatment areas with four self-sufficient pods. Each pod contains its own central nursing station, patient rooms/bays, negative pressure room with ante room, support areas and hands-free foot operated hand wash sinks. Each pod has a dedicated air handling unit, thus not re-circulating air between other pods or the triage/waiting room.
Results: During the exposure period 553 patients were assessed in the ED. Patient A remained in a pod containing 15 patient rooms/bays. There were 88 patients admitted into this pod during Patient A’s stay and were considered exposed. In addition, 31 staff were either not immune or did not know their immunity status.
Lessons Learned: The pod design limited the number of exposures to one zone thus decreasing the number of patients requiring follow up by the facility and Toronto Public Health. This incident demonstrates the value of physical separation and dedicated air handling units in a busy ED. The separation allowed for easy identification of patient and staff exposures and reduced the risk of airborne spread in the department.

Poster Board #20 RE-USE OF SINGLE USE INJECTION DEVICES PART II: AN ALBERTA HEALTH SERVICES (AHS)-WIDE SURVEY OF FRONT-LINE HEALTH CARE PROFESSIONALS ON SAFE INJECTION PRACTICE
Nancy Alliers1, Elizabeth Henderson2,1, Karrn Fluft1, Sue Laferty1, Janet Barclay1, Karen Hope1, Debra Doe1, Dan Woods1, Leanne Dekker1, Mark Joffe1,2, Infection Prevention and Control1
1Alberta Health Services, Alberta, Canada, 2Universities of Alberta/Calgary, Alberta, Canada
Issue: Use of single use syringes or contamination of multi-dose vials is a significant patient safety risk across North America. Recent events in Alberta Health Services (AHS) led Infection Prevention and Control (IPC) to launch a multi-faceted initiative on safe injection practice.
Project: This report focuses on a comprehensive anonymous survey conducted using a web-based tool called Zoomerang to address practice related to re-use of injection devices (i.e. syringes, needles and multi-dose vials) in the acute care setting.
Results: The survey was open for 3 months. It was widely advertised through newsletters, emails and internal webpage. Respondents came from all 5 provincial zones. Of the estimated 60,000 staff/physicians involved in direct patient care, 2450 (4.1%) completed the questionnaire. Largest groups were: nurses (66.4%), physicians (9%), and paramedics (4.4%). Of these, 1956 (86.4%) administered injection medications.
Of the respondents, 20% failed to recognize contamination of an injection device when presented with a common clinical scenario; 17% reported they did not perform hand hygiene or use proper aseptic technique when administering injectable medications; and up to 11% reported that they have or they have observed someone else perform a high risk injection practice once or more in the past 30 days.

Lessons Learned: Inappropriate use of injection devices is an identified risk to patient safety. Although infrequent, reports of ongoing re-use of single-use injection devices highlight knowledge or behavioural gaps. AHS IPC is developing a learning format for health professionals to enhance a sustained focus on safe injection practice.

Poster Board #28
MANAGING INVASIVE GROUP A STREPTOCOCCAL DISEASE IN A LONG-TERM CARE FACILITY
Kyla Cullain, Ottawa Public Health, Ottawa, ON, Canada
Background: On December 15, 2010, Ottawa Public Health received laboratory confirmation of an invasive Group A streptococcal (GAS) infection in a resident in a long-term care facility (LTCF).
Importance: Elderly residents in LTCFs are at an increased risk of morbidity and mortality from invasive GAS due to higher prevalence of underlying conditions. There is a 38% likelihood that a second case of iGAS will be detected in a LTCF within 6 weeks (Guideline for the Prevention and Control of Invasive Group A Streptococcal Disease). Unlike community cases of GAS, provision of chemoprophylaxis to close contacts is not the recommended approach.
Methods: A site inspection was conducted to ensure infection control practices were being upheld. A 6-week retrospective chart review was completed on all residents and staff to determine if any cases, confirmed or suggestive, of GAS were documented. Swabs were collected on all residents residing on the same floor as the index case, and on 10% of residents from remaining floors. Staff known to have recent GAS infections were screened. Active surveillance continued for 2 months; any staff or residents exhibiting symptoms compatible with GAS were swabbed; any individual positive for GAS was placed on chemoprophylaxis and re-screened at pre-determined intervals.
Results: Adherence to the MOHLTC guidelines, and implementation of strict infection control practices and active surveillance, mitigated the spread of this disease in this facility. The outbreak was declared over February 18, 2011.

Poster Board #29
TEMPORAL ASSOCIATION BETWEEN INCREASED INFLUENZA BURDEN AND INCREASED NOSOCOMIAL ANTIBIOTIC-RESISTANT ORGANISM CASES IN A TEACHING HOSPITAL
Carly Rebolo, Jaycee Caierero, Shahnawazie Hudson-Henry, Camille Lemieux, Michael Cardam, University Health Network, Toronto, ON, Canada
Background: The 2010/11 influenza season resulted in a markedly increased hospitalization rate for influenza cases at Toronto General Hospital (TGH) as compared to previous seasons. An increased number of nosocomially acquired antibiotic-resistant organisms (AROs) was also noted during the late fall and winter of 2010/11. It was hypothesized that the two events may be linked.
Methods: A Laboratory Information System search was conducted for all positive influenza (A and B) and ARO (MRSA, VRE and C. difficile) cases between November and January of each of 2008/09, 2009/10 and 2010/11. Infection Control surveillance line lists were reviewed to identify ARO cases that were nosocomial. The weekly incidence of influenza cases was compared to the weekly incidence of nosocomial ARO cases for each of the three seasons.
Results: There was an anecdotal association between increased inpatient influenza burden and increased nosocomial ARO rates. From November 2010 to January 2011, there were 77 influenza cases and 126 nosocomially acquired AROs, which was far greater than comparison years.
Conclusions: An increase in inpatient influenza cases can be temporally associated with an increase in nosocomial ARO cases at a large teaching hospital. The hypothesis that the increase in nosocomial ARO cases was related to widespread staff febrile respiratory illness with resulting staff shortages; “isolation fatigue” amongst staff resulting in poor compliance with routine practices and additional precautions; lack of isolation rooms; and widespread bed spacing of patients. Subsequently, there has been an increase in environmental services staffing and changes made to policy/practice.

Poster Board #30
SAFER “PAN HANDLING” TO REDUCE THE RATES OF VANCOMYCIN RESISTANT ENTEROCOCCI
Erika Vitale, Chatham-Kent Health Alliance, Chatham, Ontario, Canada
Issue: Chatham-Kent Health Alliance continued to have high rates of VRE acquisition...
resulting in multiple outbreaks. During staff focus groups used for implementing the Just Clean Your Hands program, frontline staff indicated that equipment could also contribute to the spread of infection – particularly bedpans. The infection control team was rather puzzled by this discovery because the unit had been accommodated with a bedpan flusher that could easily decontaminate this safety equipment. It was obvious that there were barriers preventing staff from managing bedpans safely.

Project: An inter-professional team worked on this problem of managing bedpan safely, through the use of videos to reveal the current practices, a staff survey on infection prevention practices involved with bedpan management, research into current literature, environmental changes, cost-benefit analysis, support for capital equipment, and education. Staff were engaged and developed safer methods for bedpan management.

Results: Staff actively participated in the development of two safe methods of bedpan management, the rates of healthcare associated VRE dropped drastically (indicating a reduction in fecal contamination of the environment), and frontline staff spent fewer steps on “pan handling.”

Lessons Learned: A team approach was successful in understanding and addressing the cultural, behavioural and environmental barriers that prevent the transition to safer practices. Infection Control Practitioners can act as facilitators to address issues that would typically be seen as a nursing issue, to enhance safety for staff and patients. This project emphasized the importance of rounding and building trust with staff in order to discover infection prevention issues.

Poster Board #34
FEBRILE RESPIRATORY ILLNESS SURVEILLANCE TAILORED FOR THE BONE MARROW TRANSPLANT POPULATION
Jo Anne Janagan1, Natalie Bruce1, Virginia Roth2, Suzanne Madore2, Timothy Kamuchow2, Kathryn Suh3
1The Ottawa Hospital, Ottawa, ON, Canada; 2Children’s Hospital of Eastern Ontario, Ottawa, ON, Canada

Issue: Viral respiratory infections in bone marrow transplant (BMT) patients are associated with increased morbidity and mortality. Outbreaks in this population are well described, and viral shedding can be prolonged. During a parainfluenza virus (PIV) outbreak on our BMT unit in 2008, our febrile respiratory illness (FRI) screening tool failed to identify several PIV-infected patients. Management of the outbreak was also hindered by reliance on viral culture for diagnosis.

Project: Chart reviews of all BMT patients with PIV infection during the outbreak were performed. During the outbreak, polymerase chain reaction (PCR) testing for PIV was implemented both for diagnosis in symptomatic patients, and as an aide to deciding when isolation precautions could be terminated in PIV-infected patients. A new algorithm for screening BMT patients for respiratory infection was developed.

Results: Of 15 infected patients, 14 were symptomatic; one patient was identified during a prevalence screen. All 14 symptomatic patients had at least one respiratory symptom, but only 6 (43%) had fever. Six patients had documented viral shedding (positive PIV PCR) after resolution of all symptoms.

Lessons Learned: Conventional FRI screening is insensitive in the BMT population. BMT patients with any respiratory symptoms (regardless of fever) are now placed on Droplet Precautions and Tested for viral pathogens. Due to prolonged viral shedding, a negative follow-up PCR and viral culture must be reported before isolation is discontinued. There have been no further cases of nosocomial PIV infection in our BMT population since these measures were implemented.

Poster Board #35
AN OUTBREAK OF SERRATIA IN A LARGE CANADIAN CARDIAC CARE CENTRE
Krista Wilkinson1, Manal Getham2, Jenn Johnson3, Natalie Bruce1, Virginia Roth2, Elaine Vandenberg3, Kathryn Suh1
1Public Health Agency of Canada, Ottawa, ON, Canada; 2The Ottawa Hospital, Ottawa, ON, Canada; 3The University of Ottawa Heart Institute, Ottawa, ON, Canada

Background/Objectives: Serratia outbreaks have been reported in cardiothoracic centers. An increase in Serratia cases was noted in 2008 at the University of Ottawa Heart Institute; clusters of cases continued to be identified through 2010. An investigation into this outbreak was initiated in order to identify risk factors for Serratia and to identify the possible source of the bacteria.

Methods: A case control analysis of Serratia cases between January 1, 2008 and December 31, 2010 was performed. Each case was matched by date of surgery or admission to two controls. Data obtained from chart review included duration of mechanical ventilation, tube and parenteral feeding, and 30-day patient outcomes. Limited environmental sampling was performed, and process audits were conducted.

Results: Eighty-nine (88%) of the 101 cases were surgical patients. Most (60%) had at least one isolate collected from the respiratory tract. Cases were more likely to have been intubated > 72 hours compared to matched controls (p=0.001). Parenteral nutrition and tube feeding were independently associated with increased risk of Serratia (<p=0.001), but only duration of intubation was associated with having Serratia in multivariate analysis. No environmental reservoirs were identified. Areas for improvement were identified through process audits, but none could be clearly linked with the increase in Serratia cases.

Conclusions: Intubation exceeding 72 hours was associated with an increased likelihood of having Serratia. No environmental reservoir was identified. Acquisition of Serratia is likely multifactorial. Determining the source of endemic pathogens and terminating transmission can be extremely challenging.
management protocol.

Lessons Learned: There is need for an antibiotic stewardship program. Education needs to continue on an ongoing basis.

Poster Board #40

USING A 4TH YEAR STUDENT NURSING PROJECT TO ENHANCE INFECTION CONTROL EDUCATION TO PERSONAL SUPPORT WORKERS
Jim Gauthier1,2, Rosanna Bosa2, Christiane MacPherson2, Dick Zoutman1,2
1Providence Care, Kingston Ontario, Canada; 2Queen’s University, Kingston Ontario, Canada
Issue: An ICP was approached by two 4th year Queen’s University nursing students for assistance on their Health Promotion project to enhance Infection Control education to Personal Support Workers (PSW).
Project: The nursing students wanted to design a workshop using adult learning principles and strategies that incorporated theory, practical applications, case scenarios, and demonstrations to improve learning outcomes. They were given the opportunity to provide an additional six hours of education to PSW students who would normally only receive a single three-hour classroom lecture. The nursing students utilized interactive exercises to demonstrate contact precautions and other additional practices around the use of personal protective equipment (PPE).
Results: 26 students participated in two three-hour workshops which included 5 stations that covered a variety of scenarios with discussion questions to answer. Pre-test and post test answers were evaluated which showed a 38% increase in knowledge of Infection Control precautions after the workshops.

Lessons Learned: The Infection Control Practitioner met with the nursing students for less than 3 hours to discuss strategies and formats that could be used for the workshops. This small time commitment of a ‘train the trainer’ format was used by willing nursing students to enhance Infection Control education for students. Interactive workshops received higher post-test scores and positive comments from participants over the traditional lecture format. Fluorescent powder and gel were utilized for a visual impact for the students.

Poster Board #41

WALKING THE WALK: HOUSEKEEPER FOR A DAY
Jim Gauthier1,2, Dick Zoutman1,2
1Providence Care, Kingston Ontario, Canada; 2Queen’s University, Kingston Ontario, Canada; 3Kingston General Hospital, Kingston Ontario, Canada
Issue: Infection Control is critically linked to the daily activities of environmental services staff. Effective and diligent cleaning and disinfection of the healthcare environment will limit the spread of microorganisms. Proposed changes, due to new provincial guidelines, were causing pushback from front line workers.
Project: A Medical Director of Infection Prevention and Control (MD) and an experienced Infection Prevention and Control Practitioner (ICP) spent time working as housekeepers in their respective facilities.
Results: The MD and ICP were orientated to cleaning routines (daily clean, thorough cleans, terminal cleans, washrooms). Daily cleans involve only high touch surfaces in patient’s room (bedrails, knobs on cabinets or wardrobes, overbed tables if present, and a dry mop). A thorough (weekly) involved high dusting of room, full wipe of bed and a dry mop. A terminal clean involved high dusting of all surfaces, spot cleaning of walls and a wet-mopping of the floor. Terminal clean would also include all surfaces in room, with curtain changing if patient was on isolation. Washroom cleaning included walls and fixtures.

Lessons Learned: This is hot, heavy work. There is no average room. Many rooms had clutter which impedes the cleaning process, or the degree of soiling (especially in washrooms) expanded the cleaning process. The new provincial standards which recommended changing of gloves between bed spaces in ward rooms (6 beds) in washrooms) expanded the cleaning process. The new provincial standards which were released as part of the Qmentum accreditation program in 2008. These standards represent one of the tools developed by Accreditation Canada to help health care organizations promote a culture of infection prevention and control by addressing key safety and quality issues in the area of reprocessing and sterilization.

Poster Board #42

FRIDAY OUTBREAKS: FACT OR MYTH?
Chingiz Amirov1, Heather Cantron1, Jane Van Toen1, Ryan Walton1, Sarah Ahmed2
1Baycrest, Toronto, Ontario, Canada; 2University of Toronto, Toronto, Ontario, Canada
Background: Healthcare institutions are rife with anecdotal information about the “Friday outbreaks” phenomenon; the notion that outbreaks are more likely to be reported on Fridays. However, there is a dearth of solid data to support or rule out this assumption.
Methods: To test this hypothesis we studied 4 years worth of data on institutional outbreaks reported in the Greater Toronto Area. These data were categorized in a database by type of outbreak (respiratory vs. enteric), by facility type (acute vs. long-term vs. chronic care) and by day of the week the outbreaks were reported.
Results: A total of 901 outbreaks were reported over the study period. The expected distribution would, therefore, be an average of 126.7 outbreaks (14.3%) reported on each of the 7 days of the week. We compared this expected value with the observed counts for each weekday. Our analysis shows that Mondays, not Fridays, account for the largest share of outbreak reports (23.1% for all outbreaks). Outbreaks are significantly more likely (p <0.05) to be reported on Mondays. This remains true for aggregate data (all types of outbreaks in all facilities) and for stratified data subsets (by type of outbreak and by facility type).

Conclusion: However, Friday outbreaks cannot be completely dismissed. Although our analysis shows that Fridays do not account for the largest share of outbreak reports, they account for the second highest count (19.3%). From this perspective, the notion of “Friday outbreaks” may be partially true.
for screening, 100% were screened for MRSA and over 95% for VRE. Of these, 156 (9.2%) were positive for MRSA and 182 (10.8%) were positive for VRE. Prior to the survey, 121 inpatients were known positive. An additional 218 previously unidentiﬁed patients were found. For each known positive, 2 additional colonized persons were found which were unknown to IPC or staff. Results varied by site.

Lessons Learned: Risk of colonization in pediatric and neonatal patients remains low, MRSA Prevalence increased from 3% in 2002 to 9.2% in 2010. Increased incidence was highest on units with prolonged stay due to placement difﬁculties, thus creating a reservoir for colonization. Laboratory resources to support for screening activities are an essential component of ARO management.

Poster Board #50
CRYPTOSPORIDIUM: THE PARASITE THAT CHANGED INFECTION CONTROL PRACTICES
Barbara Cheung1, Selina Nazim2, LiLian Yuan2
1Occupational Therapist/Physiotherapist, Master's Program at Queen's University, Kingston, Canada, 2SEO Regional Infection Control Network, Kingston, Canada

Issue: Didactic Infection Control education of University Students can be viewed as quite boring, and retention of this Infection Control information may be limited.

Project: All new students of the Occupational Therapist/Physiotherapist Master's Program at Queen's University were provided a one-hour lecture on Routine Practices. This was followed up by an interactive, station based education model. Three stations were used, and 30 minutes were allowed for presentations on Contact Precautions, Droplet and Airborne Precautions and Routine Practices. Participants were provided with the rationale, purpose and types of personal protective equipment available, and the given the opportunity to don a gown and gloves, demonstrate their hand washing techniques, and model a mask with visor, while conversing easily with Infection Control Practitioners in these smaller groups. This session was set up during the beginning of the semester, as part of a very interactive program, welcoming the students to the campus of the Rehabilitation Medicine program.

Results: Students were engaged. Feedback has been positive.

Lessons Learned: Providing only lecture based Infection Control education to university level students is not the most effective way of presenting new concepts. An initial lecture provides the fundamentals and allows for these interactive stations to be short, quick, and fun, while providing reinforcement of the concept and also good contact with the Infection Control Practitioners. Ensuring minimal redundancy between lecture and stand up sessions is essential in keeping students engaged while ensuring they understand the importance and rationale for compliance with current protocols in Infection Control.
Conclusion: Our multi-faceted strategy of enhanced prenatal books, posters, and physician prenatal education proved successful in reducing inappropriate hair self-removal by patients with planned C/S.

Poster Board #56
WE HAVE THE NUMBERS, NOW WHAT DO WE DO? SURVEILLANCE INFORMATION DISSEMINATION PLAN FOR PEI
Stacey Burris, Department of Health and Wellness, Charlottetown PE, Canada
Issue: In PEI prior to January 2009 there was no consistent provincial infection prevention and control surveillance being done in the province. No information regarding infection/colonization rates was available to administrators or staff to be able to make informed decisions regarding care of patients in island facilities.
Project: In 2009 a surveillance database was created that could be used by ICPIs in all parts of the province to track rates of MRSA, VRE and C. difficile in all provincial facilities (acute care, long term care and community hospitals).
Results: PEI has counts and rates of HAIs ready to be reported to the staff via quarterly reports, (2) have been released so far) and to the general public via the department website which will be posted in March 2011.
Lessons Learned: There were many challenges in the creation of this project and there continues to be growing pains with the database. The biggest challenge continues to be the dissemination of the data to frontline staff and delivering it to the general public in a way that is meaningful. It is expected that there will be media interest in the numbers that are released to the public. The hope is that the information provided will instill confidence (not fear) in Islanders and give a greater understanding of the efforts that are being made to deal with HAIs.

Poster Board #62
THE DEVELOPMENT AND IMPLEMENTATION OF AN ONLINE TRAINING MODULE FOR INFECTION PREVENTION AND CONTROL
Brenda Stiver, Vicki Gorman, Sherri Deamond, The Regional Municipality of Durham Health Department, Whitby, Ontario, Canada
After SARS, the Walker and Campbell report documented the gaps in Infection Prevention and Control (IPAC) training to frontline healthcare workers. Operation Health Protection identified that the front line worker has an important role in IPAC. The 2009 pandemic H1N1 reinforced the need for knowledge of IPAC principles for frontline workers which included Health Department staff. An accessible and interactive online training module was created to fill this gap. The online module was then made mandatory for all Durham Region Health Department staff to complete. This presentation will review the implementation process and the first year’s evaluation results from Durham Region Health Department’s internal online IPAC module.

Poster Board #64
EFFECTIVENESS OF A NOVEL OZONE AND HYDROGEN PEROXIDE GAS-VAPOUR SYSTEM FOR THE RAPID HIGH LEVEL DISINFECTION OF SURFACES AND HEALTHCARE SPACES
Dick Zoutman1, Michael Shannon1, Kelly Brown2
1Queen’s University, Kingston, Ontario, Canada, 2MedZone International Inc, San Francisco, California, USA
Background/Objectives: Vapour based fumigant systems for disinfection of healthcare facilities and spaces is an evolving technology. A new system (AsepticSure™) that uses an ozone based process to create a highly reactive oxidative gas-vapour mixture that is noncorrosive was tested in vitro and in vivo for antimicrobial disinfection effectiveness.
Methods: Ozone gas at 80 parts per million (ppm) was combined with 1% stabilized hydrogen peroxide vapour at 80% relative humidity in a test chamber and upscaled to a 82 cubic meter room using 3.75% hydrogen peroxide at 30 minutes. Test organisms included methicillin resistant S. aureus, vancomycin resistant enterococcus, E. coli, P. aeruginosa, and C. difficile spores dried onto stainless steel discs. Results: The combination of 80 ppm ozone with 1% hydrogen peroxide vapour in the test chamber achieved a very high level of disinfection of at least 6 logs, reduction of the bacteria and C. difficile spores tested on steel discs during a 15 minute exposure. The entire system was scalable such that it achieved the same high level of disinfection of an 81 cubic meter room in 30 minutes with 3.75% hydrogen peroxide and 80 PPM of ozone against MRSA and C. difficile spores.
Conclusions: The ozone and hydrogen peroxide gas-vapour mixture provides a significantly higher level of disinfection of steel surfaces against healthcare associated bacterial pathogens achieved to date. The system is an advanced oxidative process providing a rapid and effective means to disinfect healthcare surfaces and spaces to a very high level, particularly against C. difficile spores.
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**Sunday, May 29**
CHICA TPIC Meet & Greet
Join friends and colleagues at the first social event of the conference. CHICA TPIC will host one drink per person and provide snacks before you go out for the evening. Jo’Ann Alderson will sign her book Connecting in the Faceless World. Discover techniques you need to transform your face-to-face communication skills to fit today’s faceless world. (Purchase price $21.95, cash only.)

**Toronto Sightseeing Tour**
See the highlights of the Greater Toronto Area from the comfort of a well-equipped tour bus with professional narration – including attractions such as the CN Tower and Casa Loma. Buses leave the Sheraton Centre Toronto at 6:00 p.m., returning 9:00 p.m. Brown bag snack provided. $50 per person plus $6.50 HST.

**Monday, May 30**
Opening Ceremonies And Opening Reception – All Welcome!
Join attendees at the official Opening Ceremonies, Monday, May 30, 6:00 p.m.-7:30 p.m. Honour award winners and others who make CHICA a success. Honourary Membership will be bestowed on Shirley McDonald. See Shirley’s bio on page 79.
Then meet in the Exhibit Hall for drinks and hors d’oeuvre, and celebrate CHICA’s 35th anniversary with a delicious cake! Join our exhibitors in an informal, friendly night to renew acquaintances and meet some new folks as well! 7:30 p.m.-9:00 p.m.

**Tuesday, May 31**
Enjoy a wonderful dinner before hearing the presentation from Dr. Didier Pittet, worldwide expert in hand hygiene. Cash bar: 7:00 p.m.-7:30 p.m.; dinner and presentation: 7:30 p.m.-9:30 p.m.

**Wednesday, June 1**
Don’t miss Casino Royale and Club CHICA. The paparazzi will be looking for you so DRESS TO IMPRESS! Your winnings from the cashless casino will entitle you to tickets to win an iPad or a Kindle. CHICA TPIC will be holding a silent auction with contributions from CHICA’s 21 chapters. Funds raised go to the TPIC Education Fund. Cash bar and casino/silent auction 6:30 p.m. - 7:00 p.m.; dinner 7:00 p.m.-8:30 p.m.; more fun at the tables 8:30 p.m.-9:30 p.m.; cashless casino and silent auction announcements – 9:45 p.m.
Then make your way past the bouncer to Club CHICA. Dance the night away to DJ Lexx – 10:00 p.m.-1:00 a.m. Cash bars.
Casino Royale and Club CHICA – $90 per person plus $11.70 HST.

**Thursday, June 2**
Postconference Harbour Dinner Cruise
Staying in Toronto overnight? Join us at the Post-Conference Harbour Dinner Cruise for dining and dancing. Buses or alternate transportation will leave the Sheraton Centre Toronto at 6:00 p.m., returning approximately 9:30 p.m. Tickets $78 per person plus $10.14 HST.

We’ll work hard – but let’s have some fun too!

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*Use as directed. See reverse or product label for complete list of organisms.
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Clearly in our case, Evolution is not just a theory.

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Innovation, inspiration, influence

As I begin my term as CHICA-Canada president, I am humbled by the opportunity to serve the association and its members for the coming year. In her addresses to you in 2010, Anne Bialkowski emphasized our involvement at national and international events and the need to advance relationships with our Canadian partners.

I hope to build on the wonderful work done by CHICA presidents over the past 35 years (YES, it is our 35th anniversary). Since 1976 the association has grown from a fairly small, dedicated volunteer group to a much larger, influential team of chapters, interest groups, and members actively supported by the board of directors and the national office. 2011 also marks the 25th anniversary for two chapters – CHICA Nova Scotia and CHICA Eastern Ontario. Congratulations. What a demonstration of the lasting and important relationship of CHICA-Canada with its chapters and members.

This year the national education conference will be held in Toronto, May 28–June 2, with the theme Leadership in Action – Innovation, Inspiration, Influence. Leaders in infection prevention and control from across the country and outside Canada will stir us to action. We will learn about the latest innovations as we tour the exhibits and poster displays, speaking with our corporate partners and colleagues. Renowned speakers will inspire us and spur us to learn methods to influence best practice in all sectors of the healthcare system. Attendees will have the rare opportunity to hear an international leader in infection prevention and epidemiology, Professor Didier Pittet, Lead of the World Health Organization First Global Patient Safety Challenge, Clean Care is Safe Care. If you are not already registered, act now to join us in Toronto.

You may notice changes to the conference this year. In November the board of directors did a little belt tightening and made the decision to restrict some CHICA-sponsored travel in 2011 as well as to shorten the length of, and reschedule, the board meeting to save a couple of days of hotel and food expenses. The chapter presidents meeting has also been rescheduled. This means that some activities overlap and some of us miss out on pre-conference activities – for a good cause.

The national conference and other events offer the chance to renew acquaintances, advance alliances, and support our corporate sponsors. Nurturing these relationships is important to CHICA-Canada’s mission as we all work together for the wellness and safety of Canadians. In the coming year, board members will attend and present at conferences and meetings and work with our Canadian and international partners. We will visit chapters and update you on our progress during the Voices of CHICA Webber teleclasses.

2011 promises to be an exciting, busy 35th year – let’s fill it with Innovation, Inspiration and Influence! See you in Toronto May 28 - June 2”

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Innovation, inspiration, influence

A

lors que j’entre mon mandat de présidente de CHICA-Canada, c’est un sentiment d’humilité qui m’envahit devant l’occasion qui m’est offerte de servir l’Association et ses membres au cours de la prochaine année. Dans ses messages adressés aux membres en 2010, Anne Bialachowski a souligné notre participation à des activités nationales et internationales, ainsi que la nécessité de renforcer nos liens avec nos partenaires canadiens.


Vous observerez peut-être des changements au congrès cette année. En novembre, le conseil d’administration a quelque peu resserré le budget et pris la décision de restreindre, en 2011, certains déplacements habituellement payés par CHICA. Il a aussi été décidé d’écourter et de déplacer la réunion du conseil pour économiser quelques jours d’hébergement et de frais de repas. La réunion des présidents des sections régionales a aussi changé de créneau horaire. Cela signifie que des activités se chevauchent et que certains d’entre nous manqueront les activités pré-congrès – c’est pour une bonne cause.

Le congrès national et diverses autres activités offrent la possibilité de renouer
avec de vieilles connaissances, de renforcer des alliances et d’encourager les sociétés qui nous commandent. Il est crucial pour la mission de CHICA-Canada d’entretenir de telles relations; en effet, nous travaillons – tous ensemble – au bien-être et à la sécurité des Canadiens et des Canadiennes. Au cours de la prochaine année, les membres du conseil assisteront à des congrès et à des réunions, et donneront aussi des présentations à ces occasions. Ils travailleront avec nos partenaires ici au Canada et à l’international. Nous visiterons les sections régionales et vous informerons régulièrement de l’évolution des dossiers par l’entremise de séances virtuelles Voices of CHICA, organisées par Webber Training.

L’année 2011, la 35e de notre association, promet d’être stimulante et occupée – qu’elle soit pleine d’innovation, d’inspiration et d’influence! Êtes-vous prêts à relever le défi ?
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Happy 35th Anniversary

Spring is here at last! The tiny buds on the trees. The first flowers poking their little heads out of the ground. The flooding (it is a Manitoba thing). The taxes. The audits. The awards. The meetings. The conference planning. It is CHICA’s busiest time of the year.

I wonder if the first board of CHICA ever imagined the busy-ness that CHICA would face 35 years later? Come to think of it, did anyone ever muse over the possibilities of e-learning, online registration, e-mail, and social marketing? It is not likely as, although the first publication of the possibilities of social marketing appeared in 1971, these were aspects of business that generally no association board dreamed of at the time.

It was in 1976 that our association was incorporated as a legal entity, standing on its own and with a big task ahead of it. It was a quorum of 39 members of CHICA who ratified our first name: Canadian Hospital Infection Control Association (CHICA). In 1986 the source of the acronym was changed to: Community and Hospital Infection Control Association (CHICA).

The original objectives of the new association were very similar to the goals of CHICA 35 years later.

1. The general purpose of the association is to improve patient care by serving the needs and aims common to all disciplines who are united by infection control activities.
2. To initiate and develop effective communication.
3. To support the development of effective and rational infection control programs in health-care agencies.
4. To encourage standardization and critical evaluation of infection control practices.
5. To promote quality research in practices and procedures related to infection control.
6. To publish or to facilitate the publication and/or distribution of such books, pamphlets and periodicals as may from time to time have reference to Association for Practitioners in Infection Control (Canada) and its work.
7. To receive donations and bequests to carry out the purposes of the Corporation.

It appears then that the parents of our organization were indeed progressive in their thinking. They saw that the profession would become larger in numbers due to the new world of emerging and re-emerging viruses and antibiotic resistance. They did not anticipate SARS itself but undoubtedly saw the day when infection prevention and control professionals would be on the forefront of managing these outbreaks. They knew there had to be increased research in IP&C. They knew there had to be surveillance to produce the evidence and support the programs. And from the first day of their meetings, our association’s originators knew the vast importance of continuing education and networking.

The first all-Canadian CHICA conference and inaugural business meeting was held in Jasper, Alberta in July 1978, hosted by the Calgary Infection Control Interest Group. (The first conference was The First North American Eastern Conference on Infection Control, a joint Canada/USA/UK event held in Toronto, Ontario in 1973.)

In 2011 we not only celebrate the birth of CHICA-Canada but we celebrate and honour all those who have had a vision for CHICA and its membership. Join us in Toronto for the 2011 CHICA-Canada National Education Conference, CHICA’s 33rd education conference, and our 35th anniversary.

Reference


IN MEMORIAM

CHICA-Canada is saddened to hear of the sudden passing of Honourary Member Moira Walker on March 20, 2011. Moira was a pioneer of CHICA-Canada, a dedicated practitioner and educator, and a caring friend. A full tribute to Moira will appear in the summer issue.
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2012 Board positions available for nomination

The Board of Directors of CHICA-Canada is seeking nominations for board positions that will be open in 2012. Being on the board of CHICA-Canada is an excellent way to participate at the national level. Personally and professionally, it offers the opportunity to meet a wide range of CHICA-Canada members, network with allied professional groups, and work with other motivated and experienced board members.

Nominations are invited for the following positions:
- President Elect (1-year term)
- Director of Finance (3-year term)
- Physician Director (3-year term)

These terms commence January 1, 2012. Position descriptions and nomination forms are found in the CHICA-Canada Policy and Procedure Manual, or may be obtained from the Membership Service Office or downloaded from www.chica.org (Members Login).

Signatures of two active members are required for each nomination. If you know someone who would be qualified and interested in one of the above positions, send a completed nomination form to:

Marilyn Weinmaster, RN, BScN, CIC
c/o Membership Service office
PO Box 46125 RPO Westdale
Winnipeg MB R3R 3S3

Or by courier to:
Marilyn Weinmaster, RN, BScN, CIC
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Deadline for nominations: August 15, 2011.
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Shirley McDonald named CHICA-Canada Honourary Member

CHICA-Canada is very pleased to announce that Shirley McDonald has been granted Honourary Membership. Shirley is the CHICA-Canada Web Communications Manager and Webmaster for the CHICA-Canada website. Shirley began her career as a medical laboratory technologist in the microbiology laboratory of the Kingston General Hospital and moved into infection control in 1987, where she worked until 2005. Since 2005, Shirley has been working for Ontario’s Ministry of Health and Long-Term Care as a scientific writer, to assist with the development of best practices documents for PIDAC (Provincial Infectious Diseases Advisory Committee).

In 1998 Shirley developed the Kingston General Hospital infection control website, which was the first infection control website in Canada. Shirley became the CHICA-Canada webmaster in 2003 and the CHICA-Canada Web Communications Manager in 2005. Shirley has been an active member of CHICA-Canada, serving on many interest groups as well as the Standards and Guidelines Committee, the editorial board of the CJIC, and is currently the writer and graphic designer for CHICA-Canada’s Audit Toolkit. To date, over 40 audit tools have been developed and posted to the audit toolkit website as a resource to CHICA members.

Shirley is currently president-elect for the CHICA Eastern Ontario chapter. She has been an enthusiastic and dedicated supporter of the chapter and is involved in many of the chapter’s activities.

Shirley has a particular interest in infection prevention and control initiatives directed at the grassroots level. In 2008, Shirley initiated the Cameroon Book Drive, a successful campaign that provided ICPs in Cameroon with books and other valuable resources. Shirley is currently leading her chapter in a twinning project with the Cameroon ICPs. Shirley will be honoured at the Opening Ceremonies of the 2011 National Education Conference (Monday, May 30, 2011).

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CHICA-Eastern Ontario, formerly Eastern Ontario Practitioners in Infection Control (EOPIC), was founded in 1984 by Carol Whyman. Other founding members were Lois Rae, June Gorrell, Linda Coughlin, Kay Olmstead, Teresa Hamilton, Janet Allen, Marilyn Ottenhof, Katherine Wolsey, Sandra Connell and Betty Atkinson. Carol, Lois and Janet formed the first executive.

Chapter status was awarded at the SOPIC-CHICA Conference in London in June 1986 with seven EOPIC members present. Five of us shared a large hotel room – we still laugh at the fun we had.

On our return, June and Kathy proposed we host the 1990 annual CHICA-Canada conference in Kingston, which was met with enthusiasm and commitment. The offer was accepted by CHICA in 1987. Immediately, a committee was established and the venue booked for June 5-8, 1990 with the theme “Sailing into the ’90s.” The conference was both professionally and financially successful. Speakers included William Rutala, Martin Favero, and William Valenti.

Our chapter has always supported CHICA-Canada by reporting on the organization’s activities at our meetings, making financial contributions, encouraging members to attend national conferences, and supporting members’ participation at the national level.

The following chapter members have been involved and recognized at the national level.

- Carol Whyman
  - President-elect (1991-92)
  - President (1993-94)
  - Past-president (1995)
  - Award of Merit (2001)
- Jim Gauthier
  - Technologist board member (1992-1994)
  - Web discussion board coordinator (2005-present)
  - Scientific Program Committee (2008-2010)
  - President-elect (2011)
- Dick Zoutman, MD
  - Physician director (1997-2009)
  - Honourary life membership (2010)
- Paul Webber
  - Infection Control Teleclasses partner with CHICA (2002) now worldwide
- Shirley McDonald
  - Webmaster (2003-present)
  - Award of Merit (2004)
  - Honourary life membership (to be awarded 2011)
- Amanda Knapp
  - Scientific Program Committee (2009-2011)
- Sue Cooper
  - Scientific Program Committee (2011)

Support of education is also our mission.

- Education at each meeting.
- A workshop every 1-2 years.
- Education bursaries.
- 22 CIC certified; many supported by the Lois Rae Memorial Fund.
- Education of the public.

Currently, CHICA-EO is developing a plan to twin with ICPs in Cameroon, West Africa.

Chapter membership has grown from one to nearly 100 as of November 2010. Many members will attend the conference in Toronto to celebrate 25 active years, the friendships made, and the appointment of another of our members, Shirley McDonald, as an Honourary Life Member. .motion
This year marks the 25th anniversary of CHICA Nova Scotia (CHICA NS) formerly ICANS (Infection Control Association of Nova Scotia). From its humble beginnings when a handful of metro Halifax/Dartmouth infection control professionals held their first meetings in the 1980s, CHICA NS has grown into a dynamic and active chapter of CHICA-Canada. Members now come from all corners of the province and from Prince Edward Island, Newfoundland, Quebec, Ontario, Nunavut and even Nigeria. The membership (80 active members in 2010) includes infection control professionals from acute and long-term care settings; infectious disease physicians; industry partners; researchers; consultants from the Nova Scotia Centre for Infection Prevention and Control (IPCNS); community/public health practitioners, and practitioners from dentistry, rehabilitation centers, and the Canadian Forces. Talk about diversity!

Some chapter highlights include:

- Having a founding member of the chapter who was also a charter member of CHICA-Canada (Dr. Tom Marrie).
- Hosting a successful CHICA national conference in 1994.
- Having a member serve as CHICA-Canada President (Sheila MacDonald) in 2002.
- Having a member serve as president of the CBIC – Certification Board of Infection Control (Sheila MacDonald) in 2007.
- Hosting an educational symposium each fall since 1996. This year’s conference has an environmental focus and will be held on November 3-4 in Halifax.

Our members have seen many changes over the years, including increasing global interest in the field of infection prevention and control. CHICA NS members have worked diligently to increase the visibility of the profession and to provide ongoing education. In honour of our silver anniversary, CHICA NS will be hosting a celebration and professional development day on April 1, 2011. Thanks to all the past (and current) members of CHICA NS for their contributions over the years. Congratulations, and here’s to the next 25 years!

*Thanks to Mary LeBlanc and Sheila MacDonald for contributing to this article.

“Coming together is a beginning, staying together is progress, and working together is success.”
– Henry Ford

Laurel Nickerson, Kim Rafuse, Faith Stoll, Sheila Sheppard

Sheila Sheppard, Patsy Rawding, Cheryl Grosvold, Elizabeth Watson, Suzanne Rhodenizer-Rose, Faith Stoll

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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 allows 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.
It has been said that in order to know where you are going, you need to know where you have been. In keeping with this notion, we recently had the opportunity to interview Diane Thornley, one of the founding members of our chapter. In her words, “The group was started in 1971 as an informal information-sharing mechanism for the practitioners in the Hamilton/Burlington hospitals. There was already a group of medical microbiologists, ID physicians and public health docs who met to discuss among other things, policies and procedures in infection control. As it was a Medical Advisory Subcommittee, the practitioners could not join at that time. (Happily, we were invited in 1972 to attend.) The original members were Mary Charlong (Hamilton General), Bernadette Kucera (Henderson General), Kay Towler (Chedoke), Marianne Mallia (St. Peter’s) Florence Mellway (Hamilton Psychiatric Hospital), Marianne Baker (Joseph Brant) and me. This was even before the first APIC meeting which was held in Toronto in 1972. We rotated our meetings around each hospital. There was no formal structure at this time. When CHICA came on the scene in the mid ’70s, the group extended an invitation to other hospitals in the Niagara and southern Ontario area and we formalized the meeting and had an executive and a name. The first president was Mary Charlong, and it seems that we all took turns. Kay Towler retired and was replaced by Lee Ramage, Florence Mellway retired and was replaced by Marie Wallace, and Marianne Baker left Canada and was replaced by Betty McLeod. As soon as CHICA started discussing ‘chapters’, we applied to become one and were one of the first.”

Today, the CHICA-HANDIC chapter has more than 100 members, coming not only from acute and long-term care facilities, but also from public health, emergency services, and the commercial sector.

“Today, the CHICA-HANDIC chapter has more than 100 members, coming not only from acute and long-term care facilities, but also from public health, emergency services, and the commercial sector.”

Diane Thornley (L) presents Trish Hutton with the Out-Of-The-Box Award.

Check out the Safer Health Care Now! website to find out more about positive deviance: www.saferhealthcarenow.ca/EN/events/VirtualPrograms/Superbugs/Pages/default.aspx

Additional information about this award and other chapter initiatives can be found on the CHICA-HANDIC website. &d
The new year stated with new executive members ready to embrace new ideas and build upon existing initiatives led by past president Merlee Rodway Steele. CHICA-NL members will have many opportunities to provide support for new members, progress towards excellence in infection prevention and control, become involved, build relationships and establish network opportunities within the chapter.

To date, CHICA-NL has formed several sub-committees to help achieve our identified objectives for 2011. They include a committee to develop a welcome package to provide support to new members entering the field of infection control, another committee to develop a process to honour members’ dedication to CHICA-NL, and lastly, a committee to coordinate and make plans for the CHICA-NL provincial conference.

CHICA-NL is an active chapter and willing to work together as a team to promote the best practices in infection control and prevention for the safety of our people within Newfoundland and Labrador.

CHICA-NL President
Beverly Pittman
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*CDC, Guidelines for Environmental Infection Control in Healthcare Facilities, June 6, 2003/52 (RR 10): 1-42 II. Cleaning spills of blood and body substances

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Information for candidates seeking appointment to Editorial Board of Canadian Journal Of Infection Control

The Canadian Journal of Infection Control (CJIC) is seeking four candidates to complete the current CJIC Editorial Board. The responsibility of the Editorial Board is to critique submitted articles and return the evaluation to the Clinical Editor within the established time lines. There are usually four journal issues per year. It is anticipated that each Editorial Board member may review up to four submissions per year.

The term of the Editorial Board is five years. The four new candidates will have terms expiring June 1, 2015. A selection committee comprised of the Clinical Editor, CHICA-Canada President, and one other CHICA-Canada Board member will review each candidate’s application using the CHICA-Canada Scoring Tool for the Editorial Board of CJIC (CHICA Policy Form 19). It is suggested that candidates review the foregoing policy before submitting their application. The appointment of candidates for CJIC Editorial Board is to be ratified by the Board of Directors. A Conflict of Interest Form must be signed by each successful candidate.

Qualifications:

Applicants must possess the following qualifications and agree to the following terms:

• Must be a current (2011) member of CHICA-Canada, having held membership for at least five years.
• Must have a Certification in Infection Control & Epidemiology (CIC) or specialty training in epidemiology, infectious diseases or community medicine.
• Must have a minimum of five years’ experience in infection prevention and control and/or infectious diseases.
• Must have demonstrated strong organization and communication skills.
• Must have the time, personal commitment and support of their institution to serve CHICA-Canada through this position.

APPLICATION MUST INCLUDE:

• A letter from applicant demonstrating suitability for the position.
• A curriculum vitae that includes details as to the candidate’s background in infection prevention and control/infectious diseases.

Applications must be received no later than May 31, 2011.

Application should be forwarded to:

Mail: PO Box 46125 RPO Westdale Winnipeg, MB R3R 3S3
Courier: 67 Bergman Crescent Winnipeg, MB R3R 1Y9
Fax: 1-204-895-9595
Email: chicacanada@mts.net

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Call for applications
2013 Scientific Program Committee

Background

The CHICA-Canada 2013 Scientific Program Committee is a national committee whose mandate is to plan, develop, and ensure completion of the scientific program for the 2013 National Education Conference. The 2013 National Education Conference will take place in Ottawa (June 1-6, 2013).

The 2013 committee is comprised of the following representatives of various practice settings:

• 2013 Conference Chair – Donna Wiens, RN, CIC
• 2013 Scientific Program Chair – Colette Ouellet, RN, BScN, CIC
• 2013 Scientific Program Co-Chair – Vacant
• 2013/2014 Acute Care Representative – Vacant
• 2013/2014 Long Term Care Representative – Vacant
• 2012/2013 Community/Public Health Representative – Alexis Silverman, RN, BA, BScN, CIC
• Medical Microbiology/Infectious Disease Physician – Vacant
• 2013 CHICA Ottawa Region Representative – Josée Shymanski, RN, BScN, CIC
• 2013 Member-at-large - Stacey Burns, RN, BN, ET, CIC, CHICA NB/PEI

Call for Applications

CHICA-Canada is seeking candidates to fill the positions of:

• 2013 Scientific Program Chair (will become Scientific Chair in 2014)
• Acute Care Representative (for 2013 and 2014 conferences)
• Long Term Care Representative (for 2013 and 2014 conferences)
• Medical Microbiology/Infectious Disease Physician (2013 conference)

Meeting schedule and expenses

The Scientific Program Committee meets once in-person (for each conference) and then communicates through email or conference calls. The first meeting of the 2013 Scientific Program Committee is scheduled for November of 2011 (Toronto, November 20-21). The first meeting of the 2014 Scientific Program Committee will be scheduled for the fall of 2012 (location TBA).

CHICA-Canada pays the expenses of committee members to attend in-person meetings. CHICA-Canada pays the expenses of committee members to attend the conferences they have planned.

Qualifications

Applicants must possess the following qualifications and agree to the following terms:

• A current (2011) member of CHICA-Canada, having held membership for at least five years.
• Must have a Certification in Infection Control & Epidemiology (CIC) or specialty training in epidemiology, infectious diseases or community medicine.
• A minimum of five years’ experience in infection prevention and control and/or infectious diseases with specific expertise in the setting for which a representative is sought.
• Good team participation as well as interpersonal and communication skills.
• Professional involvement with CHICA-Canada, for example in a board or Chapter executive role, as chair of an interest group, or on a CHICA-Canada committee.
• Fluency in French language would be an asset but is not mandatory.
• Experience in the planning of scientific programs for professional conferences (local, regional or national) would be an asset but is not mandatory.
• Has the time, personal commitment and support of their institution to serve CHICA-Canada through this position.

Application must include:

• A letter from applicant indicating the position of interest, and demonstrating suitability for the position.
• A curriculum vitae that includes details as to the candidate’s background in infection prevention and control/infectious diseases.
• A summary of professional expertise and education, specialty training and expertise, and CHICA-Canada involvement such as service as a CHICA-Canada board member, as a Chapter executive, or on a CHICA-Canada standing committee, interest group or conference planning committee.

Applications must be received no later than May 31, 2011.

Applications should be forwarded to:

Executive Director/Conference Planner, CHICA-Canada

Mail: PO Box 46125 RPO Westdale Winnipeg, MB R3R 3S3

Courier: 67 Bergman Crescent Winnipeg, MB R3R 1Y9

Fax: 1-204-895-9595

Email: chicacanada@mts.net
CHICA-Canada Novice Infection Prevention and Control Course
Position: Course Coordinator

CHICA-Canada is currently seeking an individual to coordinate the CHICA-Canada Novice Infection Prevention and Control (IP&C) online course. This course is comprised of six modules and a practicum, and runs from mid-September to the end of June. The work of the Course Coordinator will commence on June 1, 2011 in preparation for the delivery of the 2011 fall modules. The position will require 6-8 hours per week to a maximum of 40 hours per month. It should be anticipated that there will be variation in the amount of time required per week and that the workload will differ depending on the time of year and the session schedule.

Duties of position

• Assist with selection, orientation, and support of instructors with respect to content revision and online teaching.
• Assist with selection, orientation, and support of discussion facilitators.
• Act as practicum coordinator for students who complete the six modules outside of the regular schedule and are eligible for their practicum (2011-2012).
• Assist with selection of students for entry into the course, monitoring of student progress.
• Official correspondence with students about issues not addressed by instructors or the Course Administrator.
• Confer with instructors regarding course content revision and approve or refer to Course Advisory Committee as required.
• Coordinate evaluation of course content and faculty utilizing student evaluations and interaction with faculty.
• Annually review policies and processes relating to the course and recommend revision to the advisory committee as necessary.
• Coordinate regular meetings of the Course Advisory Committee (the functioning of this committee is under development).

Student registration and the technical aspects of maintaining the course website will be the responsibility of the Course Administrator.

Qualifications

The ideal candidate would be an IP&C professional with at least five years’ experience in IP&C in the last eight years. Preference will be given to CHICA-Canada members who hold a current CIC and have experience in the education of ICPs. Experience in e-learning on Blackboard would be preferred; however, orientation and support will be provided by the Director of Education and the Course Administrator as required. The candidate will have significant communication and organizational skills, and be able to work with students, instructors and facilitators from diverse settings. In addition, the candidate must demonstrate they have the time and commitment as well as support of their employer to fulfill the responsibilities of the position. The position is supported by the Director of Education and Course Administrator and reports to the Director of Education.

More information: Additional information on the position may be obtained from the CHICA-Canada Director of Education, Dr. Donna Moralejo moralejo@mun.ca.

Remuneration: $30.00 per hour for a maximum of 40 hours per month. Consideration may be made for this to be a shared position.

Submission of application: Candidates must submit a letter detailing their qualifications, a resume and at least two current references by email by May 15, 2011 to chicacanada@mts.net.

Infection Prevention and Control Training Video

Health care workers are on the front line in the fight against infectious diseases. We need to learn and practice the infection prevention and control procedures that will protect our patients, ourselves and our families. This 28 minute video is designed to clearly teach those practices, and emphasizes the importance of following proper infection prevention and control procedures at all times.

This training video is a valuable tool for training new staff and providing regular reminders of the methods and importance of infection prevention and control practices to all staff working in healthcare settings. The video contains three distinct modules that can be viewed together, or taught in separate sessions:

1. Routine Practices
2. Additional Precautions – Droplet, Contact, and Airborne Transmission
3. Combined Precautions – Routine Practices combined with Additional Precautions to prevent the spread of new infectious diseases such as SARS

Copies of this video are available at the cost of $100 for VHS, or $150 for DVD or CD format.

To order copies of this video in VHS, DVD or CD format Contact
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STOP! Clean Your Hands Day
May 5, 2011

STOP! Clean Your Hands Day will take place Thursday, May 5, 2011. This event will coincide with a global initiative of the World Health Organization, “Save Lives: Clean Your Hands.”

By registering today, you will receive a package containing additional information about these opportunities along with tools and resources.

Your packages will include:

- Your 4 Moments for Hand Hygiene cards (x10)
- Patient and Family Hand Hygiene Guides (x10)
- Meal Tray liners (x100)
- STOP! Clean Your Hands Day stickers (x200)
- Bookmarks from Accreditation Canada
- Instructions on how to complete the WHO’s Hand Hygiene Self-Assessment Framework
- Information sheets with Hand Hygiene facts plus tools and resources

The Canadian Patient Safety Institute, Accreditation Canada and the Community and Hospital Infection Control Association-Canada (CHICA-Canada) invite you to participate in "STOP! Clean Your Hands Day."

For more information or to register for STOP! Clean Your Hands Day, please visit www.handhygiene.ca.
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But even as hope and healing are administered, the deadly risk of Healthcare Acquired Infections remains. Without proper infection prevention protocols and compliance, everyday touchpoints — medical equipment, computers, door handles, hands, patients themselves — can contribute to the spread of infectious disease among patients, visitors, caregivers and staff.

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Syed A. Sattar, PhD, and Paul Webber; University of Ottawa Faculty of Medicine; Webber Training Inc.

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January
20 – Getting the Most Out of Our Frontal Lobes - What We Don’t Know (or Forget) May Hurt Us, Elaine Larsen, USA
27 – A Human Factors Approach to Hand Hygiene, Anjum Chagpar, Canada

February
1 – WHO Teleclass - Quality Improvement and Infection Prevention and Control, Donald Goldman, USA
10 – Why Don’t People Use PPE?, David Dejoy, USA
17 – Controlling C. difficile Outbreaks: Going Beyond the Guidelines, Michael Gardam, Canada
18 – The Future of Infection Control: Challenges and Opportunities, Ling Moi Lin, Singapore
22 – Writing for Publication and Conference Presentation - First Steps to Disseminating Your Research and Improvement Projects, Heather Loveday, UK
23 – Public Health Lessons Learnt From the 2010 New Zealand Earthquake, Ramon Pink, New Zealand

March
3 – What to Ask For and Look For When Evaluating Cleaning/Disinfecting Products, Jason Tetro, Canada
10 – Introduction to Mold Remediation for Buildings, Including Basic Infection Prevention Strategies for Mold Control, Lynne Schulster, USA
15 – The Importance of Nurse Empowerment in Preventing Healthcare-Associated Infection, Julie Storr, UK
31 – The Role of Microbial Biofilms in Chronic Bacterial Infections, William Costerton, USA

April
6 – WHO Teleclass - Hand Hygiene Education and Monitoring: Returning to the WHO “My Five Moments” Concept, Hugo Sax, Switzerland
7 – The ‘Outbreak Database’ - A Tool for Hospital Epidemiologists, Ralf-Peter Vonberg
13 – Prevention of Surgical Site Infections, Matthias Maiwald, Singapore
14 – Healthcare-Associated Infection Prevention Bundles: Preventing the Preventable, Bill Jarvis, USA
28 – The Spaulding Classification, Disinfection and Sterilization: Is It Time to Reconsider?, Gerry McDonnell, UK

May
5 – WHO Teleclass – The Importance of Worldwide Hand Hygiene - Events and Activities, Didier Pittet, Geneva
12 – The Faecal Quandary - Bedpan Management in a Modern Age, Gertje van Knippenberg-Godekebeke, Netherlands
19 – Human Factors Engineering, Hugo Sax, Switzerland
26 – Safe Injection Devices, Ed Krisiunas, USA

June
9 – Using Checklists to Prevent Healthcare Associated Infections, Peter Pronovost, USA
14 – Ten Years of Infection Control: How Far Have We Come?, Syed Sattar, Canada
15 – Pandemic, Public Health and Emergency Care: Contemporary Challenges and New Innovations in Infection Control and Infectious Diseases, Ramon Shabon, Australia
21 – WHO Teleclass - Establishing an Infection Control Program for Acute Respiratory Infections and Ensuring Pandemic Preparedness, WH Seto, China
23 – Ventilator-Associated Pneumonia: Epidemiology, Diagnosis, and Prevention, Lennox Archibald

July
14 – Climate Change and Infectious Disease, Andy Nichols, UK
20 – WHO Teleclass - Highlights and Results From 5 May 2011 Initiatives Around the World, Claire Kilpatrick & Benedetta Allegroni, Switzerland

August
11 – Effects of Narrative as Culture-Centric Health Promotion, Linda K. Larkey, USA
17 – The Mask in Infection Control - Understanding the Issues for Appropriate Practice, WH Seto, China
24 – WHO Teleclass - Latest Update on Clostridium difficile Control, Axel Widmer, Switzerland

September
8 – Practical Aspects of Hospital Infection Control for Influenza, Fidelma Fitzpatrick, Ireland
29 – Nosocomial Transmission of Influenza and Healthcare Worker Vaccination, Helena Maltezou, Greece

October
4 – WHO Teleclass - MRSA: Is Search & Destroy the Way to Go?, Andreas Voss, Netherlands
6 – Using Metals in Infection Prevention - A Welcome Addition or a Retrograde Step?, Carol Pellowe, UK
13 – Infection Prevention and Control in Long Term Care Facilities, Bjorg Marit Andersen, Norway

November
3 – How Should We Clean Our Hospitals, Stephanie Dancer, UK
10 – Infection Prevention Challenges in Home Care: Preparing for Survey, Mary McGoldrick, USA
17 – An Overview of the HICPAC Norovirus Guideline, Tamaris MacCannell, USA

December
1 – Strategies for Improving Hand Hygiene Adherence in the ICU, Alexandre Marra, Brazil
7 – WHO Teleclass - Best Practice for Cleaning, Disinfection & Sterilization in Healthcare, William Rutala, USA
14 – Implantables Being Reprocessed: Pandora’s Surgery Box is Opened!, Michelle Alfa, Canada
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