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Generational views

Pat Piaskowski, RN, HBScN, CIC
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In 2011, 63 per cent of CHICA members were identified as RN/RPNs and the average age of a nurse in Canada was identified as 45 years by the Canadian Institute of Health Information (CIHI) (2).

Based on this information it can be estimated that the average infection control professional (ICP) is 45 years of age. CIHI also identifies the age breakdown of RNs, RPNs and LPNs which shows that about 40 per cent of nurses are above 50 years of age. This may mean that over the next 5-15 years there will be a large number of ICPs who are retiring. This trend has already begun for those who are over 55 or who have the years of service to retire early. A definite shift in the age of the workplace will take place as these retirements occur.

Many social and psychology experts have defined several generational groupings that are now described in popular literature and books. Conferences and educational lectures often present views on these groupings and how best to recruit, train, work with and retain these groups.

These groups are often defined as Traditionalists or Veterans (born 1922-1945-now aged 67 to 90), Baby Boomers (born 1946-1964, now aged 48 to 66), Generation X (born 1965-1980, now aged 32 to 47), Millenials or Generation Y (born 1981-2000, now aged 12-31). The groups are all products of the generation in which they were born and events that shaped the future such as World War II, the death of President Kennedy, and 9/11.

The characteristics of these various groups are well described. Traditionalists are typically the parents of the Baby Boomers and have likely left the workforce. Many Baby Boomers are now in the "sandwich generation" supporting elderly parents while still having children still at home or supporting them as well. Baby Boomers are often described as efficient workers seeking personal fulfillment and valuing optimism and being involved. Generation X are described as self-reliant and wanting structure and direction and valuing fun and informality. The youngest group in the ICP work force is the Millenials or Generation Y and they are adept at multitasking and are entrepreneurial, tenacious, and valuing fun and being social. Many of the Generation Y or Millenials are likely just starting their IPAC careers (3,4).

> "Each generation goes further than the generation preceding it because it stands on the shoulders of that generation. You will have opportunities beyond anything we've ever known." - *Ronald Reagan*[1]

Any current workplace or group of ICPs is likely reflective of many of these generational views.

The way we present education, engage learners and recruit and retain ICPs are, in part, be affected by the generations represented.

Recruitment of Generation X and Y and retention of the Baby Boomers require structures and organizations that readily acknowledge the generational differences of the different groups. Healthcare organizations and professional groups need to focus on ways to attract the Generation X or Y workers to the positions that are and will be vacated by the Baby Boomers. Rewards, salaries and benefits such as paid time off, flexible work arrangements and recognition programs may become more critical.

Our ability to thrive as a profession relies on our ability to attract, recruit and retain the best candidates for the important role of ICP. We also need to ensure that as the Baby Boomers leave the workforce that we explore ways to continue to engage with them and utilize their vast experience and knowledge especially as IPAC challenges continue and new and emerging bacterial and viral threats grow.
Are we ready?

1 *http://www.brainyquote.com/quotes/quotes/r/ronaldreag402022.html* accessed April 3, 2013
2 *https://secure.cihi.ca/estore/productFamily.htm?pf=PFC2016&lang=en&media=0* accessed April 3, 2013
3 *http://www.fdu.edu/newspubs/magazine/05ws/generations.htm* accessed April 3, 2013
4 *http://www.apa.org/monitor/jun05/generational.aspx* accessed April 3, 2013

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Evaluation of ATP biolluminescence measuring system for monitoring hospital discharge cleaning

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ABSTRACT

Background

Effective cleaning in healthcare facilities plays a significant role in reducing healthcare-acquired infections (1-3). Monitoring adherence to protocols is an important component of an environmental cleaning program (2-4). The ATP monitoring system is based on the measurement of adenosine triphosphate (ATP) in the environment, which is relative to the amount of bioburden present (4-6). An ATP measuring system was evaluated as a tool to assess isolation and routine (non-isolation) discharge cleaning at Hamilton Health Sciences (HHS), a large teaching hospital consisting of three acute care sites, one Regional Cancer Center and two Rehabilitation/Chronic Care facilities with over 1000 beds.

Method

An ATP measuring system was used to evaluate the cleanliness of six surfaces (bed rail, commode, bed table, grab-bar, call bell and pressure cuff) following discharge cleaning on clinical units over a 90-day period. Each of the target surfaces was tested prior to cleaning to establish a benchmark that was compared with the manufacturer's threshold prior to the evaluation. A self-contained sampler was used to swab each surface. Each sampler was inserted into the ATP instrument to obtain a numerical reading in relative light units (RLU) which is proportional to surface cleanliness. The value was interpreted as pass (<150 RLU), marginal (150-300 RLU) or fail (>300 RLU) based on the manufacturer's established thresholds. Immediate feedback was provided to the cleaning team and cleaning was repeated for marginal or failed readings. All results were uploaded to a software program for further analysis.

Results

A total of 196 targets were tested following isolation (99 targets) and routine (97 targets) discharge cleaning. Overall, 25 targets (25%) from isolation rooms and 45 targets (45%) from routine rooms failed the ATP testing post cleaning.

Discussion

Initial data analysis showed that the isolation rooms had a higher cleaning pass rate after discharge cleaning than routine rooms. This is likely related to the operational structure of the cleaning teams and their roles and responsibilities. A further review of data showed a collective improvement over the 90-day period during which the ATP measuring system was used to monitor cleaning.

Conclusion

The ATP method was quick and easy to use and provided immediate results for feedback and corrective action. This method compliments our current fluorescent marker audit process which is impractical for monitoring discharge cleaning due to pressures related to patient flow, high bed occupancy rates and turnover of beds.

BACKGROUND

Contamination of environmental surfaces in healthcare facilities contributes to the transmission of healthcare-acquired infections (1-3). Monitoring cleaning practices and adherence to protocols is an important component of the environmental cleaning service (CSS) program at Hamilton Health Science (HHS), a large teaching hospital comprised of three acute care sites, a regional cancer center and a rehabilitation/chronic care facilities with over 1000 beds. The fluorescent

marker has been the primary method used to monitor daily cleaning practices on clinical units. However, this method proved to be impractical for auditing discharge cleaning due to pressures related to patient flow, high occupancy rates and turnover of beds. This led to the evaluation of an ATP measuring bioluminescence system, Neogen AccuPoint™, a quantitative and rapid test method to monitor the effectiveness of environmental cleaning. ATP is a compound that is present in all living cells including organic matter and many microorganisms (4,5). The amount of ATP detected from environmental surfaces after cleaning is related to residual bio-burden and is an indication of cleanliness. The ATP measuring system was used to assess discharge cleaning at the HHS Juravinski Hospital site, a 300-bed acute care hospital. This evaluation was a collaborative initiative by the HHS environmental cleaning and infection prevention and control teams.

METHOD

The ATP measuring system was used to assess patient room discharge cleaning on all clinical units over a 90-day period. Six frequently touched surfaces (bed rail, commode, bed table, grab-bar, call bell and pressure cuff) were selected for the post-cleaning evaluation. Each of these surfaces was tested multiple times to establish a pre-cleaning benchmark that was compared with the manufacturer's thresholds. Patient rooms were randomly selected by the CSS team leader when a discharge clean was requested by the clinical unit. The type of discharge cleaning was further defined to distinguish a routine discharge from an isolation discharge clean which requires enhanced cleaning procedures. Cleaning efficacy was assessed within 10 minutes of completion. Following discharge cleaning, the ATP sampler was removed from the cartridge and used to swab a standardized area appropriate for the size of each surface. The sampler was inserted back into the cartridge (Figure 1) and activated to release a buffer solution which flushed the residual ATP from the tip of the sampler onto a pad impregnated with a chemical substrate. The reaction between the residual ATP and the chemical substrate resulted in the emission of light. The sampler/cartridge was immediately placed in the hand-held luminometer chamber to measure the amount of light produced by the reaction. The numerical reading, expressed as relative light units (RLU) is proportional to surface cleanliness. Using the manufacturer's established thresholds, the value was interpreted as pass (<150 RLU), marginal (150-300 RLU) or fail (>300 RLU). Immediate feedback was provided to the cleaning team and cleaning and testing was repeated for marginal or failed results. All results were uploaded to the ATP Data Manager Software program for further analysis.

> "The ATP bioluminescence method is particularly suited for auditing the cleaning of porous surfaces and patient equipment."

RESULTS

The ATP results were categorized by clinical unit, type of discharge cleaning, surface targets, and housekeeper for review. A total of 196 surface targets were tested using the ATP method following isolation (99 targets) and routine (97 targets) discharge cleaning. In general, 25 (25%) surfaces in rooms after an isolation discharge clean and 45 (45%) surfaces in rooms after routine discharge cleaning failed (>300 RLU) the ATP bioluminescence testing. Additionally, there were a total of 37 surfaces that produced marginal (>150 – 300 RLU) results post cleaning, 18 from isolation rooms, and 19 from routine rooms.

DISCUSSION

The ATP measuring system is a practical tool for auditing discharge cleaning, especially when faced with high occupancy rates and bed turnover pressures. The ATP test results were instantly available and allowed immediate feedback and education to front line staff after cleaning. Areas of inadequate cleaning (>150 RLU) were quickly identified and repeat cleaning and testing was conducted. The ATP bioluminescence method is particularly suited for auditing the cleaning of porous surfaces and patient equipment, such as blood pressure cuffs and commodes which are difficult to thoroughly assess using the fluorescent marker method. The data was uploaded from the hand-held ATP instrument to the Data Manager Software program for analysis. The software program is a key component of the measuring system and allows the user to define and enter criteria, set parameters and generate reports. The test records were organized by the type of discharge cleaning, surface area, clinical unit, housekeeper, date, time and numerical value which was interpreted as pass, marginal and fail.
An initial review of the data showed

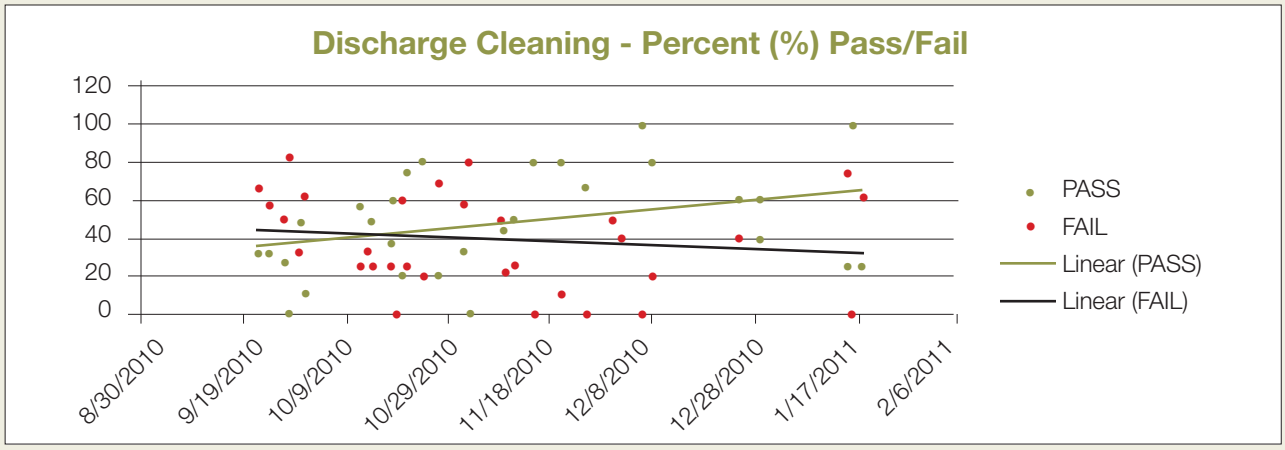

Figure 1: Discharge cleaning ATP testing pass/fail

that there were opportunities for improvement within the discharge cleaning process. It was also noted that there was a higher pass rate following discharge cleaning of isolation rooms compared to the discharge cleaning of non isolation rooms. This is likely related to the operational structure of the environmental cleaning teams and their roles and responsibilities. The cleaning staff are separated into two distinct groups with specific responsibilities: one group is based on the clinical unit and is responsible for daily and routine discharge cleaning as well as meal tray delivery and other customer support functions while the second group is primarily responsible for hospital wide isolation discharge cleaning. During peak discharge periods, the latter may be assigned to perform routine discharge cleaning as well. This operational difference may explain the discrepancy noted between the two groups and demonstrate that a focus on cleaning without other demands or distractions could affect performance.

Further analysis of the data revealed the benefits of using this tool to monitor cleaning practices as there was an incremental improvement in both groups over the 90-day period during which the ATP measuring system was used as shown in Figure 1.

The ATP bioluminescence measuring system is a useful tool when applied immediately after cleaning to assess cleaning effectiveness, however, it is important for healthcare facilities to understand the limitations of its application. The outcomes of ATP testing cannot be directly correlated to microbial contamination and infection risk. Although the ATP value indicates acceptable cleanliness, low numbers of viable pathogenic organisms which can contribute to healthcare acquired infections may be present. It is also important to note that some microbes such as viruses which are a concern in healthcare settings do not produce ATP. Conversely, ATP values that indicate a dirty surface and high residual organic matter may be free of pathogens. Lastly, the results of ATP testing vary between commercial measuring systems and a standardized ATP bioluminescence breakpoint has not been established to determine acceptable cleaning for the healthcare industry.

CONCLUSION

This evaluation emphasizes the importance of conducting audits and providing immediate feedback and education to cleaning teams for corrective action and quality improvement. The ATP bioluminescence measuring system is useful for establishing the level of cleanliness achieved by discharge cleaning practices in healthcare facilities and compliments the fluorescent audit method. The ATP Data Manager Software program is an added benefit that allows the user to electronically capture data, analyze results and generate reports. A multi-modal monitoring approach is ideal to ensure a comprehensive and cost effective assessment of environmental cleaning processes and employee performance.

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The effectiveness and the retention level of the competency-based training for infection prevention and control practices

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ABSTRACT

Outbreaks of infectious diseases in healthcare facilities have emphasized the need for adherence with standardized Infection Prevention and Control (IPAC) procedures. In most facilities training is provided at the time of employment, however, there is no evaluation of its short- and long-term effectiveness. Our aim was to assess the effectiveness of IPAC training among healthcare workers. We found that knowledge of infection control practices increase with training and retention levels decrease rapidly over time.

INTRODUCTION

Recent infectious disease outbreaks in hospital settings have highlighted the need for healthcare personnel's (HCP) safety training. In Ontario, Canada, the Campbell commission established to evaluate the Severe Acute Respiratory Syndrome (SARS) outbreak recognized that HCPs infection prevention and control (IPAC) education is an integral feature of the effective staff safety strategies in healthcare settings (1). Beginning in July 2003, all staff at St. Michael's Hospital (SMH) were trained in IPAC techniques using a competency based certification program (4). The training reviewed both the knowledge level and the hands on practices for general and disease specific IPAC precautionary measures. During the immediate years following the initial education program at SMH an increased staff satisfaction and lower rates of healthcare-associated infections (HAIs) were noticed, however ongoing deficits in staffs' knowledge about methods of prevention and modes of transmission were identified during daily surveillance, regular audits and small group discussions. These observations led the IPAC team to conduct multiple in-services and focused education sessions and catalyzed the discussions around development of additional and ongoing training policies.

Based on the available external guidelines, IPAC training should ideally be administered either every four years or when a new practice is introduced (3, 5). However, the optimum frequency to administer IPAC training programs is not a well-studied area. Our aim was to evaluate the effectiveness of the training program for IPAC practices and to provide an educated estimate for the re-certification program based on the staff knowledge retention assessment.

METHODS

SMH is a tertiary care center in Toronto, Canada. All healthcare workers including nurses, professional practice and allied health personnel, housekeeping and administrative and support staff, excluding physicians; participated in a mandatory training program beginning in July 2003 (physicians were certified through a self-learning program). The majority of the SMH staff were certified by October 2005. Random HCP with various occupations and from a mixture of units of the hospital were surveyed. The pre- and post-training questionnaires and a similar survey designed to determine knowledge retention, included elements that captured knowledge and practice of and attitude about infection prevention (Image 1). Pre- and post-surveys were administered to new hires before and after the IPAC orientation sessions during the study period. The retention questionnaire was administered to staff that were certified at least one year and up to three years from the time of initial certification. Survey questions were determined based on the key messages within the SMH IPAC policies and procedures and the national standards or guidelines on infection prevention and control (12).

Pre- and post-tests were administered anonymously and on a voluntary basis from October 2006 to March 2007 and participants were informed of the purpose of this quality improvement study. Both surveys included five multiple-choice questions. Each question was given one point. Points were added to give a maximum score of five.

STATISTICS

Descriptive statistics and comparative analysis were performed using SPSS version 13 (SPSS Inc. Chicago, IL). Differences between the knowledge level of the pre- and post-survey participants, was tested using the Wilcoxon Signed Rank test for two related samples. Mann-Whitney statistical process was used to evaluate the difference between knowledge level between the posttest survey participants and the retention test participants.

RESULTS

Over all 86% (4,569) of the hospital's staff were trained by September 2007. A total of 207 pre-test surveys and 244 post-test surveys were completed during 12 training sessions throughout the study period. Ninety-three retention surveys were completed through distribution to the selected units during the study period. Mean scores were not distributed normally (Figure 1) for pre and post or the retention level tests. Sixty-eight of the pre-test takers (32.8%), 131 of the post-test takers (53.6%) and only three of staff that submitted the retention test (0.03%) correctly answered all questions. Four surveys were considered invalid because not all questions were answered.

The average score before training was 2.86 (95% CI: 2.72-3.01; $P< 0.0001$). The average score after training workshops was 3.26 (95% CI: 3.11-3.36; $P< 0.0001$). The retention survey takers scored an average of 2.4 (95% CI: 2.25-2.55; $P<0.0001$) (Table 1). Evaluation of the rank table indicated that where 20 of the participants scored less after the training sessions, 376 did better on the post-test. A considerable difference between the knowledge level of the two stages of the surveys taken before and after the workshop was identified ($P< 0.0001$). The knowledge retention level at one year or greater after initial training was significantly lower when compared with the knowledge of the post-test takers. This was demonstrated by a mean rank of 102.22 vs. 192.69, ($P<0.0001$).

DISCUSSION

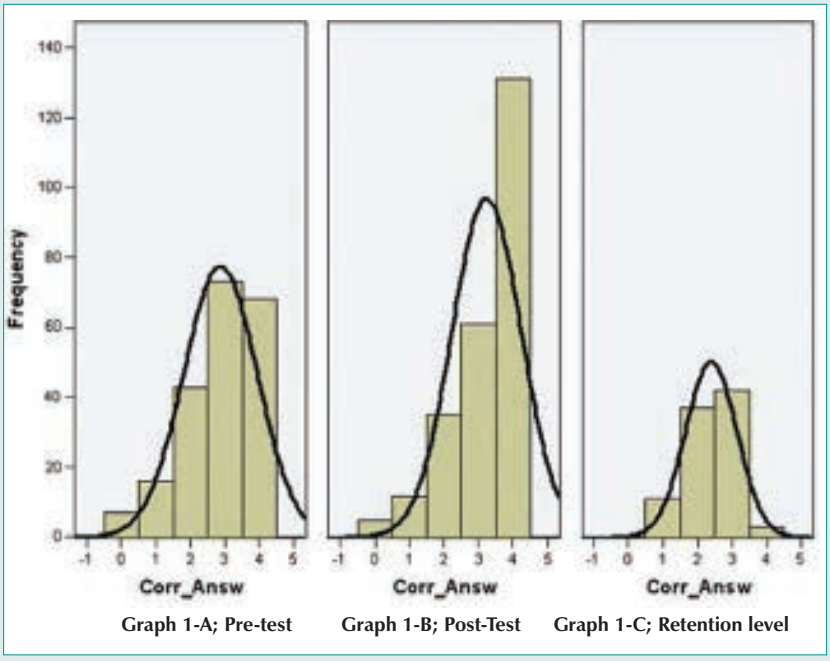
Compliance with infection prevention practices is key to protecting HCPs and patients. We found that our intensive training program enhanced knowledge about the infection control practices among HCPs in the short term but had little long-term impact. Adherence with infection control practices is critical as it is associated with reduced HAI rates (24) and an increased staff satisfaction and sense of safety (13). Other investigators have noted the positive impact of such safety training on knowledge, leading to a safer work environment (14). We found that the knowledge retention drop in health workers that were tested at least a year after initial training is suggestive of the need for re-education at shorter intervals. Therefore, it is prudent to propose that the infection control training should become a part of the annual mandatory practice reviews along with other workplaces' safety trainings such as WHMIS (15).

The complexity and the rapid advancements in the medical and clinical field in addition to the competing priorities in real clinical settings can be some of the elements contributing to the decline in the knowledge level of staff. Therefore, innovative method to increase the uptake of information is an essential part of the safety educational programs. One study conducted among nurses found that educational modules were more effective when the nurses' needs were included in structuring their components (23), therefore further studies to divulge field-specific needs of healthcare workers must be conducted in order to customize the curriculum development for each health discipline. Employment of simulation techniques can help identify frequent breaks in practices and their impacts in a real but risk-free environment (16, 17). These findings could attribute to the curriculum development in specific for the recertification programs. Application of behavioural modeling such as observation of a role model, modeling of practices and feedback to influence and change behavior may augment retention of knowledge (14). Coordinated alignment of educational material with the transition to evidence-based medicine as well as application of social marketing methods to the education programs also may maximize the influence and the diffusion level of the education sessions (18, 19). Development of a portable, multimedia, age and knowledge appropriate method of education delivery that addresses the need for interaction and communication amongst various members of the clinical team has also been found to influence the learning outcomes (4, 14, 20). Further-

TABLE 1. Analysis of the pre, post and retention level survey takers:

Survey takers	Mean	95% CI		Median	Variance	Std. Deviation
		Lower-Bound	Upper-Bound			
Pre-test	2.86	2.72	3.01	3.00	1.13	1.066
Post-test	3.23	3.11	3.36	4.00	1.01	1.006
Retention level	2.4	2.25	2.55	2.00	0.547	0.739

FIGURE 1 A, B & C: Distribution of scores in each survey: pre-test, post-test and at least one year after initial training. The test scores range from 0-5 (scores of the tests are shown on the *x* axis), with 5 being the highest. Sixty-eight of the pre-test takers (32.8%), 131 of the post-test takers (53.6%) and only three of staff that submitted the retention test (0.03%) correctly answered all questions (frequency of the test takers shown on the *y* axis).



Graph 1-A; Pre-test Graph 1-B; Post-Test Graph 1-C; Retention level

more, introduction of a team and problem-based learning approach mixed with the simulation technology to embrace the multiplicity and the interdependencies in the clinical environment (21, 22) can also positively impact the educational outcomes. At St. Michael's Hospital several initiatives such as unit-based in-services, online and computer-based learning modules for infection prevention and control, and topic-specific trainings such as the hand hygiene program were implemented to remedy the drop in knowledge retention.

Our study had several limitations. First, we did not consider the specific learning needs of the various units and could not stratify by potential variables which would impact results such as the health disciplines of the participant. Nonetheless, we were able to attract a significant number of respondents. Second, to bolster our response rate, we also administered the retention test to the units who were more enthusiastic about the initial training program. This may have skewed our results and favoured the impact of our intervention. Additionally, we did not adjust the analysis for the effect of the time on the retention level. This is a critical issue in measuring the impact of educational interventions. Despite these limitations, there is room for further research on the contributing factors that increase knowledge retention and promote improved infection prevention practices. These research questions can be addressed through the systematic assessment of such programs especially those that promote improving knowledge to impact action cycles and influencing knowledge action through knowledge creation (25).

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Image 1: Survey used to evaluate the knowledge level, pre, post IPAC training sessions and after the time interval to estimate the retention level

QUALITY IMPROVEMENT SURVEY: INFECTION PREVENTION & CONTROL – CERTIFICATION

Dear Participants: Please assist us in improving the method of the delivery, content and structure of our sessions by responding to this survey:

1. Infections are mainly spread through_____Transmission.
   a. Airborne
   b. Droplet
   c. Contact
   d. Vectorbornne

2. _____is the most important measure to reduce the risk of transmitting nosocomial (hospital acquired) infections.
   a. Hand washing
   b. Personal Protective Equipment
   c. Isolation
   d. Disinfecting with alcohol swabs

3. If you are exposed to blood or body fluids or receive a needle stick injury, the first step is to:
   a. Notify your supervisor
   b. Wash the area with soap and water
   c. Complete an incident report
   d. Go to the Employees' Health Unit

When entering a patient room that is in isolation for MRSA which one of the following precaution is not required?

   d. Isolation gown
   e. N95 mask
   f. Surgical (procedure) mask
   g. Gloves

4. _____ Precautions must be used when patients present with fever and respiratory symptoms (i.e. cough, shortness of breath) or a diagnosis of community-acquired pneumonia.
   a. Contact
   b. Routine
   c. Airborne
   d. Respiratory and contact

**** The terminology used in this survey is based on the terms used in organizational-specific policies of St. Michael's Hospital, Toronto***

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ABSTRACT

Background
Infection prevention and control is integral to safe, effective and ethical nursing practices. Maintaining clean equipment in healthcare settings is key to infection control, but non-critical equipment is often overlooked. A Holland Bloorview nurse and an infection prevention and control professional (ICP) collaborated on a project to develop a patient safety initiative project plan that would meet the requirements set out by the College of Nurses of Ontario (CNO) and Accreditation Canada on cleaning and disinfecting non-critical equipment.

Method
A survey asking nursing staff about their practices of cleaning equipment between patients was undertaken. The majority did not clean/disinfect non-critical items such as portable blood pressure machines. Most were aware that they should clean/disinfect, but they did not have access to disinfectant wipes. An education plan was developed and the tag line "Get tough, clean your stuff!" caught the attention of staff. Other departments and services were enlisted to help in the project. Brackets were installed on all portable monitoring devices for the disinfectant wipes. Adenosine Triphosphate testing (ATP) was done on the portable equipment pre/post disinfection.

Results
Audit results pre/post cleaning were shared with staff. Nursing received the presentation well and felt that the point of care access to the disinfectant wipes was not only a good reminder, but also provided the necessary tools to do the job. A post audit was carried out and even though the results were not 100% they were better than before. Audits are ongoing.

Lessons learned
Having nurse leaders provide infection prevention and control (IPAC) education to their peers and finding solutions helped to make this project successful.

KEY WORDS:
cleaning, disinfectant wipes, non-critical equipment, transmission of infection, ATP testing

INTRODUCTION

Holland Bloorview Kids Rehabilitation Hospital (HBKRH) is a 75-bed stand-alone pediatric rehabilitation hospital in Toronto. It is Canada's largest children's rehabilitation teaching hospital. Holland Bloorview serves approximately 7,000 children each year, and averages 600 inpatient admissions and 52,000 outpatient visits.

The "Get Tough, Clean Your Stuff!" campaign was initiated following a review of nursing staff cleaning practices of vital sign equipment in the inpatient and outpatient units. The literature confirms that failure to clean and disinfect non-critical equipment between patients can be a significant source for the transmission of hospital acquired infections (1).

Health Canada states, "Failure to use disinfection products or processes appropriately has repeatedly been associated with the transmission of healthcare associated infections (HAI)" (Health Canada, 1998) (2). In Canada, it has been estimated that 220,000 incidents of HAI occur each year, resulting in more than 8000 deaths (3). The fear of acquiring an HAI may impact patient and community confidence in the delivery of health care. The impact

of infection is also economic, as it is estimated that antibiotic-resistant organisms increase the annual direct and indirect costs of health to Canadians by an additional $40 to $52 million in Canada (4). Patients with one or more HAI during in-patient stay remain in the hospital and incur costs on average three times greater than uninfected patients (5).

METHOD

A total of 44 nurses from the three inpatient units, respite camp, day patient unit, and outpatient clinical areas were polled regarding their cleaning of blood pressure cuffs, thermometers, and stethoscopes between patients. An observational audit was also conducted to capture the reality of the cleaning practices of the nurses within the hospital.

ATP testing was carried out to gauge the bacterial load on the vital sign equipment. Without prior warning and during the middle of a normal work day, a blood pressure cuff, a nurse's stethoscope and a pulse oximeter were randomly chosen on one of the inpatient units for testing. ATP testing was re-done on the vital sign equipment after being wiped with a bactericidal wipe to test its effectiveness. Based on ATP testing results, the bactericidal wipes were effective at reducing the bacterial load on the vital sign equipment.

Bracket attached to portable monitoring device.

> "The nursing staff was receptive to the campaign, and indicated that the point-of-care access to disinfectant wipes was not only a good reminder, but also provided the necessary tools to comply with the new process."

An educational plan with the tag line "Get Tough, Clean Your Stuff!" was developed and presented to the nursing staff. Nurses were educated using a PowerPoint presentation. The presentation included a review of terminology, review of the chain of infection, the CNO IPAC Practice Guidelines and standards and how they pertain to the nurse's responsibility to cleaning non-critical equipment, statistics, the audit results, the ATP results, the hospital policy for cleaning of non-critical equipment, and how to clean non-critical equipment. To catch the attention of the staff, large posters were hung on each unit at the launch of the "Get Tough, Clean Your Stuff!" campaign.

Brackets were installed on all portable monitoring devices for the disinfectant wipes to promote point of care cleaning (see picture to the left). Mini posters were attached to the portable vital sign equipment and other non-critical devices to give the staff a visual reminder to clean items after use (see picture on page 22).

Post audits were conducted to measure compliance and to evaluate if a change in practice had occurred.

RESULTS

Prior to the launch of the project, the verbal poll and the observational audit confirmed that nurses at Holland Bloorview have not incorporated cleaning non-critical items, in particular- vital sign equipment, after patient use into their practice (see Table 1).

The ATP testing results showed that there was an unacceptable bacterial load on all of the items tested. Any result under 30 reactive light units (RLU) is acceptable. The blood pressure cuff tested 112 RLU. The stethoscope tested 78 RLU and the oximeter tested 732 RLU. After cleaning the items with a bactericidal wipe, the BP cuff tested 9 RLU, the stethoscope tested 10 RLU and the oximeter tested 4 RLU. This testing, therefore, also showed that wiping the items with a bactericidal wipe was very effective in reducing the bacterial load to safe, acceptable levels.

The nursing staff was receptive to the campaign, and indicated that the point-of-care access to disinfectant wipes was not only a good reminder, but also provided the necessary tools to comply with the new process.

A post audit was carried out. Although nursing staff practice has improved greatly by incorporating cleaning of equipment between patients, we haven't yet achieved 100% compliance. Audit results show an average of 80% pre-use and 84% post-use.

To sustain high rates of compliance, monthly audits have been completed and feedback is provided to the nursing staff and their managers as they continue to strive towards excellence.

DISCUSSION

IPAC is integral to safe, effective and ethical nursing practices. Ensuring the use of IPAC measures is an important component of nursing. The CNO practice standards document states that proper hand hygiene is the single most important IPAC practice (6). At Holland Bloorview and around the world (7) there has been a significant educational campaign to raise nurses' awareness that proper hand hygiene is essential in reducing contamination and spread of infection. The CNO standard statements for infection control state that nurses meet the standards by

Table 1: Verbal audit results of 44 nurses who responded to the question "Do you clean vital sign equipment between patients?"

ITEM	YES	NO	SOMETIMES
Thermometer	1 (if temporal)	41	2 (if in isolation)
BP cuff	0	42	2 (if in isolation)
Stethoscope	37	5	2

taking all measures necessary to prevent the transmission of infection from the nurse to clients and or other healthcare providers (8). If nurses follow proper handwashing techniques but fail to decontaminate equipment, then it is still possible to spread infections between patients. The challenge for safe, clean care for our patients must extend beyond our hands to the equipment and objects that are frequently touched by our hands and that of our patients' bodies. Equipment that comes into direct patient contact can act as reservoirs or vehicles for organism transmission (9). Numerous studies have shown that stethoscopes, pulse oximeters, and blood pressure cuffs do become contaminated with bacteria, can harbour bacteria, and can pass it on to the next patient (10-14).

It was important to address our IPAC practices of cleaning non-critical equipment in our hospital setting to ensure the safety of our patients. At HBKRH the patient population is comprised of children with complex, chronic medical conditions that require round the clock care. For example, many of our children are immunologically compromised, such as our tracheotomy and ventilator-dependent patients and post-surgical oncology and orthopaedic patients.

The nursing staff was receptive to the education received via a PowerPoint presentation and time for discussion. They were astonished at the results of the ATP testing which showed a large bacterial load on the equipment they use every day to assess their patients. The nursing staff was equally impressed with the effectiveness of the antibactericidal wipes to clean the equipment. It became apparent to the nursing staff the role they must play in keeping our patients safe by simply wiping the equipment before and after use. The nurses also commented that having the antibacterial wipes at point of care would not only make it easier to clean the equipment, but was also a visual reminder.

After the education was given to the nursing staff, audits were carried out. The results showed that there was a great improvement from not cleaning non-critical equipment to 80% compliance pre-use and 84% post-use. In discussion with the nursing staff it was noted that although they are aware of when to clean the non-critical equipment, they assume that their colleagues have cleaned the equipment prior to their using it on their patient. Nursing staff were re-educated that it was important to clean the non-critical equipment pre- and post-use. The importance of cleaning non-critical equipment is in the process of being incorporated into nursing orientation.

Even though the scope of the project was focused on the inpatient unit, the value of expanding to the outpatient department became apparent. As a result, the education and awareness campaign was initiated in the outpatient department the following month. It is also noted that this education needs to go beyond the nursing profession to the other healthcare members in the hospital.

The fact that it was fortunate to use the ATP testing equipment brought to light the reality that pathogens exist on basic patient care equipment and cleaning will reduce transmission of these pathogens to our patients.

Other critical success factors for this campaign include the support and enthusiasm from management, the timeliness of the project (coincided with compliance for accreditation), having dedicated time for the infection control practitioners to research, develop and implement a plan and see results and/or other areas that could be impacted, and the support and help from other departments (resource centre, communications, building services and environmental services).

CONCLUSION

Cleaning of monitoring equipment is frequently overlooked as an IPAC measure, and ICPs have a responsibility to put policies and procedures in place to ensure that non-critical equipment are cleaned between patients. Nurses need to be familiar with the practice standards of their profession. Organizations need to ensure that the appropriate products are readily available to use at point of care. To protect our patients and give safe clean care, we need to educate nurses and all healthcare professionals about the necessity of cleaning equipment between patients to decrease the transmission of potential harmful organisms.

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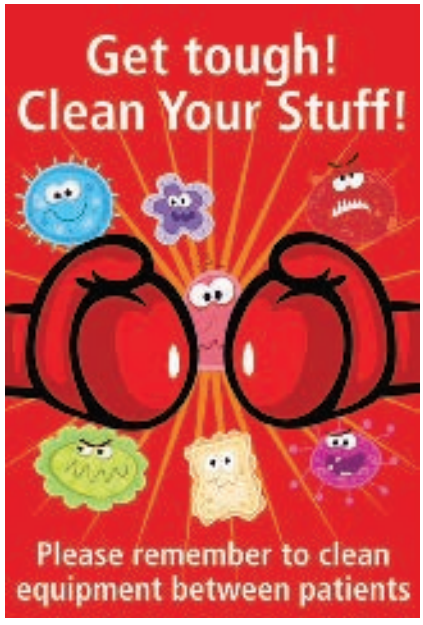

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CHICA-CANADA NEWS

Inside:

2013 CHICA-Canada Annual General Meeting

NOTICE IS HEREBY SERVED that the Annual General Meeting of the Community and Hospital Infection Control Association – Canada will be held on Wednesday, June 5, 2013 at Ottawa Convention Centre (Trillium Ballroom), Ottawa, Ontario, 0700 hrs. CHICA-Canada members must register and pick up voting card before entering the AGM.

Members may vote on business arising at the AGM by proxy using Form #15 which must be submitted to the Secretary/Membership Director at the CHICA-Canada office no later than Wednesday, May 5, 2013. Agenda notification will be forwarded by email in April. The official 2013 Form #15 will also be circulated in April.

Secretary/Membership Director

CHICA-Canada
PO Box 46125 RPO Westdale
Winnipeg, MB R3R 3S3

Fax: 1-204-895-9595
Email: *chicacanada@mts.net*

Wednesday, June 5, 2013 at Ottawa Convention Centre (Trillium Ballroom)

2013 National Education Conference

We wish to thank our generous sponsors for their support of the 2013 CHICA-Canada conference (*at time of printing*):

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June 1-5, 2013, Ottawa, ON

2013 National Education Conference

Host Chapter: CHICA Ottawa Region

CONFERENCE HOTEL

The Westin Ottawa
Deadline for Reservations: April 26, 2013.
Mention Community and Hospital Infection Control Association when making reservations.
$222.00 Single/Double Plus 13% HST
For reservations, contact 1-800-WESTIN-1 or go to the CHICA-Canada/Westin Registration page at *https://www.starwoodmeeting.com/StarGroupsWeb/res?id=1212102597&key=BC5C4*

SESSION UPDATES

Pre-Conference Day, Sunday, June 2 – Morning Session Added
Pre-Conference Day – Morning Session #2 Routine Practices Additional Precautions Education Tool
In collaboration with the Public Health Agency of Canada
The objectives of this half-day session are to provide an overview of the revised PHAC guideline for Routine Practice and Additional Precautions (RPAP) for Infection Prevention and Control Professionals (ICPs); to include examples from companion documents (RPAP tools) to assist ICPs with staff education and implementation of recommendations; and to include HAI surveillance activities and findings relevant to RPAP.
Presenters: *Laurie O'Neil, RN, BN, Public Health Agency of Canada*
Linda Pelude, MSc, Public Health Agency of Canada

Keynote Speaker, Monday, June 3
Due to a scheduling conflict, Sir Liam Donaldson will now present on "Global Patient Safety" on Tuesday, June 4 (0830-0930). Dr. Martin Wale will present as the Keynote Speaker on Monday, June 3 (0830-0915), followed by a Panel and Next Steps (0915-1100). Dr. Yves Longtin will now present his session "100% Solution" on Monday, June 3 (1100-1200).

Ask the microbiology expert
Do you have a microbiology-related question about collection, results, analysis or other aspect?
Submit your pressing microbiology questions for the experts, Drs. Baldwin Toye and Marc Desjardins.
One submission will receive a complimentary registration to the 2014 CHICA-Canada National Education Conference.
Submit questions to *chicacanada@mts.net* no later than May 1 2013.

SPECIAL EVENTS

CHICA Ottawa Region Meet & Greet
Monday, June 3: 5:00-7:00 p.m.
Ottawa Convention Centre (Parliament Foyer)

Sightseeing Tour of Ottawa
Monday, June 3: 6:30-8:30 p.m.
Closed double-decker bus leaves from Westin Ottawa.
Registration deadline: Saturday, June 1

Dinner Symposium
Monday, June 3: 7:00-8:30 p.m.
Westin Ottawa (Room TBA)
$25 per person
Registration deadline: Saturday, June 1

Canadian Museum of Civilization
Tuesday, June 4
Buses leave Westin Ottawa at 6:00 p.m.; returning approximately 10:00 p.m.

Cash bar
$100 per person
Registration deadline: Monday, June 3
No refunds after Sunday, June 2

Follow Us

CHICA CONFERENCE ON TWITTER!

Follow tweets related to the 2013 CHICA-Canada conference on Twitter! Click on the Twitter icon at the top of our website (*www.chica.org*) to follow @CHICACanada, and use **#CHICACanada2013** to follow and post your own tweets.

Vendors and delegates alike will be able to communicate prior to the conference, and on site, in real time!

Registration brochure and registration form now available.
Online registration now open *www.chica.org*

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8th Annual Run for IFIC

Monday, June 3, 2013 – 6:30 am

BREAKFAST FOR RUN/WALK PARTICIPANTS ONLY
Westin Ottawa (Governor General I)
7:15-8:15 a.m.

Breakfast sponsored by deb

Deb Canada has once again created a Facebook page for the IFIC Run. See it at *http://on.fb.me/13ofb9j*. Show your support for Braveheart, Slayer of Germs, as he makes his triumphant return this year! Join the group, share photos! Most importantly, generously sponsor a runner, and help CHICA-Canada and IFIC aid Infection Control Professionals in developing countries.

Fun 5 km Run or 2.5 km Walk

Monday, June 3, 2013 – 6:30 am

Check-in at the Westin Ottawa Lobby will open at 5:30 a.m.
Leaving from Westin Ottawa

The 2013 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.

Please help IFIC in its efforts to support Infection Prevention and Control Practitioners. Collect sponsors, then come and run or walk with us on a beautiful route along the Rideau Canal. Registration will be at the Westin Ottawa. Look for the Run for IFIC table in the lobby of the Westin Ottawa. Starting point and route to be announced.

Prizes will be awarded for the fastest runners and walkers, as well as the person who raises the most sponsorship dollars. Help us reach our net goal of $3,000.00. Entry fee and sponsorships paid at registration at the Westin Ottawa. The entry fee is $35.00 for runners and walkers. All participants will receive a race T-shirt. Breakfast will be provided to run/walk participants.

When collecting sponsorship for your run or walk, please present the total sponsorship by way of a cheque made payable to CHICA-Canada. Sponsorship monies and sign-up forms will be collected at race registration. Sponsors will be provided with a charitable receipt from CHICA-Canada. Check-in will open at 5:30 am.

Participants will be required to sign a liability waiver at time of registration. Medical assistance and water will be available en route. Participants are responsible for ensuring their own health and safety while on this run.

CHICA-Canada thanks Jo-Anne Janigan and Michèle Larocque-Levac for organizing this event.

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CIBC celebrates 30th anniversary

CHICA-Canada congratulates the Certification Board of Infection Control and Epidemiology (CBIC) on the 30th anniversary of the CIC exam. The Certification Board of Infection Control and Epidemiology, Inc. was founded in 1981 to protect the public by raising the standard of the infection prevention and control profession through the development, administration and promotion of an accredited certification process. The CIC® certification is held by over 5,200 infection prevention and control professionals working in hospitals, long-term care facilities, ambulatory care centers, and other healthcare settings throughout the world. For more information, please visit *www.cbic.org*.

To read the history of CBIC,
please link to *http://www.cbic.org/enews/2012/1112.php#11*

To see the full list of Board of Directors since 1983,
please link to *http://www.cbic.org/UserFiles/file/CBICPastBoardMembers.pdf*

It will be our pleasure to host the CBIC Board which will meet in Ottawa at the time of our annual conference. A presentation to CBIC will be made at the Opening Ceremonies, followed by greetings from Craig Gilliam, President of CBIC.

ORAL PRESENTATIONS

There will be four concurrent sessions each day.

MONDAY, JUNE 2
2:00 - 3:00 PM

ANTIBIOTIC RESISTANT ORGANISMS

HOW RELIABLE ARE NATIONAL SURVEILLANCE DATA? FINDINGS FROM AN AUDIT OF CANADIAN VANCOMYCIN-RESISTANT ENTEROCOCCI SURVEILLANCE DATA

Stephanie Leduc[1], Robyn Mitchell[1], Linda Pelude[1], Leslie Forrester[2], Jun Chen Collet[3], Elizabeth Henderson[4], Canadian Nosocomial Infection Surveillance Program[1]
[1]*Public Health Agency of Canada, Ottawa, Ontario, Canada,* [2]*Vancouver Coastal Health Authority, Vancouver, British Columbia, Canada,* [3]*British Columbia Provincial Health Services Authority, Vancouver, British Columbia, Canada,* [4]*Calgary Health Region, Calgary, Alberta, Canada*

Background: The Canadian Nosocomial Infection Surveillance Program (CNISP) has conducted surveillance for vancomycin-resistant enterococci (VRE) in sentinel hospitals since 1999. In 2010, a reliability audit of the 2008 data was conducted.
Methods: Stratified random sampling was used to obtain a proportional sample of VRE case forms submitted in 2008 from 36 CNISP hospitals. The original VRE data (paper forms entered into a web based information management system) were compared to re-abstracted data (i.e., chart) for congruence on 16 pre-selected variables. Any discrepancy between the original and re-abstracted data was identified as a discordant response.
Results: Re-abstracted data were received from 35 out of 36 hospitals, providing 97% (n=428) of the 443 case forms requested. Of these, 157 forms (37%) had zero discordant responses, 126 (29%) had one discordant response, 16% (n=70) had two discordant responses and two forms (0.5%) had eleven discordant responses. Among the 35 hospitals, one hospital (2.9%) submitted forms with no discordant responses. Missing responses occurred in <1% of forms. Overall, the percentage of discordant and missing responses was 4.7%, ranging from 1.4% (n=29) for type of infection to 21.7% (n=93) for previous hospitalization.
Conclusions: Overall case forms were complete. However, discordant responses were more likely for variables that require interpretation and judgment or using historical data such as preceding hospitalization. Clearly defining variables and providing applicable response options may improve data quality, especially for those variables that require clinical judgment. As well, the implementation of electronic health records may also improve the reporting of historical data.

UNDERSTANDING THE EPIDEMIOLOGY OF CARBAPENEMASE PRODUCING ENTEROBACTERIACEAE THROUGH VOLUNTARY SURVEILLANCE

Camille Achonu, Samir Patel, Freda Lam, Liz Van Horne, Cathy Egan, Gary Garber
Public Health Ontario, Toronto, ON, Canada

Background: *Enterobacteriaceae* resistant to carbapenem antimicrobials through the production of carbapenemase are known as carbapenemase producing *Enterobacteriaceae* (CPE). The global spread of CPE due to travel and high mortality rates is of concern to hospitals. In December 2011, a voluntary surveillance program was established to assess the epidemiology of CPE in Ontario.
Methods: Hospitals were asked to submit CPE positive isolates to the Public Health Ontario Laboratory for confirmatory testing. Epidemiological data were collected on patients with confirmed isolates and stored in a provincial database. In February 2013, data were extracted and descriptive analyses were performed using SAS version 9.2.
Results: In 2012, 458 isolates were submitted for testing and 82 (18%) were confirmed positive. Among these 82 isolates, 15 were submitted by community laboratories and 13 were repeat specimens from eight patients. Data were collected and analyzed on the remaining 54 patients with isolates submitted by hospital laboratories.
The majority of patients were male (67%) and had an average age of 61 years (median: 67 years, range: 3 months to 92 years). Among those with a known hospitalization history (N=47), 87% were hospitalized within the last 12 months. The most common CPE were New Delhi metallo-B-lactamase-1(NDM-1) producers (46%). Seventy-four percent of NDM-1 positive patients with a known hospitalization history (N=19) were hospitalized outside North America.
Conclusions: Epidemiological data are critical for informing infection prevention and control activities to prevent CPE becoming endemic in Ontario. Early data highlight the risk associated with hospitalization abroad and the importance of admission screening.

VRE: RAMIFICATIONS OF DIFFERENCES IN ISOLATION PRACTICES

Jim Gauthier, Kathleen Poole, Ann McFeeters, Susan McIntyre
Providence Care, Kingston ON, Canada

Issue: In late June 2012, four large tertiary care hospitals in Ontario, including our local hospital, notified hospitals in their catchment area that they were stopping screening and isolating for Vancomycin Resistant Enterococci (VRE). These hospitals were NOT recommending that other hospitals in Ontario follow their lead.
Our Board of Directors mandated that our facility continue to follow published Provincial Infectious Disease Advisory Committee's (PIDAC) recommendations.
Project: Review issues for patients, staff and some of the financial implications of receiving unscreened patients
Results: These issues include:
- Confusion for patients who move back and forth between the two sites (e.g. dialysis patients), requiring isolation at one site, but not at another
- An increase in bed and room changes when admission screening swabs are found to be positive, and patients need to be moved to private rooms, or be cohorted by service, gender and organism
- Hold up of transfers from acute care based on previous microbiology results such as positive bloodstream cultures, with no further screening having been performed.
- Confusion and concerns of patients and roommates of patients discovered to be positive; and time required to counsel and educate them while maintaining confidentiality.

Lessons Learned: Better tracking of costs associated with room moves should have been developed much earlier. More Infection Prevention and Control time is utilized with review of previous microbiology results and talking to newly isolated patients and families. Staff are frustrated with newly found colonization and associated room movement, there is resentment on the differences in practice.

CLINIQUE DE SUIVI POUR PORTEURS DE BACTÉRIE MULTI-RÉSISTANTE

Valérie DesRosiers, Jacynthe Duval
Centre de santé et de services sociaux de Gatineau, Gatineau, Québec, Canada

Enjeu :
- Les usagers identifiés porteurs de BMR (bactérie multirésistante) retournent dans la communauté sans suivi, avec le peu d'informations fournies lors de leur séjour. Cette situation entraine frustrations, craintes, et anxiété chez les porteurs en plus d'engendrer des coûts additionnels variés (temps, argent, humain).
- C'est un projet clinique novateur où l'usager est au coeur des priorités. Le suivi des porteurs est peu discuté dans la littérature et se limite à l'expérience de soins en établissement.

Projet «clinique BMR»:
- Suivi, en externe, aux usagers porteurs
- Informer, diminuer détresse et anxiété
- Procéder aux dépistages de contrôle et au suivi de l'état porteur
- Dresser un portrait/bilan de la clientèle porteuse
- Évaluer le taux de succès/échec de décolonisation
- Meilleure gestion des ressources

Résultats :
- Rédaction du cadre de référence qui clarifie la mission de la clinique, encadre le suivi et présente des outils développés
- Deux années de services complétées avec compilation statistique des suivis et bilan
- Nouvelle persepective : l'expérience de l'usager
- Mise en place d'une collecte de données pour évaluation du profil de la clientèle porteuse: résultats à venir dans le bilan clinique 2012-2013
- Collaboration et partage des connaissances avec: milieux ruraux, cliniques médicales, soins à domicile, centre de réadaptation, autres hopitaux, etc..

Enseignements tirés :
- Besoin de mieux connaître la clientèle
- Besoin de considérer l'expérience de l'usager
- Besoin d'améliorer la divulgation à l'usager
- Besoin d'améliorer l'enseignement à l'usager en milieu de soins (hospitalier, CLSC)
- Besoin d'évaluer la qualité de l'information transmise au sujet des BMR

QUALITY/PROCESS MANAGEMENT

EXPERIENCE LEADING TWO MIXED-METHODS NATIONAL PATIENT SAFETY COLLABORATIVES WITH SAFER HEALTHCARE NOW!

Michael Gardam[1,2], Paige Reason[1], Leah Gitterman[1]
[1]*University Health Network, Toronto, ON, Canada,* [2]*University of Toronto, Toronto, ON, Canada*

Issue: The authors have worked with Safer Healthcare Now! for the past 3 years on two mixed-methods national collaboratives on improving patient safety and decreasing healthcare-associated infections. In recognizing the gap between what we know and what we do in infection control and patient safety, these

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collaboratives use the novel tools of Positive Deviance and Liberating Structures as well as the more traditional tools of the Model for Improvement to promote culture change and patient safety improvements within the participating facilities.
Project: The collaboratives were each 18-months long, and consisted of virtual learning sessions and monthly coaching calls using the Webex platform. A total of 81 healthcare teams from across Canada have participated in these collaboratives.
Results: A significant amount of improvement work has occurred at the front-line healthcare level. Teams have focused on culture and behaviour change, hand hygiene, environmental cleaning and auditing and other areas. The approaches used in these collaboratives have enabled these teams to successfully engage their front-line staff in quality improvement work, and to measure their improvements through data collection and analysis. For example, for those teams that worked on hand hygiene or environmental cleaning, compliance to date has increased by an average of 23% and 12% respectively.
Lessons Learned: These collaboratives have been highly successful in helping teams to gain new ground in quality improvement and patient safety. The techniques used are transferable to quality improvement initiatives outside of infection control, and many teams have already used these approaches for other patient safety issues.

USING PARTICIPATORY PHOTOGRAPHIC METHODS TO IMPROVE HEALTHCARE-ASSOCIATED INFECTION RATES

Natalie Bruce, Chantal Backman, Michèle Larocque-Levac, Angela Wigmore, Saskia Vanderloo
The Ottawa Hospital, Ottawa, Ontario, Canada

Issue: Infection prevention and control (IPAC) quality initiatives (QIs) are essential for decreasing hospital-acquired infections (HAIs) and improving patient safety. At our hospital a QI project was developed to address overall environmental issues contributing to HAIs such as *Clostridium difficile*.
Project: A QI project using participatory photographic methods was piloted between April-December 2012. The pilot team was compromised of QI methodology experts, IPAC, and front-line staff. Four inpatient units were selected based on their interest and a high unit incidence of *C. difficile* infection. A meeting with frontline staff was held to explain the pilot's purpose and details. This was followed by clinician-led walkabouts on each unit where staff photographed the environment, which they considered to be either a positive or negative influence on IPAC practices. Both clinical and non-clinical team members attended follow-up meetings to review the photographs and offer recommendations for solutions.
Results: There were common themes on all pilot units, including a lack of storage space (for linens, supplies, and equipment), and the absence of clear processes for removal of unnecessary or damaged equipment and of meal trays from contact precaution rooms. Storage areas were redesigned to accommodate only functioning and frequently used equipment. Linen storage solutions were created. A process was developed for removing meal trays from contact precaution rooms.
Lessons Learned: Participatory photographic methods are effective in facilitating change and encouraging staff involvement in IPAC practices. Future plans include implementation of this QI on all units and quarterly follow-up walkabouts to monitor success and sustainability.

UNIT-SPECIFIC BED MAPS: ASSESSING THE IMPACT OF AVAILABLE HOSPITAL BEDS ON PATIENT PLACEMENT AND MIXED COHORTING

Elisa Lloyd-Smith, Victor Leung, Howard Green, Azra Sharma, Marc Romney
Providence Health Care, Vancouver, BC, Canada

Background/Objectives: Hospitalized patients are inherently at increased risk for acquiring an antibiotic resistant organism (ARO), especially in situations of mixed cohorting (when patients of different ARO status share a single room). We assessed the degree of mixed cohorting occurring on inpatient medical units at an urban hospital in Vancouver, BC, and the process of feedback to leadership and the patient placement coordinator. The objective of this study was to examine the relationship between mixed cohorting and empty beds.
Methods: A geographical map indicating unit layout was generated for each patient care area. From July 11, 2011, to November 21, 2012, a new map was created and emailed daily (weekdays). Colors were used to indicate the ARO status of each patient. ARO exposures and empty bed information were collected on an electronic spreadsheet on two intervals (July to November) over two consecutive years.
Results: In 2011, a total of 453 patients and in 2012, a total of 402 patients were exposed to an ARO on studied units. The extent of mixed cohorting was reduced when there was an increase in the number of empty beds.
Conclusions: Our findings highlight that mixed cohorting was common at our institution. Mixed cohorting was reduced when the hospital was at, or under, capacity and beds were available for appropriate patient placement. Given the morbidity and mortality of healthcare-associated infections, mixed cohorting should be minimized. This can be a challenge in the context of hospital overcapacity.

EDUCATE, EVALUATE, ANTICIPATE: THE INFRASTRUCTURE AND INFECTION CONTROL EVALUATION PROJECT

Kim Allain, David LeBlanc, Suzanne Rhodenizer Rose, Christian Boudreau
Nova Scotia Department of Health and Wellness, Halifax, Canada

Issue: Following a significant outbreak of Clostridium difficile infection, the provincial infection prevention and control centre identified inadequate hospital infrastructure to support good infection control practices. The Infrastructure and Infection Control Evaluation (IICE) project team was formed between the infection prevention and control centre and infrastructure management within the provincial health department to evaluate infrastructure challenges and educational opportunities in other acute care hospitals.
Project: The team identified the significant infrastructure risk factors within three key areas: sterile processing department (SPD), inpatient care, and endoscopy reprocessing. A weighted matrix was created to evaluate the impact of each risk on a scoring scale. Site visits were conducted to evaluate the key areas, and collaborate with facility infection prevention & control, SPD, environmental services and engineering departments. Observations and opportunities were shared during site visits, during on-site debriefing sessions and in a written report.
Results: The goals of the IICE project were met. Following fifteen site visits in acute care facilities in the province, the IICE project provided opportunity to; educate staff through the collaborative site visits, evaluate, review and compare the existing conditions in the facilities, and anticipate infrastructure project requests related to infection control.
Lessons Learned: The IICE project allowed for improved communication and collaboration within the facilities, and between facilities and the provincial department of health. It allowed for opportunity to prioritize projects with potential infection control implications. The IICE project methodology could be used by other organizations or agencies looking for means to evaluate infrastructure and identify opportunities for improvement to mitigate possible risks.

ENVIRONMENTAL CLEANING AND DISINFECTION

CLEANING IN CANADIAN ACUTE CARE HOSPITALS: CANADIAN HOSPITALS ENVIRONMENTAL SERVICES STUDIES (CHESS)

Dick Zoutman[1,2], B. Douglas Ford[1], Keith Sopha[3]
[1]Queen's University, Kingston, ON, Canada, [2]Quinte Health Care, Belleville, ON, Canada, [3]Homewood Health Centre, Guelph, ON, Canada

Background: The Canadian Hospitals Environmental Services Studies assessed Environmental Services (ES) in hospitals, the contributions of Infection Prevention and Control to ES, and relationships with healthcare-associated infections. This presentation focuses on ES resources and activities.
Methods: ES managers in 201 medium and large acute care hospitals completed an online survey about ES in their hospital. The survey was developed in conjunction with an expert steering committee and was in French and English.
Results: 95 of 201 (47.3%) hospitals responded. 45% of respondents thought there were enough ES staff to adequately clean their hospital. There was one cleaning staff FTE for every 13,062 (SD 12,302) square feet to be cleaned daily. 77% of respondents thought equipment and supplies budgets were sufficient. 62% of hospitals frequently used microfibre cloths and 71% frequently used hepafiltration vacuums in clinical areas. Half of hospitals used toilet bowl brushes in more than one medical-surgical room. 60% frequently used checklists to ensure cleaning tasks were completed on schedule and 65% frequently reviewed cleaning tasks to determine staff ability to meet demands. 76% frequently used bucket immersion for applying disinfectant to cloths. Cleaners' hand hygiene was infrequently audited (34%) and environmental markers (31%) and residual bioburden (15%) were infrequently used to audit cleaning.
Conclusions: Less than half of ES managers thought they had sufficient staff to clean their hospital. Changes to some cleaning and auditing practices are also needed to improve the cleanliness of hospitals.

SIGNIFICANT REDUCTION IN QUATERNARY AMMONIUM CHLORIDE SURFACTANTS EFFICACY DUE TO ABSORPTION BY MICROFIBER CLEANING TOOLS

Salah Qutaishat, Carolyn Cooke
Diversey Inc, Sturtevant, WI, United States

Introduction: There is evidence that contaminated environmental surfaces play a role in HAIs. The compatibility between disinfectants and cleaning materials is usually overlooked. This study was performed to determine the impact of cleaning

tools on the efficacy disinfectants.
Materials and Methods: Microfiber cloths (MC) and nonwoven disposable wipes (DW) compatibility with quaternary ammonium chloride surfactants (quats) and accelerated hydrogen peroxide (AHP) were studied. 20 MC were soaked in a quats (660 PPM) container for 10 minutes. The above was repeated using AHP (2477 PPM). In a third container, 120 DW were soaked in a quats solution (660 PPM) for 48 hours. The MC were removed one at a time and wrung out. Quats and AHP levels in the expressed liquid were then measured. 20 DW were randomly removed from the container and then the level of quats was measured in the expressed liquid from each DW.
Results: Quats levels in the expressed fluid from MC dropped from 660 PPM to an average of 260 PPM (range 220-300 PPM). No change in AHP levels were observed, average 2457 PPM (range 2475-2445 PPM). Quats activity remained unchanged in the DW group with an average level in the expressed fluid of 655 (range 660-645).
Conclusion: Quats levels were significantly reduced when exposed to MC but are not affected by DW. This means that the level of quats delivered to surfaces to be cleaned is suboptimal. It was also demonstrated that AHP levels are not affected by MC.

ASSESSING HOSPITAL CLEANLINESS: VISUAL AUDITING AND ATP BENCHMARKING

Christine Knaus[1], Danielle Drader[0,3]
[1]University of Lethbridge, Lethbridge, Alberta, Canada, [2]Alberta Health Services, Lethbridge, Alberta, Canada, [3]Career Next Generation, Lethbridge, Alberta, Canada
Issue: Environmental Services (ES) play a key role in decreasing transmission of hospital-acquired (nosocomial) diseases. The increase in Vancoymcin Resistant Enteroccocus (VRE) initiated a project that would focus on identifying gaps within ES processes and any factors impacting these gaps. The project was carried out over two years. Part one of the project focused on development of an audit tool that would primarily assess deficiencies in cleaning procedures and processes. Part two of the project focused on a comprehensive literature review on using Adenosine Triphosphate (ATP) as a method to establish an appropriate benchmark for assessing cleanliness of patient rooms.
Project: The project was carried out by selecting six high-touch surfaces (door handle, bed rails, call bell, hand hygiene sink, toilet, and the bathroom sink/tap) in two randomly selected rooms from three different units and then swabbed prior to cleaning commencing, and within 10 minutes of cleaning being completed. Relative Light Units (RLU) values were recorded and compared to the previously suggested benchmark of <250RLU and <500RLU.
Results: In summary the project noted a lack of accountability for cleaning processes. High-touch surfaces are often missed during routine and terminal cleans. ATP monitoring showed that bedrails and toilets often had a higher RLU reading post-cleaning.
Lessons Learned: Post the two-year project an environmental services working group was developed with support across the acute care spectrum. The project also helped to identify the important role that collaboration between ES and IPC plays in stopping the transmission of hospital-acquired organisms.

SODIUM HYPOCHLORITE VERSUS HYDROGEN PEROXIDE. SURE THEY ARE BOTH HOSPITAL GRADE DISINFECTANTS, BUT ARE THEY EQUAL AS CLEANING PRODUCTS?

Barley Chironda, Stephen Cook, Yves Crehore, Jeff Powis
Toronto East General Hospital, Toronto, Ontario, Canada
Background/Objectives: As part of a *Clostridium difficile* (C.diff) Quality Improvement Plan, a large urban community hospital initiated a cleaning process utilizing a sporicidal agent throughout the facility. Switching from HP to SP provided an opportunity to compare the cleaning efficacy of the two disinfectants.
Methods: A multi-disciplinary Process Improvement Working Group (PIWG) was created to explore ways to improve the process of room cleaning. This eventually led to a gradual hospital wide implementation of sporicidal SH wipes as the main cleaning/disinfection agent replacing HP. The efficacy of cleaning was assessed by the use of Adenosine TriPhosphate (ATP) monitoring of CDC recommended high touch services.
Results: PIWGs provided an efficient platform for improvement ideas. Surfaces cleaned with SH wipes had a 75 %(n=1373) pass rate compared to 38% (n=608) with HP cleaned surfaces (p <0.0001). SH audited surfaces failed at 4% compared to 9% with HP.
Conclusions: Cleaning, which is the removal of debris, is critical before disinfection. Our study shows significant differences in the cleaning ability of the SH and HP. These findings are important as it has a potential implication on the usefulness of SH if preventing hospital acquired infections and outbreaks. This insight into the importance of disinfectant/cleaner selection is vital and will serve to transform the guidelines governing product selection.

OUTBREAK INVESTIGATION

FRIDAY OUTBREAKS: FACT OR FICTION?

Chingiz Amirov[1], Ryan Walton[2], Sarah Ahmed[3], Malcolm Binns[4], Jane Van Toen[1], Heather Candon[1]
[1]Baycrest Centre for Geriatric Care, Toronto, Canada, [2]Public Health Ontario, Toronto, Canada, [3]Department of Community Health and Epidemiology, Queen's University, Kingston, Canada, [4]Rotman Research Institute, Baycrest, Toronto, Canada
Background: The notion that outbreaks are more likely to occur on Friday is prevalent among staff in health care institutions. However, there is little evidence to support or discredit this notion. Authors postulated that outbreaks were no more likely to be reported on any particular day of the week.
Methods: A total of 901 institutional outbreaks in Toronto health care facilities were tabulated according to type, outbreak setting, and day of the week reported. A 2 goodness-of-fit test compared daily values for 7-day per week and 5-day per week periods. Post hoc partitioning was used to pinpoint specific day(s) of the week that differed significantly.
Results: Fewer outbreaks were reported on Saturdays and Sundays. Further analysis examined the distribution of outbreak reporting specifically focusing on the Monday to Friday weekday period. Among the weekdays, higher proportions of outbreaks were reported on Mondays and Fridays.
Conclusion: Our null hypothesis was rejected. Overall, Mondays and Fridays had the highest occurrence of outbreak reporting. We suggest that this might be due to "deadline" and "catch-up" reporting related to the "weekend effect," whereby structural differences in weekend staffing affect detection of outbreaks. Such delays warrant re-examination of surveillance processes for timely outbreak detection independent of weekly calendar cycle.

AN INVESTIGATION OF PNEUMOCYSTIS PNEUMONIA IN THE RENAL TRANSPLANT POPULATION

Colleen Weir, Janice Bissonnette, Natalie Bruce, Kathryn Suh, Greg Knoll, Ciera Leeder, Sunita Mulpuru, Todd Fairhead, Baldwin Toye, Connie Twolan, Virginia Roth
The Ottawa Hospital, Ottawa, Ontario, Canada
Background: Pneumocystis pneumonia (PCP) is an opportunistic fungal infection and a significant cause of morbidity and mortality in the transplant population. A cluster of PCP cases occurred among renal transplant recipients in our renal transplant outpatient clinic between November 2011 to October 2012. No cases of PCP had been diagnosed in this population in the preceding years.
Methods: Patient encounters in the renal transplant clinic and laboratory waiting rooms were reviewed. All renal transplant recipients with a laboratory confirmed diagnosis of PCP were included. To detect contacts between patients, all lab and clinic visit dates and times were recorded, and any encounter in the same waiting room within an hour of a known case was considered as a possible exposure.
Results: 10 confirmed PCP cases were identified. Cases occurred a median of 10 years after transplantation, and none of the recipients was receiving prophylaxis. Epidemiologic data strongly suggest nosocomial patient-to patient transmission of PCP in common waiting rooms. As a result of this cluster we have enhanced our febrile respiratory illness screening in both clinic and lab waiting areas. In addition all renal transplant patients followed in our clinic have been offered PCP prophylaxis. Redistribution of the flow of patients through these two waiting rooms is being assessed. Pre-scheduled lab visits in a more spacious area, and pre-registration of patients outside of the clinic waiting room (to decrease contact between patients) are being evaluated. Consideration must be given to layout of outpatient settings, as this can directly impact the risk of transmission.

INVASIVE GROUP A STREPTOCOCCUS INFECTION IN POST-PARTUM PATIENTS

Shasta Gibson, RN, BScN, CIC
Trillium Health Partners - Credit Valley Hospital, Mississauga, Canada
Between December 22, 2012 and January 27, 2013, two cases of invasive Group A Streptococcus (GAS) infection were identified in post-partum patients at a large community hospital in Ontario, Canada. Based on OHA/OMA (2012) guidelines, Infection Prevention and Control (IPAC) and Occupational Health and Safety (OH&S) initiated an investigation to identify exposure and rule out potential hospital acquisition of infection. IPAC investigation was initiated to identify commonalities. Names of staff who worked with both cases were collected and sent to OH&S. A total of nineteen employees were identified to have worked with both cases; 6 of the 13 staff were deemed to not have had contact. 13 staff collected throat and vaginal/rectal swabs to screen for GAS colonization. Specimens isolated from both cases were sent to Toronto Public Reference

Laboratory (TPRL) for molecular typing. Daily education and action plan discussed with staff and key stakeholders. Enhanced cleaning of common room shared by cases, high touch surfaces, and high-traffic areas completed. Regular meetings were conducted to provide update and additional measures in place. A process review of patient care best practice in post partum was conducted by IPAC including an environmental audit in all affected areas. Upon review of the two clinical isolates sent to the TPRL, they were found to be distinctly different. No staff were identified as colonized with GAS upon results screening swabs. No major breeches in both process and environmental audits were identified. It was with this knowledge that the investigation was concluded and no further follow-up deemed necessary at this time.

MANAGEMENT OF MULTI-UNIT ACUTE RESPIRATORY INFECTION OUTBREAKS USING THE INCIDENT MANAGEMENT SYSTEM FRAMEWORK

Marianita Lampitoc, Mariam Mir, Susan Bisaillon, Pauline Dubeau, Alicia Sarabia
Trillium Health Partners Credit Valley Hospital site, Mississauga,ON, Canada

Issue: An increase in the number of new cases of influenza was seen in a large community hospital in late December 2012 and peaked in mid January 2013. During the week of Jan 6 to 13, 3 patient care areas met the definition of respiratory outbreaks and a multi-unit outbreak was declared in collaboration with the local public health unit.

Project: Usual approach in outbreak response involves an outbreak management team overseen by the infection prevention and control team. However, given the magnitude and scope of ARI burden within the hospital and the community, the IMS structure was activated to ensure coordinated and efficient access to information and resources.

Results: For the period of Jan 6 to 13, 47 new lab confirmed cases were identified facility wide. Out of 47, 10 were acquired in hospital (AIH). Out of 10, 8 were attributed to the outbreak units. In addition to the usual IPAC outbreak control measures such as heightened surveillance, education, proper hand hygiene practices, enhanced cleaning, the IMS was instrumental in elevating the gravity of the situation to the appropriate stakeholders.

Conclusion: Prompt implementation of infection control measures coupled with an established IMS support framework led to the effective control of any additional outbreaks of influenza.

TUESDAY, JUNE 4
2:00 - 3:00 PM

SURVEILLANCE

CHARACTERIZATION OF MRSA BACTEREMIA AND VARIABLES ASSOCIATED WITH MORTALILITY IDENTIFIED BY THE CANADIAN NOSOCOMIAL INFECTION SURVEILLANCE PROGRAM, 2008-2010.

George Golding[1], Andy Simor[2], Linda Pelude[3], Aboubakar Mounchili[3], Jason Shurgold[3], Michael Mulvey[1], Denise Gravel[3], Kevin Katz[4], Mark Loeb[5], Allison McGeer[6], Pamela Kibsey[7], Karl Weiss[8], John Embil[9], Stephanie Smith[10], Charles Frenette[11], Canadian Nosocomial Infection Surveillance Program (CNISP)[0]
[1]National Microbiology Laboratory, Winnipeg, MB, Canada, [2]Sunnybrook Health Sciences Centre, Toronto, ON, Canada, [3]Public Health Agency of Canada, Ottawa, ON, Canada, [4]North York General Hospital, Toronto, ON, Canada, [5]McMaster University, Hamilton, ON, Canada, [6]Mount Sinai Hospital, Toronto, ON, Canada, [7]Royal Jubilee Hospital, Victoria, BC, Canada, [8]Maisonneuve-Rosemont Hospital, Montreal, QC, Canada, [9]Health Sciences Centre, Winnipeg, MB, Canada, [10]University of Alberta, Edmonton, AB, Canada, [11]McGill University Health Centre, Montreal, QC, Canada

Objective: Bloodstream infections (BSI) with methicillin-resistant *Staphylococcus aureus* (MRSA) is associated with substantial morbidity and mortality. The goal of this study was to analyze the epidemiological data collected for MRSA BSI identified through CNISP.

Methods: From 2008-2010, surveillance for MRSA BSIs was done in 54 Canadian hospitals. Clinical and epidemiologic data were collected through medical records.

Results: In this study, a total of 1053 patients with MRSA bacteremia were identified. The mean age was 60.3 (95% CI 59.0-61.1) with males representing 61.1% of the cases. From 2008-2010 the rates of MRSA BSIs per 1,000 admissions were 0.50, 0.54, and 0.37, respectively. Of the MRSA bacteremia episodes 68.8% were healthcare-associated, 20.5% were community-associated, and 10.7% were unknown. Within 30 days of first positive blood culture 28.4% were admitted to an ICU and 23.4% died. Mortality was associated with patients >65 years of age [OR 2.3 (95% CI 1.71-3.09), p<0.001], in patients where the probable source of the bacteremia was pneumonia [3.84 (2.6-5.6), p<0.001], admission to an ICU [2.6 (1.96-3.57), p=<0.001], and acquisition of MRSA from a healthcare setting [1.54 (1.05-2.26), p=0.04]. Mortality was not associated with region or gender, nor if the probable sources of bacteremia were primary/catheter-related, endocarditis, or urinary.

Conclusions: Increased mortality was associated with certain patient comorbidities, previous healthcare exposure, and in patients >65 years of age. Outcomes in relation to strain characteristics and timing and appropriateness of antimicrobial therapy remain to be elucidated.

GUILTY UNTIL PROVEN INNOCENT: ARE ALL PREVIOUS FOREIGN HOSPITAL ADMISSIONS CREATED EQUALLY?

Laura McNaught[1], Lorraine Maze dit Mieusement[1], Laura Goodliffe[1,2]
[1]Mount Sinai Hospital, Toronto, Ontario, Canada, [2]University of Toronto, Toronto, Ontario, Canada

Background: Patients admitted to our facility with a known overnight foreign hospitalization within the previous two years are placed in additional precautions, receive enhanced room and equipment cleaning, and are screened for antibiotic-resistant organisms (ARO). To evaluate current isolation practices, we sought to define the rate of ARO colonization in patients with previous foreign hospital admissions (PFHA).

Methods: A chart review was undertaken for patients admitted in 2011 and 2012 with a known PFHA.

Results: In total, 133 patients had a known PFHA. Nineteen percent were positive for ARO colonization on admission. Significantly more patients were positive for ESBL (14.26%) than for MRSA (2.26%) or VRE (2.26%; p<0.05). Foreign hospitalizations occurred in 48 different countries. USA, China and India were the most common with 10.3%, 28.6% and 33.3% of patients testing positive for an ARO from each of these countries, respectively. Of ESBL positive patients, 47.37% were hospitalized in Asia, 21.05% in North America and 10.53% in the Middle East. MRSA positive patients were previously hospitalized in Saudi Arabia and USA. VRE positive patients were previously hospitalized in Cuba, Mexico and USA.

Conclusions: PFHA is a risk factor for ARO colonization. These results support our current practice of isolating patients with a known PFHA. As the majority of patients were positive for ESBL rather than VRE, further analysis may prompt re-evaluation of enhanced cleaning practices. No CRE positive patients were identified however, knowing the countries ESBL positive patients were hospitalized in may help predict areas of elevated risk for CRE acquisition.

INFLUENZA SURVEILLANCE: THE RIGHT TOOL FOR THE JOB

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Issue: Influenza surveillance has been a cornerstone of investigative strategies used by provincial, national and international communities to identify novel viruses and assess the impact of seasonal viruses. In Newfoundland and Labrador (NL) a unique user friendly database was developed to facilitate influenza data collection and reporting.

Project: During Pandemic 2009 an Excel® spreadsheet was conceived to collect data on A (H1N1) pdm09 cases from the Regional Health Authorities (RHAs). Building on this experience a database was designed and used to collect information on seasonal influenza cases: hospitalizations, deaths, immunization uptake and Aboriginal status. In the RHAs the Communicable Disease Nurses and Infection Control Practitioners collaborate to collect the data on the cases. A virtual private network (VPN) is utilized to enable confidential transmission of data from the RHAs. One of the features of the database is the built in formulas.

Results: The VPN influenza tool provides decision makers with current information on the impact of influenza within the community and in healthcare facilities. It allows the monitoring of indicators of influenza severity: hospitalizations, admission to ICUs and deaths. It provides information on influenza vaccine uptake in cases thus adding to the data on vaccine effectiveness. Finally it enhances the timeliness of the weekly reporting requirements to the province and to the Public Health Agency of Canada.

Lesson Learned: A standardized tool aids in the collection of consistent information. The statistical analysis function is magical to the practitioner who finds such duties time consuming and burdensome.

IS VRE ACQUISITION RELATED TO DURATION OF EXPOSURE TO A POSITIVE PATIENT OR THEIR ROOM?

Mayce Al-Sukhni[1,2], Cecilia Fung[1], James Wong[1], Emily Borgundvaag[2], Kelsey Ragan[1], Mike Larocque[2]
1Mount Sinai Hospital, Toronto, ON, Canada, 2University of Toronto, Toronto, ON, Canada

Background/Objectives: At our hospital, patients with significant exposure to vancomycin-resistant enterococci (VRE) are placed in additional precautions and

screened over a seven-day period. An exposure is significant if there is greater than 24 hours of contact with a VRE positive patient or their room. The study objectives were to determine if VRE transmission to a roommate is related to duration of exposure to a VRE positive patient/room, and to describe the basic epidemiology of positive roommates.
Methods: A retrospective review of all roommates of VRE positive patients from January 2007 to December 2012 was conducted. Information on contact days and microbiology test results was gathered from patient records. Duration of contact was determined by the days of exposure to a VRE positive patient/room.
Results: 158 patients had significant exposure to a VRE positive patient, of whom 13 (8%) became colonized with the same strain of VRE in association with the exposure. The median duration of exposure was two days and three days among the roommates who tested positive and those who remained negative, respectively ($p=0.45$). The shortest duration of roommate exposure associated with VRE colonization was one day. Twelve of 13 roommates who became colonized with VRE had been exposed to patients who acquired their VRE nosocomially. All 13 were admitted to medical rather than surgical wards.
Conclusions: Roommates who acquired VRE were more likely to be exposed to index patients with hospital-acquired VRE. We did not detect an effect of duration of roommate exposure.

EDUCATION

ESTABLISHMENT OF A PROVINCIAL PROGRAM TO SUPPORT THE IMPLEMENTATION OF ANTIMICROBIAL STEWARDSHIP PROGRAMS IN ONTARIO HOSPITALS

Jennie Johnstone[1], Karen Sequeira[2], Camille Lemieux[3], Virginia Tirilis[1], Nora Boyd[1], Liz Van Horne[1], Pavani Das[1], Gary Garber[3]
[1]Public Health Ontario, Toronto, ON, Canada, [2]Ontario Hospital Association, Toronto, ON, Canada, [3]University Health Network, Toronto, ON, Canada
Issue: Rates of antibiotic-resistant organisms continue to climb. In recognition of this growing patient safety challenge, Accreditation Canada introduced a new required organizational practice (ROP) requiring the establishment of an antimicrobial stewardship program (ASP) within all acute care hospitals commencing January 1, 2013. In June 2012, the Ontario Hospital Association (OHA) and Public Health Ontario (PHO) surveyed hospitals to better understand their level of ASP accreditation preparedness; results indicated that only 22% felt they were confident in meeting all requirements (104/150 or 69% of hospitals responded).
Project: PHO, in partnership with the OHA, developed implementation materials and educational supports targeting a diverse provincial audience (e.g., CEOs, physicians, pharmacists, infection prevention and control practitioners) with a focus on "getting started" to help hospitals meet the ROP.
Results: A multidisciplinary Provincial ASP Advisory Committee (PASPAC) was struck to help identify priorities, and based on input from hospitals, key resources were developed. They include: a GAP analysis; how to write an ASP business case; a standard presentation consolidating evidence aimed at hospital decision-makers; suggested metrics for evaluating ASPs; lessons learned from hospitals with existing ASPs; and a website containing all relevant material. Two educational webcasts were also hosted to launch the provincial program and help hospitals begin an ASP (290 participants), and to address questions related to metrics and evaluation (210 participants). Both reached a pan-Canadian audience.
Lessons Learned: Implementation of an ASP is complex and multi-faceted. Next steps are to develop provincial support to enable sustainability and sector-wide adoption of ASP programs.

USING E-LEARNING FOR INFECTION CONTROL EDUCATION

Jenn Johnson, Kathy Suh, Natalie Bruce, Shelley Ferrell, Virginia Roth
The Ottawa Hospital, Ontario, Canada
Issue: The Ottawa Hospital (TOH) was mandated by the Ministry of Labour to develop an employee management program for tuberculosis (TB), including screening and provision of education, within 60 days.
Project: To create and implement a mandatory TB education program for all employees who require annual tuberculin skin tests (TST), using electronic learning software. Targeted learner groups were created based on recorded job codes. Over 6000 employees in these groups were registered automatically and informed by e-mail that they had 45 days to complete the program.
Results: Approximately 63% of employees enrolled completed the program as required. Because job codes were used to develop learner groups, many employees who did not require annual TSTs were inadvertently enrolled. There was confusion about results and reporting, as both the course developers and the department responsible to perform TST were tracking and reporting independently. Follow-up with noncompliant employees was problematic as job codes did not provide information about where specific employees worked or to whom they reported.
Lessons Learned: Comprehensive, collaborative planning and evaluation are imperative when creating an e-learning education program for a large group of employees. A planning committee must be in place to ensure coordination of process and outcome. A communication plan must be multi-factorial and include specific timelines. Accountability for noncompliant employees should be determined in advance.

PORTERING TRANSPORT TOOL

Dianne Merkley, Suzanne Schwab, Cathy Stark
London Health Sciences Centre, London, ON, Canada
Issue: Despite the fact that the Portering staff have proven to be extremely good at performing risk assessment, they are often questioned about their practice around the "use of, or lack of use" of personal protective equipment when transporting patients. Porters are considered the clean person on transport to manage doors, elevators and charts. PPE should not be worn during transport, unless indicated by Additional Precautions or the risk assessment performed prior to transport.
Project: A quick reference card was developed for use by the portering staff that summarizes Routine practices and Additional precaution requirements for transporting patients. The card provides information on procedures and guidelines related to Infection Prevention and Control that can be referred to "in-the-moment". This card was developed by The Portering department, Infection Prevention and Control, and was also supported by Occupational Health and Safety. Each Porter was given this card to carry and use as a personal reference and also to provide support for their use of PPE, should it be questioned by staff.
Results: When questioned, Portering staff said "they find the card very useful as visual proof and rely on it as a quick reference. It is especially helpful to new staff. The card has increased the knowledge of staff overall."
Lessons Learned: The ability of the Porters to defend their infection control practices when questioned by staff has increased their confidence, and also provides an "in the moment" teaching opportunity for questioning staff, while ensuring staff and patient safety.

PILOT TEST OF A CRITICAL APPRAISAL TOOL KIT FOR GRADING SCIENTIFIC EVIDENCE FROM CLINICAL TRIALS AND OBSERVATIONAL STUDIES

Toju Ogunremi[1], Donna Moralejo[2], Kathleen Dunn[1], Tom Wong[1]
[1]Public Health Agency of Canada, Ottawa, ON, Canada, [2]Memorial University School of Nursing, St. John's, NL, Canada
Objective: A tool kit was developed for the critical appraisal of scientific literature. A qualitative pilot test of this tool kit was conducted in 2011 to provide feedback on content, user-friendliness, clarity, validity, and consistency of the tool kit.
Methods: Stakeholder groups with expertise in infection prevention and control, surveillance and epidemiology were invited to participate in the pilot test. There were a total of 17 participants with critical appraisal experience ranging from none to over 5 years. Participants were divided into 4 groups with members of each group appraising the same 6 articles consisting of 3 analytic studies, 2 descriptive studies and 1 literature review. In total, 98 critical appraisals were conducted for the pilot test.
Results: The study designs were correctly identified 86, 94 and 100% of the time for analytic studies, descriptive studies and literature reviews respectively. Although variation in rating some appraisal criteria for individual studies was observed, there was good agreement in rating the overall quality of each study. About 60% of participants indicated that their comfort level with critical appraisals increased after participation in the pilot test.
Conclusions: While tools do not replace the need for training in critical appraisals, the tool kit promoted consistency in rating overall study quality and provided common criteria to aid discussion. The pilot test informed the final revision of the tool kit to ensure clarity for all relevant study designs or issues. The tool kit will be helpful to groups for the appraisal of a body of evidence.

HAND HYGIENE

COMPARATIVE EFFICACY OF HAND RUBS CONTAINING ALCOHOL OR QUATERNARY AMMONIUM COMPOUNDS

Sarah Edmonds, David Macinga
GOJO Industries, Inc, Akron, OH, United States
Background/Objectives: Hand hygiene is critical for reducing pathogen transmission and alcohol-based hand rubs (ABHRs) are recommended and used as the primary means of hand hygiene in healthcare. However, quaternary ammonium compound-based hand rubs (QBHR) have been used in certain settings when ingestion or flammability are concerns. The objective of this study was to compare the efficacy of ABHR and QBHR formulations.
Methods: Four commercially available handrubs were tested: Product A (70% ethanol gel), Product B (0.13% benzalkonium chloride foam), Product C (0.2%

benzethonium chloride gel), and Product D (0.13% benzalkonium chloride foam). Products A, B, and C were evaluated according to ASTM E1174 at a 2 ml dose. Products A and D were evaluated according to ASTM E2755 at a 1.5 ml dose. All products were evaluated after a single application and after multiple applications. Log reductions from baseline were calculated for each product and analyzed for statistical differences.
Results: Only Product A met Heath Canada requirements for a ≥3 log reduction using E1174, and log reductions for Product A were statistically superior to those for Products B and C. When evaluated using E2755, Products A and D achieved log reductions of 2.34 and 1.70, respectively, after 1 application, and of 4.37 and 1.28, respectively, after 11 applications. Log reductions for Product A were statistically superior to those for Product D.
Conclusions: Because QBHR failed to meet Health Canada efficacy requirements and were statistically inferior to ABHR, QBHR should only be used on a limited basis if at all.

A THEORY-BASED APPROACH TO IDENTIFYING PHYSICIAN HAND HYGIENE BARRIERS AND ENABLERS

Kathryn Suh[1,2], Janet Squires[3,2], Stefanie Linklater[3], Natalie Bruce[1], Kathleen Gartke[1], Ian Graham[3,2], Alan Karovitch[1], Joanne Read[1], Virginia Roth[1,2], Karen Stockton[1], Emma Tibbo[1], John Trickett[1], Kent Woodhall[1], Jim Worthington[1], Jeremy Grimshaw[3,1]
[1]The Ottawa Hospital, Ottawa, ON, Canada, [2]University of Ottawa, Ottawa, ON, Canada, [3]Ottawa Hospital Research Institute, Ottawa, ON, Canada
Background: In Canada, healthcare-associated infections are the most common serious complication of hospitalization, and are the fourth leading cause of death. Compliance with hand hygiene among healthcare workers, specifically among physicians, is consistently suboptimal.
Methods: The objective of this study is to identify barriers and enablers to physician hand hygiene compliance. A theory-based approach is being used based on the Theoretical Domains Framework (TDF), a behaviour change framework composed of 14 domains. This study will include key informant interviews with physicians and residents specializing in Medicine and Surgery, nonparticipant observation of physician/resident hand hygiene audit sessions, and focus groups with hand hygiene experts.
Results: All (n=42) key informant interviews have been completed. Preliminary data analysis of interviews with physicians in Medicine has found 7 of the 14 domains in the TDF to be important. These domains include beliefs about consequences, environmental context and resources, knowledge, memory attention and decision processes, skills, social influence and social professional role and identity. Key informant interviews for Surgery physicians and residents in Medicine and Surgery have also been completed.
Conclusions: A better understanding of physician hand hygiene behaviour will allow for theory informed interventions to be developed. Preliminary data suggests that 7 of 14 TDF domains are important targets for the development of a knowledge translation intervention to enhance physician hand hygiene compliance.

PATIENT-AS-OBSERVER APPROACH – AN ALTERNATIVE METHOD FOR HAND HYGIENE AUDITING IN AN AMBULATORY CARE SETTING

Sheila Le-Abuyen, Jessica Ng, Susie Kim, Anne De La Franier, Bibi Khan, Corry Thomas, Michael Gardam, Jane Mosley
Women's College Hospital, Toronto, ON, Canada
Issue: The World Health Organization's multimodal hand hygiene (HH) improvement strategy recommends direct observations of HH practices by an independent observer to improve HH compliance. More easily applied in acute care environments, outpatient settings are often not conducive to this auditing method due to challenges of workflow disruption; privacy concerns; and observer bias. To overcome these challenges, a pilot project using an alternative method for hand hygiene auditing was implemented. This method engages patients as observers for healthcare provider (HCP) HH practices.
Project: During their visit, patients were asked to participate in a survey and monitor their HCP's HH practices. Survey cards were distributed and collected by trained volunteers. Monthly meetings with a multidisciplinary working group were used to determine workflow processes; develop a communications plan for HCPs and patients; provide feedback on survey tools; finalize the evaluation format; and monitor progress. Weekly status updates and patient feedback were forwarded to HCPs as motivation to continually improve HH practices.
Results: Preliminary results of the six-month pilot: Patients returned 76% of survey cards. Based on patient observations, the overall HCP HH compliance before direct contact with the patient was 97%. The vast majority of patient commentary expressed satisfaction with survey participation and HCP HH practices.
Lessons learned: The patient-as-observer approach is a viable and cost-effective alternative for HH auditing in an ambulatory care setting. This auditing method allows us to engage patients to play an active role in their own healthcare.

BEST FIRST TIME ABSTRACT

DESCRIPTION OF PATIENT HAND HYGIENE BEHAVIOUR IN AN ACUTE CARE HOSPITAL

Jocelyn A. Srigley[1,2], Colin D. Furness[2,3], Michael Gardam[1,2]
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Background: Healthcare worker hand hygiene (HH) is known to prevent healthcare-associated infections (HAIs), but there has been less emphasis on patient HH despite the fact that pathogens may be acquired by patients via their unclean hands. There are few data on patient HH compliance and it is not known when patient HH is indicated to prevent HAIs. Indications may include before eating, after using the bathroom, and on entering and leaving their room.
Methods: Continuous HH data was generated via an ultrasound-based real-time locating system. Patient use of alcohol-based hand rub (ABHR) and soap dispensers was recorded during visits to bathrooms and pantries, at mealtimes, and on entering and leaving their rooms.
Results: During a 30-day period, there were 176 patient room stays. These patients made 5561 visits to the bathroom, of which 1927 (34.7%) were associated with use of the soap dispenser in the bathroom. Soap use ranged from 0% of visits in 44 patients (25.0%) to 100% in 10 (5.7%). In a 55-day period, patients visited two pantries 666 times. Of those pantry visits, 42 (6.3%) were associated with use of ABHR or soap. Data collection is ongoing for room entrance and exit, as well as use of bedside ABHR dispensers during mealtimes.
Conclusions: Patients perform HH infrequently after bathroom visits and when visiting the pantry. This may contribute to transmission of pathogens from the hospital environment via the fecal-oral route. Future research will assess whether patient HH is associated with increased risk of HAIs.

COMMUNITY AND AMBULATORY CARE

WHO'S MONITORING THE MONITORS? IPAC AUDITS AT AN ONTARIO PUBLIC HEALTH UNIT

Heidi Pitfield
Simcoe Muskoka District Health Unit, Barrie, ON, Canada
Issue: Public health units in Ontario are mandated to offer a variety of healthcare clinics that address the prevention and control of infectious diseases. These clinics include a range of dental and medical procedures including immunization and take place within health unit offices or are community based. Traditionally, public health units have not been considered as primary healthcare settings, however, they are increasingly being included in the scope of infection prevention and control (IPAC) best practices' guidelines and standards.
Project: In early 2011, one Ontario public health unit audited three of its program areas (Oral Health, Sexual Health & Vaccine Preventable Diseases) with four process surveillance indicators: hand hygiene; routine practices; environmental cleaning; and medical device reprocessing. Audit tools were adapted from the CHICA-Canada and provincial best practice audit tools.
Results: Key themes emerged: lack of IPAC awareness, education and training for management and staff; lack of IPAC policies and procedures; inadequate physical design/locations that meet best practices; and lack of IPAC considerations related to occupational health. 26 recommendations were brought forward in a report to the public health unit's executive committee and then prioritized over a 2012-2013 action plan. The public health unit has demonstrated a commitment to complying with IPAC best practices and is moving forward with many of the 26 recommendations.
Lessons Learned: Monitoring IPAC in public health requires a best practice approach to auditing comparable to processes used in primary healthcare settings. Infection prevention and control needs to be an organizational priority and supported across the agency.

COSMETIC FRACTIONAL LASER USE: IMPLICATIONS FOR INFECTION CONTROL

Gursevak Kasbia
Ottawa Public Health, Ottawa, Canada
Issue: With an aging population, comes the search for the fountain of youth. Great advancement has been made in the cosmetic and dermatological industries including new forms of minimally invasive procedures. Laser skin resurfacing is one example, which can treat a variety of conditions including scarring, wrinkles and pigment discolouration. With the potential for exposure to infection from using laser-based devices, it is important that infection control professionals and

appropriately delegated medical professionals understand infection control procedures with respect to the equipment.
Project: A review of the literature was conducted using keyword and screening criteria. Keywords used included: Fractional Laser, Medical Delegation, Infection Control, Legislation, Dermatology and Dermal. Provincial/Territorial and Federal documents were also scanned with much information coming from the BC Centers for Disease Control and Health Canada.
Results: Results indicated that fractional laser use is generally safe when administered by an appropriately delegated medical or allied health professional. However, aerosolization of herpes virus has been seen and also MRSA infection has harmed patients who have received treatment that damaged a deeper level of dermal tissue.
Lessons Learned: All cosmetic procedures should include detailed pre-screening and education of patients to help mitigate potentially harmful side effects while preventing harmful exposure of potential airborne viruses to professionals administering treatment. Only professionally trained staff with appropriate medical delegation should administer procedures. Post-exposure self care is also required ensuring that any infections that develop will be reported and treated by appropriate health professionals such as dermatologists.

THINK IPAC FOR COMMUNITY HEALTH CENTRES – PROMOTING SAFETY FOR EVERYONE

Vera Rozenbojm[1]
[1]Windsor Essex Community Health Centre, Windsor/Ontario, Canada, [2]CHICA, Toronto/Ontario, Canada

Even though hospitals are tied to nosocomial infections and the impact of premature death, community health centres as well encounter infectious disease on a daily basis and deal with the impact of client's reduced functioning or poor health from infectious diseases and its consequences. The health care system is changing, more procedures and complex care is done in the primary care sector. Due to the diversity of care provided by a Community Health Centre (CHC), the requirement for an Infection Prevention and Control Program with better infrastructure in surveillance, audit tools and program evaluation, customized policies and procedures based on evidenced-based practices, education and knowledge dissemination to all involved in the circle of care was necessary.
This presentation describes the IPAC Program for CHC and its challenges. This document was developed with the mentorship of the Erie St. Clair Infection Control Network (PHO) in collaboration with an advisory group of Ontarians Community Health stakeholders and validated by IPAC experts from Canada. The program was awarded the Association of Ontario Health Centre 2012 Quality Improvement Award. It is based on Accreditation Canada standards and provincial Best Practices (PIDAC). The program fits the challenges and needs to improve the practices and measures, enhance the prevention and control of infectious disease within our community. It includes Surveillance, Reprocessing, AROS, Food Safety, Transportation of Dangerous Goods, targeted to ambulatory, home visits, homeless services, Hepatitis B management, health promotion and disease prevention, diabetes care, oral and foot care, specimen collection in the community.

COMMUNITY INFECTION CONTROL LAPSE IN A LOCAL OUT-OF-HOSPITAL ENDOSCOPY CLINIC

Nancy Todd-GIODANO, Brenda MacLean, Donna Perron
Ottawa Public Health, Ottawa Ontario, Canada

Issue: Ottawa Public Health (OPH) was notified by the Ministry of Health and Long-Term Care (MOHLTC) that the College of Physicians and Surgeons of Ontario (CPSO) had completed an inspection of an out-of-hospital endoscopy clinic in may 2011 had revealed significant infection control lapses, potentially dating back to 2002.
Project: OPH conducted extensive ethical and risk assessments to determine the appropriate public health response.
Results: OPH notified 6992 patients by registered mail that they may have been affected by the lapse and that they may wish to seek viral testing. A dedicated phone was provided to respond to patients question (5271 phone calls were received and 4686 calls were made by OPH staff) and multimedia communications were used to inform the public. Follow-up was provided to 5013 (72%) individuals who went for testing. Genotyping and sequencing was offered to all eligible patients to determine whether transmission of blood-borne pathogens (BBP), including hepatitis B (HBV), hepatitis C (HCV) and human immune-deficiency virus (HIV) may have occurred as a result of the lapse. No evidence was found that the endoscopy reprocessing failures were associated with an increase risk of BBP acquisition or resulted in any viral transmission among patients with viral genetic analysis results
Lessons Learned: Following a number of large-scale infection control lapses in Ontario, a provincial work group has been formed to establish best practice guidelines and recommendations regarding public health involvement and disclosure of such events.

POSTER PRESENTATIONS
OTTAWA CONVENTION CENTRE (CANADA HALL)
MONDAY, JUNE 3
12:30 - 1:30 PM

POSTER BOARD #2

VRE OUTBREAK IN A LARGE COMMUNITY HOSPITAL: DID IT START WITH DIALYSIS?

Gordana Pikula, Slobodanka Varda, Mirza Ali, Vydia Nankoosingh, Reena Lovinsky, Kyla Van Dusen
The Scarborough Hospital, Toronto,ON, Canada

Issue: We experienced a VRE outbreak of 125 nosocomial cases from March/10 to April/11. Dialysis patients accounted for 36 (28.8%) of the cases. Did the outbreak originate in the dialysis unit?
Project: The nosocomial VRE cases from January/09 (one year before outbreak) to October/11 (six months after outbreak) were reviewed. The incidences of nosocomial VRE for dialysis and non-dialysis cases were compared to see if there is a significant difference between the two groups.
Results: During the study period, there were 44172 admissions to our hospital. 1669 admitted patients were on dialysis. There were 146 nosocomial VRE cases, including 125 cases during the outbreak. The number of admitted dialysis patients was significantly lower than non-dialysis patients. The rates of VRE nosocomial cases between these two groups were compared. Of the 146 nosocomial cases 50 (34.2%) were patients on dialysis. The data were analysed by Chi square test. The rate of nosocomial cases among patients on dialysis (50 VRE cases/1669 admissions) was significantly higher than in the non-dialysis group (96 VRE cases/42503 admissions). Before the outbreak, there was a cluster of 13 nosocomial VRE cases (February/09-May/09) of which 11 were on dialysis (84.6%). There were no VRE infections during the study period.
Lessons Learned: The results indicate that dialysis patients are at a high risk for VRE colonization. We suspect that VRE-colonised dialysis patients were likely the source of the VRE transmission. Hospitals with patients on dialysis should be aware of the increased risk for spread of VRE.

POSTER BOARD #4

VACCINE HESITANCY IN CANADA: FACTORS INFLUENCING INFLUENZA VACCINE UPTAKE

Andrea Perna[1,2], Louise Lemyre[1,3], Celine Pinsent[1,3], An Gie Yong[1,3], Michelle Turner[1,2], Alina Dumitrescu[1,3], Daniel Krewski[1,2]
[1]University of Ottawa, Ottawa, Ontario, Canada, [2]McLaughlin Centre for Population Health Risk Assessment, Ottawa, Ontario, Canada, [3]GAP Santé, Ottawa, Ontario, Canada

Background/Objectives: Although vaccines are of enormous public health benefit, recent reports of low immunization rates against influenza have heightened awareness of vaccine hesitancy (VH) in Canada. The present study seeks to better understand the phenomenon of VH and identify factors influencing reported influenza vaccine uptake (RIVU) in Canada.
Methods: A National Risk Perception Survey was administered to 580 Canadian adults via computer-assisted telephone interviews. Respondents were asked to rate 18 statements related to VH on a scale of 1 (do not agree at all) to 5 (agree completely). RIVU was assessed by the level of agreement with the statement: "I usually get the seasonal flu vaccine."
Results: RIVU was shown to significantly correlate with age, income and 14 VH statements. One-way ANOVAs demonstrated significant differences in RIVU based on age ($p < 0.01$) and income ($p < 0.05$). A multiple regression analysis identified age, income and statements assessing concern with vaccine safety, the responsibility of organizations to facilitate vaccination, and following recommendations from government authorities as significant ($p < 0.05$) predictors of RIVU. Finally, age was shown to significantly moderate the relationship between the responsibility of organizations and RIVU ($p < 0.01$); and following recommendations and RIVU ($p < 0.01$).
Conclusions: Study results indicate that while income and concern with vaccine safety influence RIVU in Canadian adults, recommendations from government authorities and the facilitation of vaccination by organizations influence RIVU in older adults more so than younger adults. Results suggest to better target younger Canadians.

POSTER BOARD #6

USING A RISK FACTOR-BASED SCREENING ADMISSION FORM AND THE ER TEAM TO REDUCE MRSA/VRE TRANSMISSION

Grace Lamarche, Nancy-Ann Bush
Cornwall Community Hospital, Cornwall, ON, Canada

Introduction: MRSA is transmitted by having direct contact with someone who has an active infection, someone who is a carrier of the infection, or a contaminated object. It is estimated that up to 7 percent of people in hospitals and up to 2 percent of people in the community are carriers of the MRSA infection. Although someone may be infected with MRSA, they may not develop any signs or symptoms of the infection for up to 10 days. (*http://bacteria.emedtv.com/mrsa/mrsa-transmission.html*). Undiagnosed MRSA colonization or infections in patients can contribute to the spread of AROs within a healthcare facility. Without admission screening 84% of MRSA carriers would have been missed at admission and 76% during their hospital stay. (Lucet, JC et al. ICHE; 2005; 26:121-26).

Background: CCH is a 100-bed facility providing emergency, medical, surgical, obstetric-gynecologic, pediatric and acute care services in Cornwall, Ontario. Prior to this change, screening was as follows: 1. Pt. registration indicated to staff on admission if the Pt. required swabs, using a risk based screening form. 2. Staff was to complete Screening with the Pt. Admission History and Physical questionnaire. With increased workload, evening/night admissions staff found it difficult to complete the admission within 24 hrs. Concluding that swabs were not collected timely.

Audit findings indicated that Swabs were not being completed with admission and may not have been done for up to 5 days after admission. Changes needed to occur to reduce the risk of transmissions to other patients.

Concerns with continuing current Methods: Increase in contacts; Increase of MRSA cases; MRSA outbreak; Nursing Supplies discarded, increasing costs; Increase in environmental fomites; Prolonged hospital stay; Increased risk of infections.

Methods: To ensure screening and swabs were completed quickly and properly on admission. Emergency as the gatekeeper: 60% of Pts. are admitted through the ER dept.; Policy for MRSA/VRE/CRE screening developed; Screening form updated and broaden to include CRE; ER admitting nurse responsible for completing screen and swabs when applicable; Screening form attached to admission form; Admission would not be processed if screening form not complete.

Strategies: Gathered small groups of nurses and provided 5 minute education sessions on changes; Visited dept. daily to communicate changes, provide support, emphasize importance and ensure commitment; Visited several times a day to ensure that all staff received education; Communicated with Pt. Registration on changes; Educated Pt. Registration of new policy; Manager emailed staff with memo of changes to occur in dept. and date effective; Start date in effect for July 4/11.

Results: 90% of new MRSA/VRE Pts. identified within 48hrs or less (POA); Reduced contact/transmission with other Pts./staff; Clearer picture of actual CCH ARO rate; Communicate findings to LTC homes of Pt. current status; Reduced MRSA rates; Audits of screening initially were 79%, 95% & 95%. Ongoing audits indicate 95-100%.

Lessons Learned: The significance of Infection Prevention and Controls presence in the ER department resulted in improved communication, problem solving and surveillance. Involving the ER Staff as key stakeholders and important members of the team improved process and timeliness in screening and swab collection. Emphasizing the significance of early screening and swabs to reduce MRSA transmission and rates. Attaching the Risk Factor-Based Screening form to the admission form. When screening and swabs (if applicable) were not complete, the admission would not be processed by the Patient Registration Department. The importance of concentrating on a new process and dedicating the proper time and resources to move it forward.

POSTER BOARD #8

ANTIBIOTIC STEWARDSHIP: UTI'S IN LONG TERM CARE

Milena Todorovski[0], Wendy Miller[1], Laura Fraser[0,1]
[1]*Schlegel Villages, Guelph, ON, Canada,* [2]*Erie St. Clair Infection Control Network of Public Health Ontario, Windsor, ON, Canada*

Issue: Inappropriate use of antibiotics has become a public health concern. The result of poor prescribing practices is the creation of pathogens of concern including Antibiotic Resistant Organisms (AROs) and Clostridium difficile, adverse drug effects and increased cost. Urinary tract infection (UTI) is the most common infection in long-term care residents. UTIs are also the most misdiagnosed infection in long-term care residents resulting in overuse of antibiotics. A long-term care home (LTCH) in Southwestern Ontario recognized their high incidence of residents treated inappropriately with antibiotics for UTIs.

Project: Aspen Lake, a LTCH invited the Erie St Clair Infection Control Network of Public Health Ontario to help them meet their quality assurance goal; reduce UTIs. Organization change strategies were used to move the home through the change process. Organizational Development, a systems model is an approach that is appropriate for problems identified as complex. In addition the identification of a change agent to lead the change, their abilities at using effective leadership skills to move others through the change process and senior management support is key to successful organizational change.

Results: Aspen Lake changed their practice of specimen collection from randomly sending urine for culture and sensitivity (C&S) to collecting urine samples for C&S for residents that displayed relevant symptoms only. As a result their incidence of UTIs and simultaneously their antibiotic usage for UTIs decreased by 70%. Aspen Lake is sustaining low UTI rates.

Lessons Learned: Organizations need to recognize the need for change and then take action to change.

POSTER BOARD #10

ASSESSMENT OF KNOWLEDGE AND COMPLIANCE OF HEALTH CARE WORKERS IN SOUTHLAKE REGIONAL HEALTH CENTRE (SOUTHAKE) WITH RESPECT TO VANCOMYCIN RESISTANT ENTEROCOCCI (VRE) BEST PRACTICES

Nermin Gergis, Brigette Boaretto, Josefa Ycasas, Cathy Wood, Tanya Stipetic, Jaklin Mehrabian, Cori Proudlock Cori Proudlock, Infection Control Team Southlake Regional Health Centre
Southlake Regional Health Centre, Newmarket, Ontario, Canada

Background: The biggest challenge in the prevention and control of Antimicrobial-resistant organisms (ARO) is not the lack of effective precautions and guidelines, but that healthcare workers (HCW) apply these measures insufficiently. We believed it prudent to investigate the degree of knowledge and compliance of HCW with respect to VRE best practices. Moreover we want to identify any potential barriers and facilitate a cultural change within the health care process towards zero ARO hospital transmission.

Method: Knowledge and compliance of HCWs at Southlake with regards to VRE best practices were collected through an anonymous questionnaire designed by the Infection Prevention and Control (IPAC) team based on HCW category, knowledge and self-reported behaviour and barriers towards VRE best practices.

Results: 139 of 250 (56%) questionnaires were completed. The mean of the correct answers to the knowledge questions was 91%. A significant difference has been detected in compliance associated with cleaning the equipment between patients (59%) compared to 96% for following the precaution sign outside patient's room, 94% for the use of Personal Protective Equipment and 93% for hand hygiene (P= 0.049). The self-reported barriers to compliance with the recommended VRE additional precautions included lack of communication (67%), lack of time (47%) and cost concerns (30%). Interestingly, 17% of the participants reported that they doubt the efficacy of VRE additional precautions.

Conclusion: The survey identified the level of staff knowledge, compliance and associated barriers; all of which will be taken into account to facilitate and support cultural change within our organization.

POSTER BOARD #12

A SINGLE SCREEN PROTOCOL FOR REMOVING PREVIOUS MRSA POSITIVE PATIENTS FROM PRECAUTIONS

Michael John[1,2], Zafar Hussain[1,2], Robert Lannigan[1,2], Alice Newman[1], Megan Reed[1], Andrea McInerney[1], Johan Delport[1,2]
[1]*London Health Sciences Centre, London, Ontario, Canada,* [2]*Western University, London Ontario, Canada*

Guidelines of the Provincial Infectious Diseases Advisory Committee require Ontario hospitals to screen all patients at risk for MRSA. Discontinuing precautions on positive patients require 3 sets of negative screens taken 1 week apart. Short hospitalization times often make this impractical, resulting in unnecessary isolation precautions being applied to patients who are no longer carriers.

Objective: To investigate the efficacy of a single screen with broth enrichment to determine MRSA status in previously positive patients.

Methods: Nasal and perianal swabs were incubated in a selective enrichment broth and plated onto chromogenic medium (MRSA Select). Initially 491 random screens were compared by MRSA Select and enrichment broth. Subsequently, patients last positive for MRSA 6 months previously were screened over six months.

Results: Of the initial 491 patients tested, 93 were positive by MRSA Select and 101 by broth enrichment (including all MRSA select). Subsequently of 379 previously MRSA positive patients screened 296 (78%) were de-flagged. 85% of

these patients would not have been de-flagged if 3 screens one week apart were required. Of 83 patients not de-flagged, 49 screened positive (2 would have had flag removed under previous protocol) and 34 were discharged prior to obtaining additional required wound screens. On subsequent admissions 9 (3%) of de-flagged patients tested positive (re-infection could not be excluded).
Conclusion: Our protocol has enabled us to remove the MRSA flag from previously positive patients after a single screen, saving 1200 isolation days over 6 months. The sensitivity of the screen resulted in few false positives.

POSTER BOARD #14

SANITIZE THE VEHICLE

Elizabeth Bradshaw, Linda Joseph Massiah, Sandra Dudziak, Jean Clark
Revera Inc, Mississauaga, Canada

Introduction: In 2011 driven by our growing concern regarding delivery of care related to infection control and the transmission of infections a hand hygiene project was initiated.
Objective: Increase product accessibility at point of care. Improved knowledge of hand hygiene and overall infection control processes. Increase in hand hygiene compliance
Methodology: A review of the following items was completed using the LEAN methodology, the 5 "Why."
System Change: Reviewed location of alcohol-based hand rub at point of care and accessibility of alcohol-based hand rub to Residents in wheelchair. Reviewed accessibility to water soap and towels. Reviewed accessibility to hand moisturizers. Interdisciplinary team involvement.
Training/Education: Family, Residents, staff, visitors, and outside contractors were trained on the moments of hand hygiene and correct procedures for hand rubbing and hand washing.
Evaluation and feedback: Assessed staff's perception of hand hygiene thru focus groups and surveys. Focused observation audits pre and post project. Environmental Infection Control audits to supplement infection control processes overall.
Reminders in the workplace: Posters in public areas. Hand hygiene audit results were posted in the quality board for all to see.
Institutional safety climate: Nurtured a culture of Resident safety with hand hygiene champions on each floor. Involved patients and family council.
Results: Baseline hand observation audits were compiled and repeated every 3 months. Increased in hand hygiene from 67% to 96% (an increase of 29%). No outbreaks in 2011, 2012.
Summary: This project showed a benefit for the patients, staff and the community at large.

POSTER BOARD #16

VANCOMYCIN-RESISTANT ENTEROCOCCI IN GERMANY

Markus Dettenkofer
University Medical Center Freiburg, Freiburg, Germany

Enterococci are nosocomial pathogens predominantly affecting immuno-compromised patients or patients with multimorbidity. The transferrable glycopeptide resistance of the vanA and vanB genotypes in vancomycin-resistant enterococci as well as resistance to newer antibiotics (linezolid, tigecycline) are of concern. Enterococci including VRE are easily transferred, mainly via the contact route in healthcare-facilities. Colonizations are far more frequent than infections. Glycopeptide resistance frequencies in clinical isolates have slightly increased during the last 5 years in Germany, with local and regional variations (resistance of E. faecium isolates to vancomycin in 2011: 11.4%). Glycopeptide resistance tends to correlate with the spread of hospital-adapted strains, with rising frequency of vanB. This increase may have been caused by the increased use of selecting antibiotics as well as due to methodological reasons (e.g. increased use of molecular diagnostic assays). In Germany, no national guideline specifically addressing VRE exists. Recommendations are based on expert consensus and advice is given by the National Reference Center, RKI (www.rki.de). Based on the recent experiences with successful control of VRE outbreaks e.g. in Sweden and France, it seems reasonable to put more efforts into timely detection of carriers (screening of high-risk patients, investigations also in the community and in livestock), and to set up a national control policy. As transmission has already occurred in a relevant number of hospitals, it will be difficult and costly to eradicate VRE. Discussion is going on whether the limited resources should be better allocated to other critical issues in healthcare infection and resistance control.

POSTER BOARD #18

MANAGEMENT OF A *CLOSTRIDIUM DIFFICILE* INFECTION OUTBREAK IN A TERTIARY CARE HOSPITAL

Mariam Mir, Marianita Lampitoc, Jennifer Marangoni
Trillium Health Partners, Credit Valley Hospital, Mississauga, ON, Canada

Objective: To describe a nosocomial outbreak of *Clostridium difficile*-associated Infection (CDI), in a Nephrology/General Medicine Unit of a tertiary care hospital from October to November 2012.
Methods: The outbreak was detected by the *C. difficile* surveillance program of the Infection Prevention and Control (IPAC) department. CDI was diagnosed by laboratory confirmation of toxin A or B by PCR for *C. difficile*. Isolates of the *C. difficile* for patients implicated in the outbreak were serotyped and genotyped by the Ontario Central Public Health Lab.
Results: This outbreak involved a cluster of 3 patients on one Unit, 2B Nephrology/General Medicine, identified within a 7-day period by IPAC surveillance, and met one of the established Ministry of Health & Long-term Care definitions of an outbreak. All 3 patients were classified as hospital acquired cases of *C. difficile*. During this time, in consultation with the Region of Peel Public Health department, a unit-specific outbreak related to *C. difficile* infection was declared on November 5, 2012. The mean age of patients was 68 years (range, 47-82 years). Management of this outbreak consisted in implementing heightened surveillance, proper hand hygiene practices, enhanced cleaning procedures on the unit, and use of appropriate additional precautions were reviewed and reinforced.
Conclusion: Control of this developing outbreak of *C. difficile* was obtained with early implementation of infection control principles and reinforcement of environmental disinfection, hand hygiene audits and education.

POSTER BOARD #20

WAR & PEACE – THE SAGA OF A COMMUNITY HOSPITAL'S MULTIDISCIPLINARY APPROACH TO *C. DIFFICILE*

Melanie Koshman, Shirley Lanza, Tina Stacey-Works, Roberta Silcock, Lesley Patel, Neil Rau
Halton Healthcare Services, Oakville, Ontario, Canada

Issue: In recent years the potentially devastating outcomes of the NAP1 strain, along with mandatory public reporting and media attention focused on outbreaks, have made *C. difficile* a top priority for acute care centres and public health units across the province.
Project: The Multidisciplinary *C. difficile* Management Committee was formed in 2007 in response to an increasing incidence of hospital associated cases of *Clostridium difficile* at Oakville Trafalgar Memorial Hospital. The committee continues to meet regularly to review surveillance data and overall trends, and uses this information to identify strategies and implement prevention and control initiatives. Many recommendations made by the committee have been successfully implemented including increased human resources in the Environmental Services department, implementation of PCR lab testing, changes to environmental cleaning products and practices and increased inventory of patient care equipment. The meetings are scheduled monthly and increased to biweekly, or weekly, as needed to prospectively respond to increased incidence.
Results: The multidisciplinary nature and sustained function of the Committee ensures that *C. difficile* remains a clear priority and promotes continuous quality improvement even when the incidence rates are below the facility's targets. In addition, participation by the Public Health department provides transparency and has allowed HHS to cultivate a collaborative relationship between the organizations.
Lessons Learned: *C. difficile* is a persistent problem that requires a dynamic and multifaceted approach to management. It is imperative that *C. difficile* prevention remain a constant focus despite low incidence rates and competing priorities.

POSTER BOARD #22

CHALLENGES AND SUCCESS OF GASTROINTESTINAL OUTBREAK MANAGEMENT IN A PSYCHIATRIC UNIT

Carla Corpus, Victoria Williams, Sandra Callery, Mary Vearncombe
Sunnybrook Health Sciences Centre, Toronto, ON, Canada

Issue: Two gastrointestinal outbreaks were declared in the 26-bed mental health in-patient unit of a Toronto teaching Hospital in October and December 2012. Both outbreaks involved symptoms of nausea, vomiting and/or diarrhea. The first gastrointestinal outbreak was confirmed to be caused by Norovirus-

like organism and affected 5 patients and two healthcare workers (HCW). No organism was identified for the second outbreak that affected 4 patients and one HCW. Community exposure and acquisition introduced the agent. Lack of single rooms, communal facilities such as shared washroom and dining area, group activities and decreased hand hygiene compliance contributed to spread in both outbreaks.
Project: Outbreak control measures were promptly implemented in both outbreaks. Interventions included unit closure to admissions, suspension of group activities, staff education on donning and doffing of personal protective equipment and hand hygiene, patient communication through town hall meeting, increased hand hygiene observation and enhanced environmental cleaning of the communal washroom and high-touch surfaces.
Results: Limited transmission occurred after implementation of control measures.
Lessons Learned: The unique patient population and unit design were particularly challenging in this outbreak. Most symptomatic cases were ambulatory and all cases were located in different ward rooms. Additional precautions were modified as therapeutic interactions (i.e. passes to the community and social interactions) are necessary for patient recovery. The unit design was not conducive to infection prevention and control. Despite these challenges, the prompt implementation of control measures, inter-professional collaboration and cooperation from the patients contributed to the efficient and successful management of both outbreaks.

POSTER BOARD #24

EXPECT THE UNEXPECTED: SYNDROMIC SURVEILLANCE AND PROMPT IMPLEMENTATION OF ADDITIONAL PRECAUTIONS FOR DIARRHEA

Fatema Jinnah, Sandra Callery, Barbara Catt, Victoria Williams
Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

Issue: Prompt initiation of Contact Precautions for patients with new onset of diarrhea is important to prevent transmission of *C. difficile*. From April 2011 to June 2012 60% of oncology patients positive for *C. difficile* were placed on Contact Precautions at symptom onset.
Project: A "Don't Delay" project started in October 2012 in collaboration with nursing, included a poster campaign and feedback of compliance rates to all inpatient units. Education with case studies was provided reminding staff to consider *C. difficile* infection for new onset of diarrhea in at risk patients and providing direction on initiating Contact Precautions in multi-bed rooms using a commode chair if a single room was not available.
Results: From November 2012 to January 2013, compliance with the initiation of Contact Precautions at onset of diarrhea increased on the oncology units from 60% to 98%. 50 patients developed new onset of diarrhea after admission, 30 (60%) were moved to a single room, while Contact Precautions was initiated in the bed space for the remaining 19 (38%). Initiation of Contact Precautions in one case (2%) was delayed by 24 hours. Eight of the 50 (16%) cases with diarrheal illness tested positive for *C. difficile* toxin.
Lesson Learned: Introduction of a "Don't Delay" campaign facilitated prompt implementation of precautions until an infectious cause for diarrheal illness can be ruled out.

POSTER BOARD #26

IMPROVEMENT OF PATIENT SAFETY THROUGH A SUSTAINABLE HIP AND KNEE JOINT REPLACEMENT SURGICAL SITE INFECTION SURVEILLANCE PROGRAM

Melissa Zambrano, Krystyna Ostrowska, Sylvia Kucinska De Ocampo
Trillium Health Partners, Mississauga, Ontario, Canada

Objective/Background: A continually evolving surgical site infection (SSI) surveillance program is mandatory for the delivery of valuable and current information in order to assist the surgical team in improving patient outcomes. A total of 758 clean elective hip and knee surgeries conducted during April 1, 2010 to March 31, 2011 were analyzed for post-op SSI as well as for correct prophylactic antibiotic timing (PABT).
Methods: Standard data collection procedures are followed in order to generate a record of every surgical patient. Analysis includes a 30-day post-op review for superficial SSIs and a one-year review for deep and organ space SSIs. Notifications of the respective SSIs are submitted quarterly to the Orthopedic Chief followed by an annual summary and presentation. Adherence to SSI definitions by the Centre for Disease Control is maintained during the entire surveillance.
Results: Hip SSI rates have increased in comparison to the previous year from 2.1 to 3.3 while knee SSI rates decreased from 1.5 to 1.0. Percent compliance of PABT remains high and showed an increased from 98.4 to 99.23. The surveillance program began in 2004 with a hip and knee SSI rate of 4.0 and 3.0 respectively which has since steadily decreased in comparison to an increasing compliance rate for the appropriate PABT. PABT is a key component of perioperative care.
Conclusion: A commitment to improving patient safety has been a standing priority at Trillium Health Partners. The sustainability of the orthopedic SSI program depends on its effectiveness to measure performance and to highlight practices in need of improvement. Engagement of the surgical team through feedback and recommendations is equally important in maintaining an up-to-date program. Previous recommendations have prompted an investigation for the administration of 2mg of cefazolin prior to surgery as well as for the correct administration time for prophylaxis antibiotics. Future suggestions include an endeavour to monitor normothermia and glucose in order to further improve patient safety.

POSTER BOARD #28

INTEGRATING AN INJECTION SAFETY/INFECTION PREVENTION CURRICULUM INTO THE CURRICULA IN THE CAMEROON BAPTIST CONVENTION HEALTH SERVICES (CBCHS) PRIVATE TRAINING SCHOOL FOR HEALTH PERSONNEL, BANSO

Nkwan Jacob Gobte
Cameroon Baptist Convention Health Services, North West Region, Cameroon, West Africa

Introduction: The World Health Organization estimates that, of over 12 billion injections given annually worldwide, 50% are unsafe, and needle stick injuries contribute to millions of bacterial, viral, and parasitic infections. Although the frequency of needle stick injuries in the CBCHS is uncertain due to a poor reporting system, unsafe injection practices was thought to be high, prompting us to implement an injection safety/infection prevention campaign.
The Problem: A baseline survey conducted in some CBCHS health facilities in 2011 identified routine recapping of needles, poor handling/disposal of injection waste, application of pressure on a bleeding site using a used swab, poor storage of medication and vaccines, as the most common lapses in injection practices within the CBCHS facilities.
Objectives: To create awareness and educate staff/students of the hazards of unsafe injections. To reduce unsafe injections practices in the CBCHS
Methods and Materials: Beginning in July 2011, the CBCHS Private Training School for Health Personnel developed an injection safety/infection prevention curriculum which was adopted, integrated, and consistently taught in all courses.
Results: Since July 2011, over 500 nurses and other health care workers have been trained/sensitized on unsafe injection and infection prevention practices.
Conclusion: Injection safety/infection prevention awareness has been created across the entire CBCHS.

POSTER BOARD #30

EVALUATION OF THE REPRESENTATIVENESS OF THE CANADIAN NOSOCOMIAL INFECTION SURVEILLANCE PROGRAM

Katie Rutledge-Taylor[1], Robyn Mitchell[1], Linda Pelude[1], Virginia Roth[2], Philip Abdelmalik[1], Canadian Nosocomial Infection Surveillance Program[1]
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Background: The Canadian Nosocomial Infection Surveillance Program (CNISP) conducts surveillance of healthcare-associated infections (HAI) in acute care hospitals to establish benchmark rates. This evaluation assessed CNISP's representativeness based on hospital size, complexity of care provided, and geographic location.
Methods: Using data from the Canadian Healthcare Association database, CNISP and non-CNISP acute care hospitals were compared by number of acute care beds and presence of intensive care beds. Using census data and geospatial mapping, the proportion of Canada's 2006 population living within 100 km of a CNISP hospital was estimated.
Results: The majority (73%) of non-CNISP hospitals have fewer than 100 beds compared to CNISP hospitals (13 %, $p<0.001$). Almost all (96%) CNISP hospitals have intensive care beds, compared to only 25 % of non-CNISP sites ($p<0.001$). Approximately 78% of the Canadian population lives within a 100 km radius of a CNISP site. There are no CNISP hospitals in Nunavut, Northwest Territories or Yukon.
Conclusions: Overall, CNISP provides important information on HAI from a national perspective, information that is not available from any other source. However, HAI data from small hospitals and those in rural and northern areas are underrepresented and therefore CNISP data may not be an appropriate benchmark for all Canadian acute care hospitals.

POSTER PRESENTATIONS

POSTER BOARD #31

VANCOMYCIN-RESISTANT ENTEROCOCCI INFECTIONS IN CANADIAN ACUTE-CARE HOSPITALS, 1999 TO 2011

Robyn Mitchell[1], Alice Wong[2], John Embil[3], Lynn Johnston[4], John Conly[5], Denise Gravel[1], Stephanie Leduc[1], Anne Matlow[6], George Golding[1], Melissa McCracken[1], Debbie Ormiston[3], Andrew Simor[7], Stephanie Smith[8], Canadian Nosocomial Infection Surveillance Program[1]
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Background: To describe the epidemiology and microbiology of vancomycin-resistant enterococci infections (VRE) in participating Canadian Nosocomial Infection Surveillance Program (CNISP) hospitals from 1999 to 2011.
Methods: Laboratory surveillance for VRE is conducted through the collection of clinical isolates from inpatients in CNISP hospitals. Patient data are collected and clinical isolates are sent to the National Microbiology Laboratory for molecular testing.
Results: 52 hospitals in ten provinces identified 1,241 VRE infections. The majority of infections (93%) were healthcare-associated. The rate of VRE infections remained low from 0.02 per 1,000 admissions in 1999 (n=10) to 0.08 per 1,000 admissions (n=59) in 2007. However, rates have been rapidly rising from 0.16 per 1,000 admissions (n=111) in 2008 to 0.50 per 1,000 admissions (n=428) in 2011. VRE infection rates are the highest among large hospitals (those with greater than 500 beds) in the Central and Western regions of Canada and lowest in Eastern Canada. VRE was recovered from urine in 51% of cases, from blood in 25%, from a surgical wound in 16% and in 8% from skin and soft tissue. E. faecium and vanA were the predominant species and resistance genes among VRE infections. All VRE bloodstream isolates were susceptible to daptomycin, linezolid and tigecycline.
Conclusions: VRE infection rates have been rapidly increasing since 2008 with regional variation, yet the burden of VRE among Canadian acute-care hospitals remains low.

POSTER BOARD #32

EFFICACY OF ALCOHOL-BASED HAND RUBS AT AN "IN-USE" VOLUME

Sarah Edmonds[1], Robert McCormack[0,2], Collette Duley[0,2], David Macinga[1]
[1]GOJO Industries, Inc., Akron, OH, United States, [2]BioScience Laboratories, Inc., Bozeman, MT, United States

Background/Objectives: Alcohol-based hand rubs (ABHRs) are the primary form of hand hygiene in healthcare settings. Most Canadian hospitals use wall-mounted dispensers throughout the facility. However, there is little data on the efficacy of ABHRs at dispensed volumes. The objective of this study was to evaluate the efficacy of ABHR formulations when tested at the quantity dispensed.
Methods: Three commercially available ABHR, Gel A (70% ethanol gel), Foam B (70% ethanol foam), and Foam C (70% ethanol foam) were evaluated according to ASTM E1174 as described by the US FDA at a 1.3 ml volume, which represents the normal output from a wall-mounted dispenser. A total of 10 hand contamination and product application cycles were executed and log10 reductions from baseline were calculated for applications 1 and 10.
Results: Log10 reductions for Gel A, Foam B, and Foam C after a single application were 3.10, 3.06, and 3.10, respectively, and after ten applications were 3.11, 3.26, and 3.28, respectively. All test products met Health Canada requirements for a ≥3 log10 reduction after 1 and 10 applications.
Conclusions: This is the first report of ABHR formulations meeting Health Canada requirements with a single actuation from a wall-mounted dispenser. These data indicate well-formulated products can meet regulatory efficacy requirements at dispensed quantities.

POSTER BOARD #34

IMPLEMENTATION OF HAND HYGIENE E-LEARNING MODULE

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Pembroke Regional Hospital, Pembroke, Ontario, Canada

Issue: Low hand hygiene compliance rates and the occurrence of a VRE outbreak prompted the Hand Hygiene working group to take a new approach to education for Hand Hygiene performance. Based on the Just Clean Your Hands Program, an E-Learning Module was created to increase access to education.
Project: The learning module was given the tagline "Hand Hygiene: The Power to make a difference is in your Hands." A pilot test version was created and feedback on a variety of components was then used to create the final version. Completion of the E-Learning Module became mandatory for every clinical and clinical support staff member. Staff members who complete the module obtain a certificate. A spreadsheet application tracks staff member completion by name and department. Components: Did you know? Why does perception and practice differ? How does Hand Hygiene work? When should Hand Hygiene be performed? Measuring Compliance: Auditing compliance provides a benchmark for improvement. Method of feedback: Hand Hygiene compliance rates data reported back to various groups, committees, units and publicly.
Results: This tool is incorporated into orientation of staff and students. Compliance has improved.
Lessons Learned: Providing the E-Learning Module, access to learning and accountability for learning has improved. Providing resources, allowing easy access to them and including accountability has worked to change Hand Hygiene behaviours at the hospital.

POSTER BOARD #36

ANTIMICROBIAL RESISTANCE PATTERNS OF BACTERIA IMPLICATED IN COMMUNITY URINARY TRACT INFECTIONS: AN EIGHT-YEAR SURVEILLANCE STUDY (2005-2012)

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Clinica Central Cira Garcia, Havana, Cuba

Background: Urinary tract infection (UTI) is one of the most common infectious diseases at the community level. In order to assess the adequacy of the empirical therapy, the prevalence and the resistance pattern of the main bacteria responsible for UTI in the community (in Cira García Clinic, Cuba) was evaluated throughout an eight-year period.
Methods: In this retrospective study, all urine samples from patients, in ambulatory regime, collected at the Clinical Mycrobiology Laboratory during the period 2005-2012 were analysed. Samples with more than 105 CFU/mL bacteria were considered positive and, for these samples, the bacteria were identified and the profile of antibiotic susceptibility was characterized.
Results: Escherichia coli was responsible for more than half of UTI. Its resistance to antibiotics was low when compared to other pathogens implicated in UTI. Nitrofurantoin susceptibility does not fluctuate during the period analyzed, while susceptibility to sulfametazol/trimethoprim, chloramphenicol, gentamicin, amikacin decreases from 2% to 5%. High rates of resistance to ciprofloxacin in 2012, 54,3%. The most pronounced decline in susceptibility is Escherichia coli to norfloxacin 43.6% in 2005 and in 68.8% 2012.
Conclusions: With the exception of nitrofurantoin, resistance to agents commonly used as empirical oral treatments for UTI was extremely high. Levels of resistance to sulfametazol/trimethoprim and ciprofloxacin render them unsuitable for empirical use. Continued surveillance and investigation of other oral agents for treatment of UTI in the community is required.

POSTER BOARD #40

SPACE: THE FINAL FRONTIER IN THE FIGHT AGAINST *CLOSTRIDIUM DIFFICILE*

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Issue: Chatham-Kent Health Alliance's Sydenham Campus continued to have a Clostridium difficile infection (CDI) rate of 1.02 per 1,000 patient days, which was roughly 3 times the provincial average, despite following the Best Practice Guidelines.
Project: The 45-bed unit was contained to 1 floor of the hospital with ensuring a continually crowded environment. Many of these patient rooms consisted of 2 semi-private rooms adjoined by a single bathroom without a handwashing sink. To improve the condition, many facility changes were necessary such as using an empty wing on another floor of the building; renovating semi-private rooms to include a hand washing sinks, resulting in the creation of more private rooms. Additional space allowed for reorganization of supplies and equipment to establish a clear separation between dirty equipment and clean.
Results: With changes to the facilities, Sydenham Campus has been CDI free and this has been sustained for a period greater than 14 months.
Lessons Learned: With the support of Senior Team to fund the facilities project, Sydenham Campus has seen a decrease in all health care associated infection rates, particularly CDI. There are more private rooms, more hand washing sinks and more space for patient equipment and staff to perform care.

POSTER BOARD #42

INFECTION PREVENTION & CONTROL LIAISON PROGRAM: EMPOWERING STAFF AS FRONTLINE IP&C LEADERS

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Issue: Engaging frontline staff in addressing IP&C issues in their local areas builds capacity and increases accountability. In 2010, a need for frontline involvement to address IP&C issues was identified. To meet these needs, an IP&C Liaison (IPCL) Program involving the frontline was developed.

Project: With the support of hospital administration, a multidisciplinary group of frontline staff was recruited for the IPCL Program. The purpose of the program was to empower frontline staff to display local IP&C leadership and act as an IP&C resource for their peers. In order to identify IP&C issues and promote IP&C practices in their local areas, the IPCLs attended a two-day training workshop to increase their knowledge of IP&C principles. IPCLs continued to meet monthly for education sessions and discussions about IP&C issues.

Results: The implementation of the IPCL program led to the expansion of IP&C resources, improved IP&C practices, increased frontline engagement and improved means of communication between staff and IP&C. The IPCLs utilized their frontline expertise in IP&C policy development, during IP&C audits and in identifying and increasing awareness of IP&C issues in their local areas. Opportunities for staff-to-staff education were also created as a result of their role in disseminating IP&C information and updates to their peers.

Lessons learned: IPCLs as frontline IP&C resources maximize the impact of corporate IP&C resources in a small organization, creating a higher profile for IP&C. When equipped with training, IPCLs are effective vehicles for staff-to-staff education and communication of IP&C principles.

POSTER BOARD #44

VISUALIZATION OF CLINICALLY RELEVANT BACTERIA DURING EXPOSURE TO DISINFECTANTS

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Background: Microbial biofilms play a major role in the progression of infection and have been shown to be more difficult to eradicate than planktonic cells. In a clinical setting, surface disinfection represents one of the primary means by which the spread of infection is minimized. The main objective of this study was to directly visualize the effect of disinfectants on clinically relevant biofilms to determine their efficacy.

Methods: Biofilms of Pseudomonas aeruginosa MPAO1, and clinical isolates of Escherichia coli and Staphylococcus aureus were grown at 37°C for 48hr in 6-chamber flow cells. Biofilms were stained with BacLight Live/Dead probe for 15min. Disinfectants were injected through each chamber, using PBS as a control. Images of the biofilm cells were captured every 5 seconds for 2 minutes, followed by every 30 seconds for an additional 10 minutes. All experiments were performed in duplicate.

Results: Each disinfectant showed different efficacies against the test strains. Ethanol-based products appeared most effective, with a shift from green to red fluorescence (bacteria apparently killed) in as little as 5 seconds. Products containing quaternary ammonium compounds and peroxide exhibited some cell death by the end of the exposure period, but effects were much slower.

Conclusions: This study demonstrates that different disinfectants exhibit varying degrees of effectiveness in killing biofilm cells. This is the first study that has directly visualized bacterial biofilms during the course of exposure to disinfectants. This will provide further knowledge into how disinfectants act on biofilms, leading to more effective infection control strategies.

POSTER BOARD #46

DISCONTINUATION OF CONTACT PRECAUTIONS FOR PATIENTS NO LONGER COLONIZED WITH VANCOMYCIN RESISTANT ENTEROCOCCUS

Linda Shi, Jane Tooze, Sharon O'Grady
Bridgepoint Health, Toronto, Ontario, Canada

Issue: In 2011, we faced an increase of Vancomycin Resistant Enterococcus (VRE) colonized patients on admission. Accommodating and maintaining the increasing number of cases was resource intensive. To reduce the number of patients requiring precautions and improve their quality of life, we conducted a prospective project to implement a protocol to regularly screen colonized patients. Those no longer colonized had their precautions discontinued.

Project: This project was conducted in a single-center complex care and rehabilitation hospital between June and December 2011. Rectal swabs were collected from existing or newly detected VRE colonized patients. Once three consecutive negative swabs taken one week apart were collected, patients were considered to be no longer colonized and were removed from contact precaution. Patients were then monitored for VRE recurrence monthly for three months, then quarterly until discharge. Patients with positive cultures remained on contact precautions and re-swabbed every two months. Off-precaution days and cost savings were tracked.

Results: A total of 62 VRE colonized patients were swabbed and 32 patients with three consecutive negative swabs were removed from precautions. Two hemodialysis patients re-colonized after three and six month's clearance, respectively. Of the remaining positive patients, 10 remained positive and 20 were excluded from the project due to short hospital stays. By implementing this protocol the total off-precaution days were 2173 and cost avoidance estimated at $5432.5

Lesson Learned: Periodic monitoring of VRE colonized patients shows that they can become decolonized. Contact precautions can therefore be discontinued safely, thus improving their quality of life.

POSTER BOARD #47

AUDITING COMPLIANCE TO HAND HYGEINE BY MONITORING VOLUME OF ALCOLOL-BASED HAND RUB

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Bridgepoing Health, Toronto, Ontario, Canada

Issue: As a patient safety indicator, Hand Hygiene (HH) compliance is routinely audited via direct observation. Product volume monitoring is another approach to assess proper HH. This project was to acquire base line data on usage of alcohol-based hand rub (ABHR) in a single-center complex care and rehabilitation hospital.

Project: The project was conducted on three patient units in 2011. Numbered bottles of ABHR were placed in units on first day of project. Logs were kept twice a week noting number of patients per room, patients on precautions, and the date bottles replaced. In January 2012, a different method was trialed using Materials Management data to monitor bottles of ABHR per 1000 patient days.

Results: During the initial audit, 16 bottles were used on 5E, 18 on 6E, and 32 on 7E where one-fifth of the patients were on precautions. HH compliance rates on 5E, 6E, and 7E were 85%, 88% and 90% respectively. In 2012, under the revised monitoring system, usage of ABHR ranged from 10 to 15 bottles per 1000 patient days. HH compliance rates increased from 89% to 96%.

Lessons Learned: Monitoring volume of ABHR is a relevant and useful alternative to direct observation for reporting HH compliance. However, using an auditor can be labour intensive and time consuming. This project helped to highlight differences in HH practices, such as additional precaution signs may have served as reminder to staff to practice good HH. Central monitoring ABHR usage required less time but doesn't generate same level of data analysis.

POSTER BOARD #50

MANAGEMENT OF HERPES ZOSTER EXPOSURES IN OUTPATIENT ONCOLOGY; DISSEMINATING STRATEGY ON DISSEMINATED SHINGLES

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Issue: Patients with solid tumors and hematologic malignancies are at increased risk of complicated Varicella Zoster Virus (VZV) reactivation including disseminated zoster. Early detection and immediate implementation of infection prevention and control measures are critical to decrease the impact of transmission to other vulnerable patients. Heightened awareness has resulted in increased reporting of VZV cases within the BC Cancer Agency (BCCA), highlighting the need for coordinated strategies for the management of VZV cases within outpatient oncology settings.

Project: We reviewed VZV case consult documentation with the purpose of identifying areas for process improvement. We then developed a BCCA specific exposure protocol and an oncology focused VZV section that was added to the revised BCCA Infection Control Manual. Patient education materials were created including both a VZV patient education pamphlet and a revised 'New Patient Information Booklet' that included a request to patients to report any new rash to their caregivers.

Results: Many challenges to the implementation of the exposure protocol

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were identified including difficulty in: identifying cases at risk of dissemination, clarifying the role of Infection Prevention and Control, communicating effectively with the multidisciplinary team, and generating buy-in for the process.
Lessons Learned: Basic Response plans at BCCA, for respiratory and gastrointestinal symptoms, need to be expanded to include awareness around rashes. This will facilitate the initiation of precautions at first encounter and decrease the need for exposure follow-ups. Focusing staff education on Routine Practices decreases the need for time consuming, costly, and complicated exposure follow-up.

POSTER BOARD #52

USE OF A NOVEL TECHNOLOGY FOR FRONTLINE STAFF-DRIVEN QUALITY IMPROVEMENT

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Issue: Providing feedback to frontline staff on process measures, such as compliance with environmental cleaning and other infection prevention and control (IPAC) policies, may be an effective strategy to reduce healthcare-associated infections. However, process measures can be difficult to monitor and feedback is often delayed. Electronic monitoring systems offer an innovative approach to provide timely feedback and potentially reduce HAIs.
Project: An ultrasound-based real-time locating system (RTLS) was installed on two multi-organ transplant units. The system measured hand hygiene compliance, tracked movement of equipment, and performed contact tracing to identify possible exposures to transmissible organisms. Data were presented to frontline staff on the units, and empowerment strategies were used to facilitate staff-driven quality improvement interventions.
Results: Movement of equipment was tracked and staff were concerned that procedures for disinfection between patients may not have been followed on some occasions. In addition, contact tracing on two patients with hospital-acquired Clostridium difficile infection showed that they were both exposed to the same vital signs monitor and commode prior to disease onset. Based on these data, staff identified the need to clarify equipment-cleaning protocols. The system was modified to allow staff to indicate when equipment had been cleaned, and this change is being implemented.
Lessons Learned: Electronic monitoring systems have many applications in IPAC, including identifying and correcting breaches in IPAC protocols. Data from this RTLS facilitated frontline staff involvement in IPAC. Further research is needed to determine the impact on HAI rates.

POSTER BOARD #54

PREVALENCE OF ANTIMICROBIAL RESISTANT ORGANISMS (ARO) IN ONTARIO LONG-TERM CARE HOMES (LTCH) IN 2012

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Public Health Ontario, Toronto, ON, Canada

Background: Methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant-Enterococcus (VRE), extended-spectrum-beta-lactamase organisms (ESBL) and carbapenemase-producing-Enterobacteriaceae (CPE) have become more prevalent in healthcare facilities. Provincially, there is a reasonable understanding of ARO burden in hospitals, but not in LTCHs. The purpose of this project was to determine the burden MRSA, VRE, ESBL and CPE in LTCH by geographic area and bed size.
Methods: LTCHs were invited to participate in an online survey where they could provide aggregate counts of MRSA, VRE, ESBL and CPE in their homes. LTCH were categorized by geography (Central, East, North, West, Central West) and by bed size (0-80 beds, 81-160 beds, >160 beds). Descriptive statistics were calculated in Excel and SPSS v.19.
Results: 35% of LTCH participated. Provincially, MRSA was the most prevalent ARO at 3.4 per 100 residents. Western Ontario had the greatest prevalence for MRSA, VRE and ESBL. CPE prevalence was only reported in Central and Central West Ontario LTCHs. With respect to bed size, larger LTCHs were found to have greater VRE and CPE prevalence, with U-shaped trends observed for MRSA and ESBL.
Conclusion: The 2012 results build upon a previous study which provided a new perspective to the issue and reported on ARO trends across geographical areas and facility sizes. These findings may assist in further developing surveillance and educational tools for infection prevention and control practices in LTCH.

POSTER BOARD #56

HAND HYGIENE REWARDS PROGRAM AT WILLIAM OSLER HEALTH SYSTEM

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William Osler Health System, Brampton, Ontario, Canada

Issue: Healthcare workers compliance with hand hygiene is very important to prevent and control the transmission of infections. Data analysis from daily hand hygiene audits indicated the hospital compliance rates were low when compared to the Ontario provincial average.
Project: A "wash and win rewards" program was initiated to bring about behavioural and cultural change in order to sustain improved hand hygiene among staff. All inpatient units and emergency departments which met and sustained hand hygiene targets for two consecutive months won an iPad or $500. Phase I ran from May 2012 to September 2012 and targets were 75% and 80% for 'before patient/patient environment contact' and 'after patient/patient environment contact', respectively. Phase II ran from October 2012 to December 2012 and targets were 85% for 'before patient/patient environment contact' and 95% for 'after patient/patient environment contact'. The program was implemented in partnership with regular staff education, daily auditing and monthly circulation of compliance rates among staff.
Results: There was a sustained increase in our hand hygiene compliance rates in phase I. During phase II, as expected the compliance rate dropped as a result of increased targets.
Lesson Learned: Positive reinforcement does change people's behaviour. Rewards are most effective when it occurs immediately after the compliance rates have been published. To attain the desired effect, targets would be increased to 100% for both 'before and after patient/patient environment contact' at the onset of the program. The program would also be extended until targets have been maintained consistently for 18-24 months.

POSTER BOARD #58

CLOSTRIDIUM DIFFICILE CONTAMINATION OF REPROCESSED HOSPITAL BEDPANS

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Background/Objectives: The role of re-useable bedpans in the transmission of *C. difficile* remains unclear. We sought to determine the extent of *C. difficile* contamination of bedpans pre- and post-reprocessing in a 232-bed hospital.
Methods: Electrostatic cloths were used to wipe half a bedpan prior to reprocessing and new cloths were used to wipe the other half after reprocessing. In total, 166 cloths were submitted (83 from bedpans prior to reprocessing and 83 from reprocessed bedpans). 40 were from bedpans from diarrheic patients (20 pre- and 20 post-reprocessing) and 126 were from non-diarrheic patients (63 pre-and 63 post-reprocessing). Cloths were cultured for *C. difficile* and isolates were characterized by ribotyping and toxin gene PCR.
Results: *C. difficile* was found in 26% (43/166) of bedpans; 30% (12/40) of those from diarrheic patients and 24.6% (31/126) from non-diarrheic patients (P=0.41). Pre-reprocessing, *C. difficile* was isolated from 20% (5/20) bedpans from diarrheic patients and 16% (10/63) from non-diarrheic patients (P=0.34). After processing, *C. difficile* was isolated from 35% (7/20) diarrheic and 33% (21/63) non-diarrheic (P=1.0). Contamination increased with reprocessing, as *C. difficile* was isolated from 15/83 (18%) pre-reprocessing and 28/83 (33.7%) post-reprocessing (P=0.03). The isolates belonged to 9 ribotypes and 28% (12/43) were ribotype 027/NAP1. Additionally, 20 samples were collected from the reprocessing environment and 3 isolates were recovered from a wash basin, the cart washer and a soap bucket.
Conclusions: This study demonstrates that bedpans remain contaminated with spores after reprocessing and could potentially serve as a vector of transmission. Of additional concern is evidence that initially *C. difficile*-free bedpans and other patient equipment can become contaminated during reprocessing.

POSTER BOARD #60

DONOR HUMAN BREAST MILK, MAKING IT PATIENT AND FOOD SAFE

Wayne Lee[1], Allison McGeer[1], Laura McNaught[1], Rheney Castillo[1], Sharon Unger[1], Sukhy Mahl[1], Dave Mason[1], Doug Varey[1], Joe Grasso[1], Debbie Stone[1], Anna Miranda[2], Jim Chan[2], Bruce Keown[3]
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Issue: "The sharing of unprocessed human milk is not endorsed," (Canadian Paediatric Society). In Canada, there are 2 operating facilities that pasteurize and

distribute donor human breast milk (DHBM) to high-risk neonates. The benefit of mother's own milk is well documented. The charitable act of mothers donating excess breast milk to pre-term infants, whose mothers cannot produce, is not free of risk. DHBM must be processed in a manner that mitigates/eliminates any risk of the final product being a source of infection. The act of processing a body fluid to create food must be compliant with food processing standards.
Project: Mount Sinai Hospital (MSH), in partnership with the Ontario Ministry of Health and Long Term Care, Sunnybrook Health Sciences Centre and the Hospital for Sick Children, constructed the province's first post HIV era Milk Bank. In absence of regulated design criteria, the project committee chose to review Ontario Health Protection and Promotion Act, the Ontario Food Premises Regulation and consult with Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), and the Toronto Public Health Department.
Results & Lessons Learned: On February 1, 2013 the Rogers Hixon Ontario Milk Bank (RHOMB) was completed. The facility was constructed with the intent of ensuring the best preservation of important nutritional characteristics of human milk while eliminating wherever possible the risk of disease transmission. The facility is currently undergoing a review by the Toronto Public Health Department, OMAFRA, and the Human Milk Banking Association of North America (HMBANA).

POSTER BOARD #62

HEPATITIS C INVESTIGATION - COLLABORATION BETWEEN PUBLIC HEALTH AND INFECTION CONTROL

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Background: In August 2009, a 20-year-old woman underwent dental surgery at The Ottawa Hospital (TOH). She was hepatitis C (HCV) antibody negative in 2009. In June 2010, after donating blood, Canadian Blood Services notified her that she was antibody positive for HCV. Repeat testing in September 2010 by her family physician confirmed this result. Because of her recent procedure, we felt that investigation was warranted to determine if transmission may have occurred as a result of her procedure.
Methods: The patient was interviewed as part of the HCV surveillance program at Ottawa Public Health (OPH). Family members were tested. OPH notified TOH of her HCV seroconversion because of her recent procedure. TOH observed practices in the operating room (OR). A list of the patients who had undergone dental procedures in the same OR within 24 hours prior to the index case was obtained and medical histories were reviewed.
Results: The index case had no obvious risk factors for HCV. Observation of practices in the OR were acceptable. Although no actions were identified which would explain this patient's HCV acquisition, recommendations were made to improve anesthesia practices. One patient from the list was considered to be at high risk and was interviewed, tested, and negative.
Conclusions: While HCV transmission resulting from surgical procedures has been reported, we did not find this in our investigation. An investigation is warranted when individuals are found to seroconvert following a surgical procedure. Collaboration between infection control and public health facilitated a thorough investigation in this case.

POSTER BOARD #64

QUALITY IMPROVEMENT STRATEGY TO REVIEW ACCESS TO POOL THERAPY FOR PATIENTS WITH ANTIOBIOTIC RESISTANT ORGANISMS (ARO) IN A REHABILITATION SETTING

Andrea Fisher[1], Natalie Bruce[1], Sue Balmer[1,2], Sylvie Maurice-Langis[0,2], Andrea Chase[0,2]
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Issue: Pool therapy is beneficial for patients requiring physical rehabilitation. The Ottawa Rehabilitation Centre is a 60 bed inpatient rehabilitation facility where patients with AROs have historically been denied access to pool therapy because of concerns of transmission. Due to the increasing number of patients with AROs, Infection Control and Prevention (IPAC) was consulted by the leadership team of physiotherapists to review existing practices and determine if these patients could access the pool.
Project: IPAC was invited to a planning meeting along with key decision makers to explore whether patients with AROs could access the pool for therapy. This group was tasked with developing a process map to outline the steps that would be required for patients to use the pool. Barriers and solutions for each step were included. Regular meetings were planned with the staff members to address concerns, provide information and present findings.
Results: Process mapping provided a hands-on experience for staff to visualize and participate in solving the problem. Patients meeting eligibility criteria are no longer restricted from accessing the pool.
Lessons learned: A collaborative quality improvement strategy was key in identifying barriers and finding solutions. A process map provided the opportunity to critically appraise each step of the process and overcome barriers. It was successful in developing a process that allows patients with AROs to use the pool. IPAC provided expert knowledge in infection control practices that facilitated resolution of many of the perceived barriers.

POSTER BOARD #66

PARTNERS FOR A CLEAN ENVIRONMENT: AN ALBERTA HEALTH SERVICES (AHS) COMMUNITY OF PRACTICE INVOLVING INFECTION PREVENTION AND CONTROL (IPC) AND ENVIRONMENTAL SERVICES (ES)

Sara Gallinger, Sue Lafferty, David Lee, Anna Wong, Michelle Ganske, Melody Cordoviz, Fred W. Cundict, Marie Judd, Danusia Moreau, Craig Pearce, Wendy Runge
Alberta Health Services, Alberta, Canada

IPC is everyone's business in health care. Even though IPC does not do the work, the reality is that the IPC department is often given ownership of all IPC concerns within an organization. Commencing in 2011, a working relationship has evolved between Infection Prevention and Control and Environmental Services with a goal to standardize environmental cleaning guidelines, standards and quality monitoring within Alberta Health Services (AHS), a province-wide health region. It is understood that ownership of ES standards and protocols rests fully with ES but IPC provides input and guidance during the development process. Participants include representation from ES Operations and Infection Control Professionals from the five zones within AHS. ES develops draft documents and engages IPC as major stakeholders in reviewing, refining and approving them as standards. The IPC team has formed a working group to provide consistent, evidence-based consensus feedback to the ES Provincial Standards Committee. Monthly meetings between ES and IPC support the working relationship and provide a regular opportunity to problem solve and discuss anticipated work items. The structure of the relationship results in IPC having significant input into the drafting of provincial cleaning standards while accountability and document ownership remains with ES. To date 34 Cleaning Protocols, 5 Service Standards and a Quality Audit Process have been finalized and are in use across the 5 zones of AHS and engagement between IPC and ES has also spread beyond the Provincial Standards Committee based on this working relationship.

POSTER BOARD #68

IMPLEMENTATION OF A MANDATED PROVINCIAL HAND HYGIENE PROGRAM: MESSAGES FROM THE FIELD

BC Provincial Hand Hygiene Working Group PHHWG, Petra Welsh
BC Provincial Hand Hygiene Working Group (PHHWG), Vancouver, British Columbia, Canada

Issue: The BC Provincial Hand Hygiene Working Group (PHHWG) was formed in September 2010 and tasked with developing and implementing a provincial hand hygiene (HH) program. Changing HH culture province-wide requires a concerted and collaborative effort by healthcare workers (HCW), operational leads, and decision makers. Obtaining their perspective on a HH program is an important step in documenting and effecting change on a provincial scale.
Project: Between September 2011 and January 2012, 30 key informant interviews were conducted by an independent researcher. Participants were selected to represent HCWs who implement program policy and audit HH (the field); operational leads involved in the planning of the provincial programs, and decision makers at the senior executive level. This paper reflects qualitative in-depth interviews of 11 HCWs who were field level implementers of the provincial hand hygiene program in British Columbia.
Results: Key themes included the need for more resources at the field level, the desire for HH compliance audits and guidelines to more accurately reflect the HCWs' working conditions and workloads, the need for feedback from patients and front line HCWs, and a desire to transfer ownership of HH from senior administration to the front line.
Lessons Learned: The feedback received from HH program implementers is useful for planning and fine-tuning HH programs locally, nationally and internationally.

POSTER BOARD #70

CELEBRATING CHAMPIONS: THE HAND HYGIENE CHAMPION PROGRAM AT MOUNT SINAI HOSPITAL

Laura McNaught, Christine Moore, Liz McCreight
Mount Sinai Hospital, Toronto, Ontario, Canada

Issue: Lack of role models or "champions" for hand hygiene has been identified as a barrier to improving adherence. Mount Sinai Hospital (MSH) has developed a Hand Hygiene Champion Program (HHCP) as a component of our multifaceted approach to improve adherence.

Project: The HHCP at MSH started in June 2011 with the development of the Hand Hygiene Toolkit. The toolkit includes resources on what it means to be a role model, how to complete peer-to-peer auditing and environmental assessments, and provides a framework to perform a situational analysis of hand hygiene promotion and practices. Peer-to-peer auditing was implemented with 25 champions with plans increase the number of champion auditors annually. In October 2012 MSH held a Hand Hygiene Day. The day included motivational speakers, an opportunity for champions to share their experiences and a peer-to-peer auditing exercise to recruit new champion auditors.

Results: The number of champions has increased steadily with 37 champions in September 2011, 56 in August 2012 and 71 in January 2013. Hand Hygiene Day was well received with 88% of attendees reporting feeling more comfortable talking to peers about hand hygiene and 100% reported they would attend another Hand Hygiene Day. Hand hygiene rates have increased from 75% in Q1 2011/12 to 81% in Q3 2012/13.

Lessons Learned: The addition of the HHCP has improved HH adherence and facilitated a shift in culture. The program has helped front-line staff become committed to hand hygiene and has developed expert hand hygiene resources at the unit level.

POSTER BOARD #72

A CLEANER, SAFER HOSPITAL ONE MARK AT A TIME: EVALUATING AND OPERATIONALIZING AN ENVIRONMENTAL AUDITING PROGRAM

Laura Gordon, Natalie Bruce, Angela Wigmore, Michèle Larocque-Levac, Susan Batista, Jeff Cray, Angela Zito, Denise Laflamme, Pat Iaderosa, Mike Sheremet, Natalie Groulx, Colleen Bird, Monique Madore, Wayne Levac, Karen Stockton, Kathryn Suh, Virginia Roth
The Ottawa Hospital, Ottawa, Ontario, Canada

Issue: Environmental auditing (EA) is a tool used by health care organizations to ensure that the environment is consistently and effectively cleaned. In 2012, The Ottawa Hospital (TOH) undertook a comprehensive review of its EA program. The existing EA program on inpatient units was internally developed and consisted of an oil-based ultraviolet (UV) marking agent. This product had numerous limitations leading to an unstandardized process and unreliable results.

Project: A working group was struck with representation from Housekeeping and Infection Prevention and Control (IPAC) to explore alternative auditing methods and products. The group implemented a 20-day pilot study to test two commercial auditing products: an alcohol-based UV marking agent, available in a pre-filled dispenser, and a product that measures the amount of adenosine triphosphate on surfaces. A qualitative survey was administered to participants to assess user preference for both auditing methods and products.

Results: Users preferred UV marking because it provides an effective visual aid to coach staff on proper cleaning techniques. Users favoured the alcohol-based UV agent to the existing oil-based product because it allowed for simple and consistent application.

Lessons Learned: The auditing process at TOH serves as a valuable tool for Housekeeping supervisors to teach consistent and effective cleaning practices to staff. There are a number of commercial auditing products available. Successful implementation and user satisfaction of any EA program relies on Housekeeping input to determine product preference. During this pilot, collaboration with Housekeeping and IPAC resulted in strengthened working relationships and better understanding of each other's roles.

POSTER BOARD #74

CHLORHEXIDINE GLUCONATE 2% DAILY PATIENT BATHING IMPACT ON CENTRAL LINE AND VENTILATOR ASSOCIATED PNEUMONIA INFECTIONS

Suzanne Plourde, RN, MPH, CIC, Sandra Callery RN, MHSc, CIC, Mary Vearncombe MD, FRCPC
Sunnybrook Health Sciences |Centre, Toronto, Ontario, Canada

Intervention: Chlorehexidine gluconate (CHG) has been shown to be an effective antiseptic. Application has extended to daily patient bathing to decrease central line infections (CLI) and ventilator associated pneumonias (VAP). Method: To reduce CLI and VAP, a before and after study was done in our 14-bed cardiovascular surgery intensive care unit (CVIC). For one year starting April 1, 2011 all patients in the CVIC received a once daily bath with 2% CHG. The outcome measure was a reduction in CLI and VAP compared to the preceding fiscal year.

Results: VAP rates decreased from 3.4 to 1.5 per 1000 ventilator days. CLI rates decreased from 0.93 to 0.91 per 1000 line days. There was microbial variability between the two time periods. For VAP, Methicillin-resistant *Staphylococcus aureus* (MRSA) (23%), *Haemophilus influenzae* (23%), and Pseudomonas (24%) were found to be causative agents before the introduction of CHG; post-intervention Pseudomonas was found in 50% of cases and no MRSA. For BSI, coagulase negative staphylococcus (CNS) was the causative agent in 50% of cases; post-intervention, *Escherichiacoli*, *Pseudomonas*, and CNS were each found in 1/3 of cases.

Conclusion: Daily cleansing of CVIC patients with 2 % CHG is a simple and effective strategy to reduce the rate of CLI and VAP. Study findings are analogous to literature supporting the use of CHG to reduce BSI and VAP, along with the overall bioburden, especially in the reduction of Gram positive bacteria.

POSTER BOARD #76

SURVEY OF HEALTHCARE PROFESSIONALS TO INFORM DEVELOPMENT OF GUIDANCE DOCUMENTS FOR FRONT-LINE HEALTHCARE PROFESSIONALS IN TUBERCULOSIS INFECTION PREVENTION AND CONTROL

Toju Ogunremi[1], Frederic Bergeron[1], John Embil[2], Katherine Defalco[1], Kathleen Dunn[1], Tom Wong[1]
[1]Public Health Agency of Canada, Ottawa, ON, Canada, [2]Health Sciences Centre, Winnipeg, MB, Canada

Issue: Tuberculosis (TB) is an infectious condition of significant health care concern. A needs assessment was conducted to inform the scope for revised guidance documents on infection prevention and control for TB in health care and community care settings.

Project: An online survey tool was developed by the Public Health Agency of Canada (the Agency). Information on demographics, use of TB guidance documents and preference for content and format were collected. Relevant stakeholder organizations, healthcare professionals, and provincial/territorial contacts were invited to participate.

Results: Out of a total of 495 questionnaires distributed, 406 were completed with participant representation from all provinces and two territories.
The Agency was identified as the main organization referred to for information on TB prevention and control. About 93% of respondents reported consulting a guidance document on TB prevention and control in the last 24 months.
The 2007 *Canadian Tuberculosis Standards* was the most frequently consulted document (94%), followed by the U.S. Centers for Disease Control and Prevention TB guideline (72%) and the 1996 Agency TB Guidelines (68%). Topics identified as most important for inclusion in a TB guideline document included infection prevention and control, screening and surveillance, and latent TB treatment. Respondents indicated that both a comprehensive guideline and a targeted guidance document format would be useful provided the evidence in the document is rated.

Lessons Learned: The results of this survey will inform the revision of TB infection prevention and control guidance documents for healthcare and other settings.

POSTER BOARD #78

INVESTMENT IN INFECTION PREVENTION ACTIVITIES RESULTS IN DECREASED RATES OF TRANSMISSION

Josee Shymanski, Maryse Castonguay, Cindy Demontigny, Linda Lessard
Hopital Montfort, Ottawa, ON, Canada

Issue: Decreased hand hygiene compliance rates and increased incidence of transmission of antibiotic resistant organisms (ARO) were noted in our facility during 2010-2011. These outcomes correlated with the rapid expansion of our facility and with a significant growth of a young workforce.

Project: In April 2011, our institution selected improving compliance to hand hygiene as a quality improvement initiative with the goal of reducing nosocomial transmission. One full time equivalent was allocated to the infection prevention and control program for the project. An aggressive approach was taken to control transmission of AROs including screening, unit inspections along with education on contact transmission and routine practices. Our hand hygiene program included a graphic design for the campaign, patient and staff education, simulations exercises, improving product availability, and a comprehensive auditing program with on the spot feedback and monthly reports.

Results: Hand hygiene compliance rates increased from 45% to 66% in 2011-2012 and are now maintaining at 80%. Since fiscal year 2010-2011, the

consolidated rate of nosocomial transmission of AROs and *clostridium difficile* per 1000 patient days has declined from 2.08 to 0.95 to 0.81 (as of January 2013). We observed a reduction of 3917 isolation days for AROs and *clostridium difficile*. During the same period, the number of outbreaks declined from 12 to 5 per year.
Lessons Learned: Hand hygiene compliance rate is an important measure which can promote sound routine infection control practices. Investment in infection prevention activities has resulted in a decrease of infection rates within our facility.

TUESDAY, JUNE 4, 2013
12:30 - 1:30 PM

POSTER BOARD #1

ACUTE RESPIRATORY ILLNESS (ARI) SCREENING TOOL: IS IT WORKING FOR INFLUENZA?

Zoran Pikula, Wil Ng, Amna Faheem, Maureen Acomb, Doreen Alexander, Diane White, Kevin Katz
North York General Hospital, Toronto, Canada

Background: The ARI screening tool was introduced to help identify an acute respiratory viral infection on admission to a hospital, prompting early isolation and treatment of patients meeting criteria. The tool asks about: (1) new or worsening respiratory symptoms and (2) fever >38.0*C and/or chills. Droplet/contact isolation is initiated for those meeting both criteria. Our hospital routinely performs nasopharyngeal swabs on admitted patients with fever, respiratory symptoms, congestive heart failure and atrial fibrillation during influenza season.
Project: We retrospectively reviewed the charts of 99 patients with lab-confirmed influenza, using Polymerase Chain Reaction, during the 2011/12 influenza season. Our goal was to determine how many influenza cases met the screening tool criteria.
Results: Of the 99 influenza cases, 65 (65.7%) had fever >38*C and met the tool criteria. 34 (34.3%) did not meet the criteria for not having fever. 88 (88.9%) of the 99 influenza cases were isolated in ER on admission while 11 (11.1%) were not. 9 of these 11 cases were isolated on the floors. If the tool criteria alone determined the need for isolation, a significant number of isolations would be missed in ER ($p<0.001$) and potentially increased the risk of nosocomial transmission.
Lessons Learned: Approximately a third of the influenza cases did not meet criteria for the ARI tool, questioning the utility of the tool to screen patients with suspected influenza. During influenza season all patients with new respiratory symptoms regardless of fever should be tested for influenza using a very sensitive test, such as PCR.

POSTER BOARD #3

MULTIPRONGED APPROACH IN REDUCING RATES OF NOSOCOMIAL CDI CASES IN A FACILITY-WIDE OUTBREAK WITH THE IMPLEMENTATION OF THE CDI TOOLKIT

Michelle Alexander (Jayatilaka), Judy McCarten, Janessa McGuire, Lynda Bowen, Betty-Jean Macdonald, Chris Brown, Nicole Saunders, Teri Murduff, Dan Ricciutto, Alice Brink
Lakeridge Health, Oshawa, Ontario, Canada

Issue: *Clostridium difficile* infection (CDI) ranges from mild diarrhea to severe illness such as pseudomembranous colitis and toxic megacolon. Failure to recognize risk, symptoms and initiate prompt management can lead to possible transmission. Several tools had been developed at our hospital to help mitigate the risk of CDI and prevent transmission, but these were not well utilised.
Project: During our facility outbreak for CDI, these previous tools were assembled together into a bundle known as the CDI toolkit. This toolkit was intended for clinical staff to identify risks and early signs and symptoms of suspected CDI cases to manage them appropriately with the initiation of early infection control measures, treatment and cleaning protocols. During the outbreak, an Incident Management Team was mobilized with senior management. This team helped disseminated accountability to the unit leadership to implement this CDI toolkit. The unit leadership were given audit tools to measure its utilization.
Results: With this multipronged approach in the implementation of the CDI toolkit, we were able to measure a sustained decrease in transmission. It is too soon to determine the effect on nosocomial CDI rates but have seen a decline in transmission rates which in turn shortened the duration of the outbreak.
Lessons Learned: Senior management support and the use of audit tools were instrumental in achieving success with the uptake of the CDI toolkit by putting the accountability to unit leadership. The shift of accountability made it feasible for staff to utilize the CDI toolkit

POSTER BOARD #5

MULTI-DRUG RESISTANT TUBERCULOSIS: MITIGATING RISK OF A SURGICAL PATIENT

May Griffiths-Turner, Anne Bialachowski, Christine Lee
St. Joseph's Healthcare, Hamilton, Ontario, Canada

Issue: A patient with Multi-Drug Resistant Tuberculosis (MDR-TB) was referred to St. Joseph's Healthcare Hamilton, Centre for Minimal Access Surgery, for a laparoscopic right upper lobe lobectomy to remove a granuloma to facilitate continued recovery.
Project: A multidisciplinary team was convened to mitigate risk, preoperatively, intraoperatively and postoperatively while providing safe, empathic patient care. Health care workers were informed of the pending case and provided education and information about MDR-TB to alleviate any potential anxiety related to their perceived risk of exposure or infection. The team prepared for all aspects of the patient visit, by having a comprehensive plan in place for safe patient management prior to the patient's arrival.
Results: The patient traversed safely and smoothly through each transition point during their hospital admission. Microbiological culture of tissue obtained intraoperatively revealed MDR-TB with the same antibiotic profile as previous clinical sputum samples. The patient was discharged to an ancillary facility and continues to recover. Due to advance preparation, communication and education, health care workers were confident that all necessary measures were undertaken to ensure patient and staff safety, mitigating risk of MDR-TB acquisition.
Lessons Learned: Potential gaps in the process were identified and closed prior to patient admission. Risks of exposure or infection were minimized. Anxiety was mitigated among health care workers. Advanced planning and communication facilitated safe patient management from admission through to discharge. This project resulted in a practical template to manage other potentially complex case situations that may arise in the future.

POSTER BOARD #7

THE IMPACT OF VENTILATOR-ASSOCIATED PNEUMONIA AMONG PREHOSPITAL INTUBATED PATIENTS

Kathryn Linton[1,2], Ian Blanchard[2], Chip Doig[1,2], Shawn Dowling[2], Grant Moir[2], Daniel Zuege[1,2], Elizabeth Henderson[1,2]
[1]*University of Calgary, Calgary, Canada,* [2]*Alberta Health Services, Calgary, Canada*

Objective: The objective of this study was to determine if all-cause mortality among patients who develop ventilator-associated pneumonia (VAP) differs for patients intubated in the Prehospital setting compared to those intubated in the Emergency Department.
Methods: A retrospective cohort design was employed and secondary data was retrieved from the local VAP Surveillance database and manual chart reviews. Intubated patients entered the cohort upon VAP diagnosis and exited upon death or hospital discharge. This study used data from three large inner-city adult hospitals within Calgary, Alberta Canada.
Results: The sample (n=193) consisted of all adult (>18 years old) patients that developed VAP in an Intensive Care Unit who were intubated either in the Prehospital or Emergency Department setting during the study period (January 01, 2005 and December 31, 2009). The demographic and admission characteristics of patients intubated in the Prehospital setting were very similar to patients intubated in the Emergency Department. Patients who suffer severe illness or injury (APACHE II score >25) are more likely to die if they are intubated in the Prehospital setting compared to the Emergency Department ($p=<0.001$).
Conclusions: This study provides several novel results about the association between endotracheal intubation (ETI) location and morbidity and mortality among patients who acquire VAP in the ICU.

POSTER BOARD #9

THE BUG STOPS HERE ... PUMP IT UP ... IMPROVING HAND HYGIENE COMPLIANCE RATES BY MAKING IT EVERYONE'S RESPONSIBILITY

Faye Matthews, Shirley Lanza
Halton Healthcare Services, Oakville, Ontario, Canada

Issue: In 2008, Ontario's Just Clean Your Hands program was implemented followed by mandatory public reporting of hand hygiene compliance rates. At Halton Healthcare Services (HHS), compliance and engagement was low despite already having am established hand hygiene program.
Project: In June 2011, a hand hygiene task group comprised of senior management, program/department directors, public relations and infection prevention and control, was formed to improve hand hygiene compliance and

promote engagement at all levels; staff, physicians, volunteers and patients. With the CEO's support, hand hygiene was branded the organization's #1 patient safety initiative. A retrospective review of past initiatives served as a springboard to generate discussions, new ideas and encourage commitment. The task group met weekly to kick-start an improvement plan. The following key action items and initiatives were identified with assigned accountabilities, established targets and projected timelines:

- Development of a communication and marketing plan
- Revision and update of hand hygiene mandatory education with an established goal of 70% completion by all staff
- Improvements to the auditing process
- Implementation of reward and recognition incentive program
- Facilities' assessment
- Patient/visitor engagement plan

Results: Corporate hand hygiene compliance rates increased to 69.1% (2011/2012) from 57.4% (2010 /2011) for Moment #1 (before initial patient/patient environment contact).
Lessons Learned: Progress is slow and requires a multi-faceted plan with multidisciplinary involvement to keep the momentum going. Targeting one hand hygiene indication (we chose Moment #1) facilitates clear and concise communication of the improvement goal.

POSTER BOARD #11

ANTIBIOTIC POINT PREVALENCE STUDY IN A MENTAL HEALTH TRUST

Karen Taylor, Tom Culligan
South London and Maudsley NHS Foundation Trust, London, United Kingdom
Issue: Antimicrobial resistance is recognised as an increasing patient safety concern and a significant threat to public health. The over-prescribing and inappropriate use of antibiotics contribute to resistance, reducing the effectiveness of this vital group of medicines. A number of recent key drivers identify antimicrobial stewardship as a key component of infection prevention and control [IPC] in the battle to reduce the development of resistance. There is also a robust framework which establishes a legal duty on healthcare facilities to ensure that policies and procedures are in place to ensure the optimal use of antibiotics. This includes ensuring a more prudent approach to prescribing.
Project: This poster will review a point prevalence study that was undertaken as a quality improvement initiative. As part of the Annual IPC audit strategy, the study sought to measure compliance with the current Clinical Guideline for Antibiotic Prescribing.
Results: The poster will describe the methodology used for examining the use of antibiotics over a six-day period in a total of 52 Inpatient areas on five sites in 2012. The data collection was carried out by a Ward Pharmacist on each of the sites. The results of the study will be included.
Lessons Learned: Lessons learned were identified at the end of the data collection period including detailed initiatives to: Addressing the lack of Microbiological specimens; Ensure clear documentation in patients' records; Create robust links with Pharmacy services.

POSTER BOARD #13

USE OF CHLORHEXIDINE BATHS IN A TERTIARY-CARE NEONATAL INTENSIVE CARE UNIT (NICU) AND IMPACT ON RATES OF CENTRAL LINE ASSOCIATED INFECTIONS (CLABSI)

Chantal Perpête[1], Martine Chagnon[2], Mario Bonenfant[2], Martine Claveau[2], Elizabeth Roulier[1], Andreane Pharand[2], Therese Perreault[3], Caroline Quach[1,3]
[1]Infection Control and Prevention - The Montreal Children's Hospital, Montreal (QC), Canada, [2]NICU - The Montreal Children's Hospital, Montreal (QC), Canada, [3](3) Department of Pediatrics and Medical Microbiology, McGill University, Montreal (QC), Canada
Despite the implementation of recommended measures for CLABSI prevention, rates remained high. Chlorhexidine (CHG) baths were recommended, but only implemented in April 2012.
Objective: To describe the CHG bath protocol in our NICU and its impact on CLABSI rates.
Methods: Active CLABSI surveillance, using standard definitions, is an ongoing process. CHG baths, using 2% aqueous CHG wipes, are recommended for infants with central venous lines (CVL) from birth, if birth weight (BW) is ≥ 1000 g or after 28 days of life in infants born < 1000 g. CHG baths are given 2x/week for infants < 28 weeks, every other day for infants 29-35 weeks, and daily afterwards. Adverse events reporting is done by nurses in NICU and reported to the program manager. CLABSI rates/1000 CVL days were compared using chi-square on square root-transformed rates (SAS 9.2).
Results: CHG wipes have been used for 20 infants with BW < 1000 g who still had a CVL after 28 days of life (mean BW 790±126g) and 150 infants with BW ≥ 1000 g (mean BW 2832± 968g). Our CLABSI rates decreased from 5.93 (2009-12) to 1.32/1000 CVL days (2012-3); $p<0.001$. Interestingly, our device utilization ratio also decreased from 0.54 to 0.39 ($p<0.001$). There was no reported adverse event.
Conclusion: The implementation of CHG baths in our NICU was not associated with adverse events. The significant decrease in CLABSI rates is likely partly secondary to CHG baths, but may also be due to the increased awareness around CLABSI prevention.

POSTER BOARD #15

PSEUDO-OUTBREAK OF M. CHELONAE IN THE ENDOSCOPY UNIT LED TO VARIOUS QUALITY IMPROVEMENT INITIATIVES

Marianita Lampitoc, Alicia Sarabia, Samar Tahhan, Kim Bloomfield
Trillium Health Partners, Credit Valley Hospital, Mississauga, ON, Canada
Issue: For the period of March 22 to April 5, 2012, a community facility reported [ck1] three isolates of M. Chelonae from bronchial washings collected within a two-week period from the Endoscopy Unit. An epidemiological investigation was initiated to determine the potential cause of the increase in M. chelonae isolates [ck2].
Project: Infection Preventionists (IPs[ck3]) performed chart reviews, observed bronchoscopy procedures, and conducted an audit of reprocessing procedures. Two bronchoscopes used on the three patients were decommissioned immediately and samples were collected for mycobacterial cultures.
Results: The 3 positive *M. cholonae* isolates represents a 12% positivity rate compared to 0.07% (1 isolate) in the last 5 years [ck4] . Of 13 samples collected (8 environmental, 5 flushed bronchoscope samples), 4 samples grew non-tuberculous mycobacterium (NTM) isolates. Out of 4 NTM isolates, 2 of these grew *M.chelonae* (ice machine source water and melted ice).
Lessons Learned: In this investigation, the ice used to cool saline was traced back to the kitchen of the inpatient surgical unit. This ice machine was decommissioned, overhauled and reinstalled with the appropriate filter and maintenance tracking. We made several other recommendations to prevent future occurences including: Discontinuation of ice/ice water to cool syringes; Planned cleaning and regular maintenance of facility ice machines; Readily available documentation of reprocessing procedures and standard operating endoscopy procedures; Discard open sterile normal saline containers after each procedure and distilled water containers at end day; Breaches should be considered as incomplete reprocessing and a second cycle should be done and documented.

POSTER BOARD #17

TO PLAY OR NOT TO PLAY, THAT IS THE QUESTION? THE DEVELOPMENT OF A SIBLING/VISITOR INFECTION PREVENTION SCREENING TOOL

Allana M. Ivany, Chantal K. LeBlanc
IWK Health Centre, Halifax, Nova Scotia, Canada
Introduction: Sibling visitation and participation in activities in the playroom is extremely important for hospitalized children and supports the mandate for family centered care. A formal process for health screening of siblings/visitors prior to visiting activity areas was not in place which posed a risk for the transmission of communicable illness. Risk of transmission of infectious disease is particularly high during community outbreaks.
Methods: A review of the literature was conducted using CINAHL and PubM databases from 2004 to 2012. Current screening practices were reviewed for all inpatient areas and benchmarking was completed with other Canadian Pediatric Centres. Stakeholders at our centre were engaged in a collaborative process to develop a screening strategy for our setting.
Results: Findings were limited and mostly focused on sibling visitation in NICU environments. Screening procedures for the playroom setting were non-existent or informal. At our centre, Infection Control collaborated with Child Life services and developed a formal screening process to ensure prevention of infections and increased patient safety. A one-page screening tool was created and piloted for the hematology/oncology inpatient unit. Parents are responsible for completing one form per sibling/visitor on admission. In the first 6 months since the project was launched, 10% of the siblings/visitors screened had current or recent symptoms of illness identified within the previous 7 days.
Conclusions: Planning is underway to implement this screening tool within all other inpatient units. A collaborative approach with child life staff was essential to a successful strategy to improved infection control practices and preventing healthcare associated infections.

POSTER BOARD #19

HEALTHY WORKPLACE CHALLENGE AND AN INFLUENZA A OUTBREAK IN A SURGICAL ONCOLOGY UNIT

Fatema Jinnah, Sandra Callery, Mary Vearncombe
Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

Issue: Nosocomial influenza outbreaks in hospitals cause morbidity and mortality in patients, are expensive and impact patient flow. An influenza A outbreak occurred in a surgical oncology unit during the holiday season when resources were limited. Delays in identification of the outbreak occurred as co-morbid conditions masked symptoms. The staff influenza immunization rate was low (49 %) and staff worked with acute respiratory infection (ARI). At one point 18 out of 36 beds were closed presenting a challenge with hospital occupancy greater than 100%. Management of visitors whose influenza immunization history was unknown was challenging.

Project: Outbreak control measures were implemented including: patient and staff cohorting; antiviral treatment or prophylaxis; staff immunization (increased to 80%). Admissions were allowed to the unexposed side of the unit until it was reported that one staff member worked in this cohort with ARI, leading to complete closure of the unit.

Results: No additional nosocomial transmission occurred after complete closure of the unit.

Lessons Learned: Daily surveillance for ARI, prompt initiation of precautions and communication with Infection Prevention and Control is necessary to recognize possible influenza outbreaks and prevent transmission. This outbreak was initiated by a staff member working with ARI and prolonged by another staff member working with ARI during the outbreak. The importance of staff influenza vaccination prior to influenza season and not working while ill needs to be reinforced.

POSTER BOARD #21

INITIATING POINT-OF-CARE HAND HYGIENE IN THE CAMEROON BAPTIST CONVENTION HEALTH SERVICES (CBCHS); AN INNOVATIVE APPROACH TO PROMOTE HAND HYGIENE COMPLIANCE.

Nkwan Jacob Gobte, RN, BNS, Infection Prevention (IP) Nurse, Cameroon *Baptist Convention Health Services, North West Region, Cameroon, West Africa*.

Introduction: Hand hygiene compliance remained low among CBCHS staff due to several factors. The project to promote hand hygiene compliance began with a pilot of locally produced individual hand gel in four sites from April to December 2012.

Methods and materials: The project included education, alcohol gel production, distribution, and monitoring of use. We provided 1800 staff members with 100ml hand gel in refillable bottles donated by GOJO Industries Inc. Staff dropped empty containers at each hospital pharmacy, and received full ones. We measured compliance by unannounced checking of staff to determine who had their gel bottles in their pockets and checked pharmacy registers for staff who refilled after 14-19 days. Several follow up revealed that cleaning and refilling of hand gel containers was not consistent in some facilities and some physicians complaint that the 100ml hand gel containers were too big for their pockets.

Results: CBCHS produced over 800 litres of hand gel. Staff had a 70-80% compliance rate. Production of hand gel is manual, labour intensive. Thus, mechanized hand gel production will be needed before up scaling the project. Introduction of point-of-care hand hygiene is feasible and improves hand hygiene compliance in resource-limited settings like the CBCHS

Conclusion: Introduction of hand gel improves hand hygiene compliance within the CBCHS.

POSTER BOARD #23

THE EPIDEMIOLOGY OF HEALTHCARE ASSOCIATED LABORATORY CONFIRMED INFLUENZA INFECTION AMONG CANADIAN ADULTS, 2006-2012

Robyn Mitchell[1], Geoffrey Taylor[2], Allison McGeer[3], Charles Frenette[4], Kathryn N. Suh[5], Alice Wong[6], Kevin Katz[7], Barbara Amihod[8], Krista Wilkinson[1], Denise Gravel[1], Canadian Nosocomial Infection Surveillance Program[1]
[1]Public Health Agency of Canada, Ottawa, Ontario, Canada, [2]University of Alberta Hospital, Edmonton, Alberta, Canada, [3]Mount Sinai Hospital, Toronto, Ontario, Canada, [4]McGill University Health Centre, Montreal, Quebec, Canada, [5]The Ottawa Hospital, Ottawa, Ontario, Canada, [6]Royal University Hospital, Saskatoon, Saskatchewan, Canada, [7]North York General Hospital, Toronto, Ontario, Canada, [8]Jewish General Hospital, Montreal, Quebec, Canada

Background: Healthcare-associated (HA) influenza results in significant morbidity and mortality among patients with underlying conditions and the elderly and is associated with excess healthcare costs.

Methods: Between November 1, 2006 and May 31, 2012, forms were completed for all inpatients (>=16 years) with laboratory-confirmed influenza in participating Canadian Nosocomial Infection Surveillance Program hospitals. A HA case was defined as symptom onset >96 hours after admission or re-admission with a positive test <96 hours after discharge or positive test <96 hours after transfer from another facility.

Results: Of the 3,289 laboratory-confirmed influenza cases reported, 17.3% (n=569) were healthcare-associated. Of those, 39.5% (n=225/569) were acquired in an acute-care facility and 60.5% (n=344/569) in a long-term care facility. Mean age was 75 years and 51.3% (n=292/569) were female. The majority (85.0%, n=472/555) had an underlying condition, while only 54.6% (n=112/205) were vaccinated. Most cases (80.7%, n=455/564) received antivirals. Few (8.4%, n=46/547) required intensive care treatment and 30-day mortality was 11.4% (n=65/569). The incidence of HA influenza peaked in 2007-08 (0.72 per 1,000 admissions) was lowest in 2009-10 (0.11 per 1,000 admissions) and has since increased in 2010-11 (0.37 per 1,000 admissions) and 2011-12 (0.21 per 1,000 admissions). Influenza A was the predominant type among HA cases except for the 2011-12 season where 68.0% of HA cases were Influenza B.

Conclusions: These data reinforce the importance of maintaining infection prevention and control practices, especially annual vaccination of healthcare workers and inpatients to prevent the spread of influenza infection in acute-care and long-term care facilities.

POSTER BOARD #27

FOLEY CATHETER CARE: WHY INFECTION PREVENTION AND CONTROL MATTERS!

Juliana Barry[1], Gail Barwise[1], Debbie Steele[1], Vanessa Martin[0,2]
1Queen Elizabeth Hospital, Charlottetown, PE, Canada, 2UPEI (BN student), *Charlottetown, PE, Canada*

Issue: Urinary Tract Infections (UTIs) are the most common hospital acquired infection (Bernard et al, 2012) (Leithauser, 2004) and 80% of them can be attributed to an indwelling urinary catheter (Bhatia et al, 2010). With the emergence of Antibiotic Resistant Organisms, using best practice guidelines to help reduce Catheter-Associated Urinary Tract Infections is critical!

Project: In the fall of 2012, the Infection Prevention and Control Team located at an acute care facility in Charlottetown, PE, investigated the use of best practice in infection prevention and control of Foley Catheter Care. A survey was developed from a literature search and passed to nursing staff on three inpatient units (one surgical and two medical) to obtain feedback.

Results: Of the 180 surveys, 71 were returned to the Infection Control Team. The results showed that nursing staff use best practice for Foley catheter care, but further education is needed on anchoring device and routine practice.

Lessons Learned: Anchoring the catheter tubing is critical, as it may move up and down in the urethra and facilitate the introduction of organisms in the bladder or cause trauma. By securing the tubing with a stabilizing device, nursing staff can help improve quality of care and reduce UTIs. Though best practice indicates the use of gloves when manipulating the catheter tubing or emptying the catheter bag, staff should be encouraged to use routine practices as well. When given the opportunity, nursing staff are eager to learn and improve their best practice.

POSTER BOARD #29

EVALUATING MARKET LEADING ATP METERS FOR THE RELIABILITY OF THEIR TEST RESULTS AS MEASUREMENT TOOLS FOR SURFACE CLEANNESS IN HEALTHCARE APPLICATIONS

Navid Omidbakhsh, Faraz Ahmadpour
Virox Technologies, Oakville/Ontario, Canada

Background: Adenosine triphosphate (ATP) luminometer is an alternative cleaning inspection tool rather to the widely used visual method. ATP meters report their readings by relative light units, which is often falsely translated into the level of microorganisms on the surface. These readings can also be potentially influenced by factors such soil and cleaner chemistry, and therefore the results may be misleading.

Objective: The objective of this study was to test market leading ATP meters for their sensitivity, linearity and potential chemical interference in their readings.

Methods: First, solutions of pure ATP in various concentrations were used to construct a standard curve and determine linearity. Furthermore, a culture of gram-positive bacteria, Staphylococcus aureus, was serially diluted and tested to find out the sensitivity of each meter. Next, various types of soils as well as different disinfectant chemistries were tested for their potential interaction with the standard ATP readings.

Results: All three ATP meters tested herein showed acceptable linearity and repeatability in their readings, however, their sensitivities in detecting

microorganisms on the surface was significantly different. In addition, different disinfectant active were found to cause significantly different ATP readings for each meter; this cannot be generalized due to the difference in the mechanism of ATP reading for each meter.
Conclusions: Each ATP meter should be tested first for its potential interaction with the disinfectant chemistries intended to be used with, to avoid misleading results. Also, detection limit of the ATP meter should also be verified to prevent false interpretation of the results.

POSTER BOARD #33

THE URINE DIP STICK: A QUICK WAY TO OVER PRESCRIBE

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Issue: Over treatment of suspected urinary tract infections (UTIs) in health care can lead to antibiotic resistance. Upon noting a resident of a LTC home had had an antibiotic resistant organism (ARO) cultured that could only be treated with IV antibiotics and had an indwelling urinary catheter, an investigation was initiated. He had been previously treated 4 times with same antibiotic but was asymptomatic each time.
Project: Evaluation of practices around UTI detection. Nursing notes, lab results, physician notes and orders were reviewed. Treatment of UTI was high, with no documentation to support treatment. Urine dip results were used to diagnose, with no culture sent. Observed collection practices, catheter care, and toileting compared with best practice. Education was provided to front line staff. An algorithm was developed for UTI treatment and presented to the leadership teams. Provided education explaining what the signs and symptoms (S&S) of a UTI are in the elderly and how treating these and not the lab results will not only benefit the patient but the whole organization. Training included teaching the staff to recognize S&S and best practice methods in the collection of the urine sample. Staff were educated on not relying on urine dip sticks. The algorithm was introduced once staff were comfortable with the education. The dipsticks were taken out of use.
Results: UTI rates were dramatically reduced, cutting rates over half in 3 months. Rates then were maintained.

POSTER BOARD #35

PUBLIC HEALTH ONTARIO (PHO)'S REGIONAL INFECTION CONTROL NETWORKS (RICN) LONG TERM CARE IPAC EDUCATION SERIES

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Issue: The Long Term Care Health (LTCH) Act 2007 was proclaimed in Ontario on July 1st, 2010 and the Ontario Regulation 79/10 was also introduced. The impact was that there must be a staff member designated to coordinate the infection prevention and control (IPAC) program and the designate must have education and experience in IPAC practices. Education requirements in the Act included information on infectious diseases, cleaning and disinfection, data collection and trend analysis, reporting protocols and outbreak management.
Project: As a result and upon request by stakeholders, an education series was developed and rolled out to long term care (LTC) ICPs and designates. Eight one-hour sessions were developed and covered the requirements.
Results: The education series has now been offered four times with well over 2000 participants completing the series. The series addressed the LTC needs. A certificate/letter of participation was provided to all participants who successfully completed the series.
Lessons Learned: Offering the series in a web-based format provided access to many ICPs and designates in LTC settings who may otherwise not have had access to IPAC training.

POSTER BOARD #37

CHARACTERIZING HAND HYGIENE OPPORTUNITIES IN VARIOUS HEALTH-CARE SETTINGS: IMPLICATIONS FOR MEASURING COMPLIANCE THROUGH PRODUCT USAGE

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Background: Hand hygiene (HH) is critical for preventing nosocomial infections. Measurement of adherence to HH by direct observation is currently the gold standard but is resource intensive and limited by the Hawthorne effect. Estimating adherence by measuring alcohol handrub use is possible if rates of hand hygiene opportunities (HHOs) are known. This study aimed to characterize type and frequency of HHOs in a tertiary care hospital.
Methods: One-hour patient-based observations were conducted on in-patient areas of our 472-bed hospital, measuring HHOs as defined by Ontario's 4 Moments for Hand Hygiene. Rates of HHO/patient-hour were calculated, examining variation by room type, healthcare worker (HCW) and time of day.
Results: Over 257 hours of observation, 948 HCW-patient interactions, and 1,605 HHO were observed. Moments 1 and 4 (before/after contact with patient/environment) comprised 42.2% and 39.4% of HHOs, respectively. Moments 2 and 3 accounted for 9.8% and 8.7% of HHOs, respectively. 75% of HHOs occurred during nurse interactions, 8% from physicians, 13% from allied health and 4% from environmental services. The mean rate of HHO/patient-hour was 4.5 for medical units and 4.2 for surgical units ($p=0.6554$). The mean rate for ICUs was 11.79, significantly higher than other units ($p<0.0001$). Rates of HHOs varied by time of day, and whether the patient had isolation precautions.
Conclusions: Measurement of HHOs across clinical settings lays the groundwork for a product-usage based HH measurement as part of a comprehensive auditing program. Further work is needed to assess rates of HHO in other hospitals and care settings.

POSTER BOARD #39

ONE-YEAR PREVALENCE STUDY OF VANCOMYCIN RESISTANT ENTEROCOCCI (VRE) COLONIZATION RATES AMONG INTER-HOSPITAL TRANSFER PATIENTS FOR CARDIAC CATHETERIZATION PROCEDURES: IMPLICATIONS FOR PATIENT MANAGEMENT

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Background: Inter-hospital transfers from facilities with high colonization pressures potentially increases the risk of VRE carriage among transferred patients. Current antibiotic-resistant organism (ARO) surveillance criteria identify at risk patients and prompt screening. This process fails to account for VRE prevalence at the transferring facility, making patient management laboratory result dependent.
Methods: Patients directly transferred from three healthcare facilities known to have high burdens of VRE were managed using preemptive Additional Precautions (AP). Routine ARO screening identified VRE carriers and subsequent investigations determined the source facility and potential factors contributing to colonization. Findings allowed criteria for preemptive AP to be tailored.
Results: From April 2011 to March 2012, all high-risk transfers were from facility A ($n = 340$), with none identified from facility B or C. Of these, 65% were from one facility A campus, the source for all identified VRE carriers during this period ($n = 6$). Typing identified 3 VRE isolates designated VREM-12, 1 designated VREM-21, and 1 designated VREM-49. One isolate was not available for typing. Three positive patients were identified on initial admission swab; 2 were initially negative but subsequently positive. All positive patients were exposed to the transferring facility for a significant duration.
Conclusions: Cross transmission did not occur. Knowing the prevalence of AROs in facilities within a patient transfer network allows for a more proactive approach to patient management. Prospective surveillance followed by ongoing assessment of cases ensures patient management strategies reflect risk.

POSTER BOARD #43

CREATION OF A "CLEAN HANDS ZONE" ON ENTRANCE TO A NEONATAL INTENSIVE CARE UNIT

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Issue: St. Paul's Hospital (SPH) is a 500-bed acute-care tertiary hospital. The Level II Neonatal Intensive Care Unit (NICU) has nine incubator/bassinettes and is located on the Level III maternity unit, which provides BC's only cardiac obstetrical and renal obstetrical programs. The need for improved hand washing facilities and instructive signage in the NICU was identified.
Project: The hand hygiene sink for families and staff was a cabinet sink within the unit. Funding was obtained for a free-standing scrub sink outside the door to the unit and hands free door. The IPAC team, in collaboration with the NICU staff and PHC Diversity, Cultural Competence and Language Service designed Plain Language hand hygiene and entrance signage.
Results: Floor directions with symbols were installed to direct staff and visitors from the hallway to the Clean Hand Zone. This created a physical and psychological barrier to the entrance of the unit. The scrub sink was installed outside the entrance and was equipped with a hands free sensor as well as a large clock. Signage using photos and minimal text provided instructions to staff and visitors on how to perform hand hygiene prior to entering the unit.
Lessons Learned: The scrub sink and signage has increased the profile of

hand hygiene. Alcohol Based Hand Rub was also installed at every incubator/bassinette. Siblings are assessed for communicable diseases using a screening form. The response to the enhancements has been positive, and other hospitals have shown interest in adapting the signage.

POSTER BOARD #45

A TEAM APPROACH LEADS TO A SUCCESSFUL INVESTIGATION

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Issue: In 2012, The Ottawa Hospital (TOH) Infection Prevention and Control (IPAC) noted an increase in the number of nosocomial C. difficile infections (CDI) on a 42-bed surgical in-patient unit. Despite reinforcing existing infection control measures including staff education, waste management, environmental auditing, and prompt isolation and testing, nosocomial CDI cases continued. To gain insight into the issues unique to this unit, a "whole team" quality initiative was implemented.
Project: IPAC visited the unit daily to meet with staff, housekeeping, and support services to cultivate a two-way communication process and develop a "whole team" approach. IPAC became more active in unit activities including participation in unit interdisciplinary rounds. Weekly printed communication highlighted the issues identified by team members as well as the progress made on CDI rates. The team took an active part in the investigation.
Results: The team approach facilitated engagement from all unit staff. The charge RN found a link between a new bed and 63% of the CDI cases. Housekeeping discovered additional cleaning was required for this bed. Proper education was subsequently provided. TOH purchase policy was reviewed to ensure cleaning requirements are considered for any future purchases.
Lessons Learned: A successful outbreak investigation requires the knowledge and skill from the "whole team" made up of multidisciplinary members. IPAC presence on a unit facilitates communication. Requirements for the cleaning of new equipment must be considered before purchase, and housekeeping must be involved in the evaluation.

POSTER BOARD #48

JUST CLEAN YOUR HANDS (JCYH): AN EVALUATION OF THE FIRST FIVE YEARS

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Issue: JCYH is a multi-faceted hand hygiene program, launched in 2008, to improve healthcare provider hand hygiene compliance and enhance patient safety in Ontario hospitals. The program has since been expanded to include long-term care and retirement homes. In December 2011, responsibility for JCYH was transferred from the Ministry of Health and Long-Term Care to Public Health Ontario (PHO). While there were many anecdotal reports of the program's success, no formal evaluation had been undertaken.
Project: A program evaluation to inform program planning and development was undertaken with PHO and an independent company, Cathexis Consulting. The work involved multiple data collection methodologies, analyses and the generation of a recommendations report.
Results: Feedback was obtained from 594 (71%) of Ontario hospitals and long-term care homes. The evaluation indicated positive impact and perceived stakeholder value for all program facets as well as the identification of areas for improvement. Recommendations for improving JCYH included: organizing program and supports according to stage of program development; clarifying core messages; increasing relevance for different target audiences; refreshing JCYH materials; streamlining monitoring and observation tools; leveraging relationships with external stakeholders; and providing more intensive supports.
Lessons learned: Formal evaluation provided specific feedback with additional depth about stakeholders' experiences with JCYH and offered new insights, above and beyond what was gained from previous anecdotal reports. Evaluation results are being used in strategic planning and ongoing development of JCYH.

POSTER BOARD #49

PRE AND POST IMPLEMENTATION OF PCR ON CLOSTRIDIUM DIFFICILE RATES AT WILLIAM OLSER HEALTH SYSTEM

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Background/Objectives: On November 21, 2011, William Osler Health System changed from Enzyme Immunoassay (EIA) to Polymerase Chain Reaction (PCR) for its *clostridium difficile* (CDI) detection test. Due to the very sensitive nature and very specific nature of PCR testing, we decided to compare our CDI rates pre and post implementation of PCR.
Methods: The number of patients with CDI toxin and the nosocomial CDI rates during the pre and post implementation period were compared using t-test (SPSS Statistics version 19). The pre-implementation period was between January 2011 and October 2011 while the post-implementation period was between December 2011 and September 2012. Nosocomial CDI cases were determined by the Infection Control Practitioners (ICPs) according to the standard definition provided by the Ontario Ministry of Health and Long Term Care.
Results: The number of CDI toxin positive patients identified increased significantly after implementation of PCR from 8.6% of 2263 CDI test ordered to 11.9% of 2289 CDI test ordered ($t=3.18$, $P=<0.01$). However there was no statistically significant increase in the nosocomial CDI rates even though the nosocomial CDI rates increased from 0.27 per 1000 patient days to 0.33 per 1000 patient days.
Conclusions: More CDI toxin positive patients were identified with the help of PCR but in terms of nosocomial cases, there was very little increase. Nosocomial CDI trend after introduction of PCR was on the decline. PCR testing has allowed for rapid detection and treatment of CDI patients thereby preventing person-to-person transmission.

POSTER BOARD #51

POINT-OF-CARE BEDSIDE ALCOHOL BASED HAND RUB DISPENSERS: RESULTS OF A NURSING STAFF SATISFACTION SURVEY

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Background/Objectives: The Infection Prevention and Control (IPC) team at the Foothills Medical Centre, a 1000+ bed tertiary acute care facility trialled point-of-care alcohol based hand rub (PoCABHR) dispensers. A qualitative survey was distributed with the objective of assessing accessibility, compliance, and perceptions of improvement in hand hygiene.
Methods: Dispensers (n=24) were placed on medical and surgical inpatient units. The initial focus was overcapacity beds where space design did not allow for ABHR availability near the bedside. After five weeks, a voluntary online survey was distributed to nursing staff through email (Surveyselect.net). The questionnaire assessed usage of PoCABHR and perceptions of hand hygiene compliance through open ended and structured questions with the use of a Likert scale. Paper copies were also distributed and transcribed by IPC staff. Results were analysed using Microsoft Excel 2003.
Results: Seven of 40 (17.5%) surveys were incomplete. A response rate could not be determined. Twelve of 33 (36.4%) respondents indicated they had used the dispenser between 1 and 5 times. Responding on whether PoCABHR dispensers improved hand hygiene, 25/33 (75.8%) responded either "Agree" or "Strongly Agree" and 20/33 (60.6%) indicated PoCABHR dispensers improved hand hygiene before patient contact and 24/33 (72.7%) after patient contact.
Conclusions: Although limited by the number of respondents, results were favourable for the use of PoCABHR placed at or near the patient's bedside. By providing ABHR near the patient, hand hygiene may increase. More observational studies need to be done to determine whether PoCABHR dispensers increase compliance.

POSTER BOARD #53

A LITTLE NORO WITH YOUR SANDWICH ?

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Issue: We are a large university hospital that offers many services. Food for patient meals and personnel is provided by the main kitchen, a cafeteria, two "cafes" and two coffee shops (CS). Catering of special orders may be done from the kitchen or the CS. The CS, managed by the hospital Auxiliary, are found in two separate locations having one small preparation area. Hospital-wide catering orders are frequently prepared by the personnel of the CS. The first indication to IPAC that there was a problem began with a telephone call from a physician in a medical clinic reporting that he was experiencing "gastro". All those who were symptomatic and present at the clinic that day were seen by IPAC and an ID physician. After calls from various other areas alerted IPAC to personnel with "gastro," all after partaking in food catered by the CS, a major outbreak investigation began.
Project: An intensive investigation began, encompassing all those departments that had catering provided by CS. CS was closed. All personnel were alerted and

advised to monitor patients for symptoms. Administration, Occupational Health, Dietary Department, CS management, and Public Health were involved in the investigation and resolution.
Results: Almost 50 personnel from 5 units were ill, in addition to other individuals. Standards and recommendations were put into place. A review process was initiated.
Lessons Learned: IPAC review and investigation of all departments including external providers is essential for safety. Reinforcing the need for staying home when ill can prevent outbreaks.

POSTER BOARD 55

VIHA'S OUTBREAK MANAGEMENT STRUCTURE - A STRUCTURE WHICH EXEMPLIFIES SHARED ACCOUNTABILITY FOR INFECTION PREVENTION AND CONTROL, SUPPORTS BEST PRACTICE AND IMPROVES OUTBREAK OUTCOMES.

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Issue: Historically within Vancouver Island Health Authority (VIHA), outbreak management has been unstructured and without responsibility for leadership being acknowledged. VIHA provides care to a population of 765,849 people, covering 1,500 acute beds and 6,350 residential and assisted living beds.
Project: Outbreaks have significant personal negative impact on individuals with recognized financial implications for organizations. An ordered approach and strong leadership are identified as necessary components in successfully managing outbreaks. VIHA has adopted a standardized approach specifically designed to be applicable and adaptable to meet the complexity and demands of a presenting outbreak. In 2009, a structured approach was successfully introduced in VIHA specifically targeted at reducing the number of people affected by outbreaks. This approach was based on the Hospital Emergency Incident Command System. This structure came with defined responsibilities for individuals and the Organization, including the assembly of key people or groups at every outbreak. This structure prevents the process from being hindered by organization or program boundaries.
Results: The perception is that the introduction of the OMS within VIHA owned residential care facilities has contributed to a decrease in the duration of enteric outbreaks. The average duration declining from 23.7 days in 2009-10 to 7.7 days in 2011-12.
Conclusion: The framework has continued to improve communication between departments; applied a consistent approach to outbreak management; provided a venue to identify successful interventions and areas for improvement; and initiated a process to identify and quantify costs associated with outbreaks.

POSTER BOARD #57

A ZONE-BASED MULTIDISCIPLINARY APPROACH TO HAND HYGIENE IN SOUTHERN ALBERTA: STEPS TAKEN, LESSONS LEARNED AND FUTURE DIRECTION

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Issue: Provincially conducted hand hygiene (HH) reviews of Alberta Health Services (AHS) staff in summer 2011 showed an average provincial compliance rate of 50%. Compliance was higher in the South Zone of AHS at 61%; nurses at 61% and physicians at 27%.
Project: As part of a 10-year strategic plan, implement a zone-wide hand hygiene program to eliminate the idea that hand hygiene is a non-value added activity. This project was initiated in May 2012 and used 'return to work' staff to perform hand hygiene reviews using iScrub Lite and an iPad at sites in the south zone. Reviewer training was aligned with the 2011 AHS provincial summer HH initiative. Daily and quarterly reports were distributed to nursing managers and to the HH working group for dissemination to Zone leadership. In addition, an Alcohol Based Hand Rub (ABHR) environmental review and a baseline knowledge survey was conducted.
Results: A total of 36,755 HH opportunities were observed between May and December 2012. Of these opportunities, 66% (n=24156) were Nurses; compliance rose from 67% (n=1357/2011) in May to 75% (2425/3223) in December. Physician compliance also rose from 28% (n=48/174) to 56% (n=228/407) over the same period. The ABHR environmental review discovered that 10% of the dispensers were dysfunctional. Barriers to HH were documented with pictures. The baseline knowledge survey showed deficits relating to AHS HH policy and procedure.
Lessons Learned: Use pilot sites to address the placement of ABHR. Test hand-held ABHRs where mounted dispensers are not feasible. Implement a hand care program. Analyze HH compliance rates in conjunction with other surveillance data.

POSTER BOARD #59

A TEAM APPROACH FOR REDUCING SURGICAL SITE INFECTIONS (SSI) POST TOTAL ABDOMINAL HYSTERECTOMY (TAH)

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Issue: In April 2011, reducing SSI rates post TAH was selected as a quality improvement initiative on our quality plan. Our facility is a 280-bed community teaching hospital were eleven gynecology surgeons perform an average of 175 TAH annually.
Project: A multidisciplinary team with representation from nursing, surgeon, infection control professional (ICP) and pharmacy met on a regular basis. The ICP and surgeon reviewed charts of all infected cases from April 2009 to March 2011 and validated the infection according to CDC definition. A literature review was completed to identify risk factors and improvement strategies.
Results: 26/27 infections were validated as true infections. Chart reviews revealed that patients allergic to penicillin were not receiving optimal prophylactic antibiotic. Improving timing of antibiotics was also required. The request for admission form was revised to include preprinted orders with optimal prophylactic antimicrobial choices for the surgeon. Tools were developed to clarify process for administration of antibiotics. Emphasis was placed on choice of antibiotic, correct dose and correct timing of infusion. A presentation on SSI prevention was done during obs/gyne rounds. The SSI rates have dropped from 8.46% to 1.78% over two years. The SSI rate is 1.27% as of October 2012. Overall compliance to optimal antimicrobial prophylaxis was 96.4% in 2011-2012 and is 97% as of December 2012.
Lessons Learned: A multidisciplinary approach facilitates the understanding of the various processes that can impact SSI rates. Clarifying roles and standardizing practice have led to improvement in SSI rates post TAH in our facility.

POSTER BOARD #61

INFECTION PREVENTION AND CONTROL (IPC) GUIDANCE FOR PERSONAL SERVICES: A NEEDS ASSESSMENT

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Issue: Personal services (PS) establishments offer an array of services, including tattooing, piercing and body modification. Invasive procedures carry the risk of bacterial and viral infections including Methicillin Resistant Staphylococcus aureus, hepatitis B and C, and human immunodeficiency viruses. Inadequate infection prevention and control (IPC) practices can increase the risk of transmission of infection. A risk assessment framework is recognized as an effective model for IPC; however the extent of its use is currently unknown. A needs assessment was conducted to identify existing IPC guidelines for PS.
Project: A key word website search was conducted between May and August 2012 for guidelines on IPC for PS.
Results: Three international countries and four Canadian provinces have guidelines on PS that vary in content, scope and comprehensiveness. Specific documents are available on cleaning, disinfection and sterilization, infection risks, and infections associated with certain procedures such as piercing, tattooing and aesthetics. Outbreaks and other adverse events have been associated with breakdowns in basic IPC procedures.
Lessons Learned: Major gaps and inconsistencies exist in IPC practices for PS. This industry will continue to evolve at an accelerated pace along with the potential for increase risk of transmission and infection. Public health continues to be challenged in improving the safety of the PS industry. The development of comprehensive guidance using a risk assessment approach can provide provinces, territories and local public health with evidence-based IPC recommendations and best practice measures to complement their efforts in monitoring and preventing infections in PS settings.

POSTER BOARD #63

CHAMPIONING INFECTION CONTROL FACILITATORS FOR AN INTERPROFESSIONAL INFECTION CONTROL SIMULATION LAB: CHICA-EASTERN ONTARIO ROCKS!

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Issue: Queen's University conducted an Interprofessional Infection Control Simulation lab in 2012, having Nursing, Medical and Physiotherapy students work through four scenarios, with various infection control issues. That year, there were only 4 Infection Prevention and Control (IPC) facilitators, the other facilitators (eight) were staff from the various health sciences programs. Comments received from facilitators centered on confidence in facilitating an Infection Prevention and Control scenario without a strong background in this science.

Project: Recruit 12 ICP's to act as facilitators at 3 sites, for 4 scenarios. Time commitment was 6 hours (1130 - 1730h) on a Friday afternoon.

Results: By putting out a request through the Secretary of CHICA Eastern Ontario, 12 volunteers from various backgrounds were recruited. The only payment was a free lunch, at which the day's activities were outlined, and facilitators working on the same scenario could plan their comments and expected outcomes. Feedback was positive from facilitators, organizers and students.

Lessons Learned: Having two spare facilitators from the School of Nursing was a wise move as one ICP was tied up in meetings that could not be moved, and a second ICP was working collaboratively with the Ministry of Labour on an exposure issue.

POSTER BOARD #65

INFLUENZA - WHY ARE WE SO DIFFERENT?

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Background: Influenza, commonly called the flu, is a viral infection that affects the respiratory tract. Influenza types A and B are responsible for epidemics of respiratory illness that occur almost yearly. These are often associated with increased rates of hospitalization and even death. Interestingly, every flu season is different. Influenza affects different people differently. Personal susceptibility to infection and ability to fight pathogens are important in fighting the flu. But are those the only contributing factors of influenza patterns? Are we evaluating the right parameters? Do healthcare practices, across region, hospital, practice, differ? These are all intriguing questions. Two of Trillium Health Partner's three sites, Mississauga and Credit Valley, are located in Peel region, less than 13 kilometers apart. These two sites reported remarkably different statistics and patterns of influenza. Why are we different, are we following different practices, are we servicing different population, are we screening the same? All of these interesting questions warrant further investigation and are interesting factors in understanding influenza.

Methods: Evaluation of the acute respiratory infection visits and admissions provide us with a basic influenza overview. Further evaluation is warranted.

Results: In January 2013, two sites differed in influenza activity. Credit Valley site had 16 confirmed hospital acquired influenza cases, where Mississauga site had only 4.

Conclusions: Credit Valley Hospital, located within13 kilometers of Mississauga site, identified more influenza cases. Is this finding significant? Why are the numbers different? Further investigation is warranted.

POSTER BOARD #67

EFFICACY OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS DECOLONIZATION REGIMEN IN A LONG-TERM CARE SETTING

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Background/Objectives: Colonization with Methicillin Resistant Staphylococcus aureus (MRSA) can lead to serious health and psychosocial implications for people residing in long-term care facilities. Previous studies have shown significant success in the long-term extraction of MRSA with strict decolonization procedures. This study aims to replicate these successes despite increasing ethical calls for caution in strengthening the resistance of MRSA. The purpose of the study is to assess the efficacy of a standard five-day decolonization regimen with the intent to improve the resident health outcomes, reduce staff workload, and reduce costs to the organization.

Methods: This is a quantitative, longitudinal, time-series experimental research study. Residents were selected on one long-term care unit for inclusion in the study. Those residents already known or suspected to be colonized with MRSA were selected for inclusion and participated in pre-study MRSA analysis. Of this initial group, six residents were found to be colonized with MRSA. A five-day regimen of topical antibiotic therapy and antiseptic bath-wash including a complete cleaning and disinfection of the entire resident unit was conducted.

Results: Follow up analysis at regular intervals up to 10 months post-study reveal an 83.3% success rate in decolonization.

Conclusion: Previous studies have shown a marked increase in costs in managing residents with MRSA colonization versus no colonization. A standard five-day decolonization regimen with thorough environmental cleaning and disinfection has been demonstrated to be successful in a long-term care setting and should be given consideration in reducing staff workload, reducing organization costs, and improving resident health outcomes.

POSTER BOARD #69

MECHANICAL VENTILATION RATE REQUIRED TO REDUCE TRANSMISSION OF MYCOBACTERIUM TUBERCULOSIS IN NON-ISOLATION HOSPITAL ROOMS

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Objective: Ventilation of various rooms in healthcare settings is a key risk determinant for *Mycobacterium tuberculosis* transmission. Recommendations from recognized organizations have introduced increases in air changes per hour (ACH) within select patient care areas. This may increase cost to build, upgrade or maintain existing infrastructure. Developing recommendations based on published evidence may reduce additional cost. A systematic review was conducted investigating the minimal ACH necessary to reduce indicators of transmission of *M. tuberculosis* to non-occupational levels in select healthcare areas.

Methods: A systematic peer-reviewed and grey literature search was conducted to identify relevant publications using defined PICO (population, intervention, comparator and outcomes) criteria. Eligibility was determined independently by two reviewers. Critical appraisal of studies was then performed and relevant data extracted.

Results: The total number of publications identified was 268, preliminary screening excluded 178. 90 full-text articles were then assessed for eligibility. Nine articles met eligibility criteria including one that specifically addressed the study objective. The ACH was not specified in three studies; while the remainder ranged between 1.2-28 ACH. Tuberculin skin test conversion rates varied from 0.4%-50% and were not necessarily associated with ACH. Study limitations included lack of control for confounders.

Conclusion: Strong peer-reviewed evidence addressing the minimal ACH to reduce M. tuberculosis transmission is lacking and limits the ability to provide definitive recommendations in this review. A number of gaps were identified including the need for interdisciplinary collaboration, well-designed prospective analytic studies, and adequate control of confounders to allow for reliable data analysis.

POSTER BOARD #73

PUBLIC HEALTH ONTARIO'S ASSESSMENT AND RESPONSE TO AN ACUTE RESPIRATORY INFECTION SURGE IN ONTARIO HOSPITALS

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Issue: A surge of patients presenting to Ontario hospitals with Acute Respiratory Infection in 2012-13 resulted in significant issues affecting patient flow. Interventions were launched to assist in alleviating the resulting challenges.

Project: At the end of 2012 and beginning of 2013, the number of patients presenting to acute care Emergency Departments with symptoms of acute respiratory infection (ARI) surged and resulted in a variety of challenges across the healthcare system in Ontario. In January of 2013, Public Health Ontario (PHO) undertook a telephone survey of Ontario hospitals to assess the situation and formulate a response to assist staff in these settings in addressing the identified challenges.

Results: The survey showed the challenges to be multi-factorial with the specific issues of patient repatriation to Long Term Care, and the proper use of cohorting to be foremost. PHO responded to these identified challenges by working with

system partners to provide a sample patient transfer algorithm, and follow up education on cohorting.
Lessons Learned: The response to the ARI surge provided hospitals with tools to address some of the increased burden, and set the stage for more effective planning ahead of future cyclical surges. The gracious participation of hospitals in the survey and resulting supports illustrate the responsiveness of system partners.

POSTER BOARD #75

HAND HYGIENE IN PATIENT ROOMS VS. HALLWAYS: WHAT IS THE DIFFERENCE?

Colin Furness[2,3], Jocelyn Srigley[1,2], Michael Gardam[1,2]
[1]University Health Network, Toronto, ON, Canada, [2]University of Toronto, Toronto, ON, Canada, [3]Infonaut Inc., Toronto, ON, Canada
Objectives: Gel dispensers in hospital hallways are a relatively recent phenomenon, and almost no research has investigated hand hygiene (HH) locus: the choice between cleaning hands inside the patient room versus the exterior hallway. The purpose of this exploratory study was to identify factors affecting HH locus.
Methods: An electronic HH monitoring system was installed in one ICU and one medical-surgical inpatient unit of an acute-care hospital. Every soap and hand rub dispense event in the unit was logged by location and time. Every hour, dispenses inside and outside each room were tallied, to produce a locus score. Logistic regression was used to evaluate whether locus was affected by shift, weekday/weekend, room features, and proximity to nursing station.
Results: In 212 days, over 300,000 dispenses were recorded across both units. HH locus was not substantially affected by time of day, day of week, or unit. However, significant effects were observed for multiple environmental design variables.
Conclusions: HH locus appears to be a stable characteristic of HH behaviour, and is not greatly influenced by time or day. Room location appears to influence HH locus on both units. Other factors differed between units, and room design differences between an ICU and a general ward may play a role. More research is needed to assess if high hallway HH locus is associated with cross-contamination of hospital surfaces.

POSTER BOARD #77

MANAGING INFLUENZA OUTBREAKS IN RETIREMENT HOME SETTINGS: IT'S NOT LIKE LONG TERM CARE

Catherine Walker, Robyn Latendresse, Michelle Perfect
Elgin St. Thomas Public Health, St. Thomas, Ontario, Canada
Issue: Under the Institutional/Facility Outbreak Prevention and Control Protocol, Ontario public health units are responsible for supporting long-term care and retirement home staff to prevent and control influenza outbreaks. To date, public health has more experience working with long-term care home staff because of legislated reporting requirements. With the recent introduction of a provincial act to regulate retirement homes, health units are learning more about the unique challenges of influenza outbreak management in these settings.
Project: The 2012/2013 outbreak season in a small southwestern Ontario health unit was distinguished by higher than normal levels of influenza illness both in community and institutional settings including retirement and long term care homes. This presentation will compare and contrast the success of "typical" influenza outbreak control measures in both these settings and resulting changes to health unit recommendations.
Results: There were more challenges with outbreak duration and resident compliance with control measures in retirement homes when compared with long term care homes. Registered staff in retirement homes was aware of routine practices and additional precautions but lacked familiarity with use of oseltamavir for treatment and prophylaxis.
Lessons Learned: Public health units need to work with retirement homes to build the capacity of registered staff to contain and manage influenza outbreaks. Influenza outbreak control measures for retirement homes need to consider the "independent" yet frail nature of resident population, living arrangements, physician care model, and degree of "community porosity" to be effective.

POSTER BOARD #79

STAPHYLOCOCCUS AUREUS INFECTIONS ASSOCIATED WITH EPIDURAL INJECTIONS AT AN OUTPATIENT PAIN MANAGEMENT CLINIC IN TORONTO, ONTARIO

Allison Chris, Danielle Steinman, Anne Arthur, Barbara Yaffe
Toronto Public Health, Toronto, Canada
Background: Between October 25 and November 29, 2012, three patients in different Ontario health units were hospitalized with bacterial meningitis caused by *Staphylococcus aureus*. All had received epidural injections at the same outpatient pain management clinic located in Toronto, Ontario.
Methods: A public health investigation was initiated to identify the source of infection, to find additional cases and to prevent further infections. Patients who received injections at this clinic between August 1 and November 30, 2012 were contacted and assessed. A case was defined as laboratory-confirmed infection with *S.aureus* with clinical presentation of either meningitis, an abscess, or cellulitis at the injection site during the look-back period. Infection control procedures at the clinic were assessed, and isolates from patient infections, clinic staff nasal and wound swabs, and environmental samples were genotyped using pulsed-field gel electrophoresis.
Results: Of the 252 patients for whom follow up could be completed, nine (3.6%) met the case definition; three with meningitis, and six with an abscess or cellulitis. All nine received injections from the same physician. During procedures, adherence to established infection prevention and control guidelines were suboptimal. The physician was found to be colonized with *S.aureus*, and isolates from multiple swabs were an exact match with all patients for whom genotyping could be conducted (6 of 9 patients).
Conclusions: Infection control breaches likely facilitated transmission of *S.aureus* from the colonized physician to patients receiving epidural injections. Adhering to routine practices in ambulatory care settings is critical to prevent disease transmission and severe health outcomes.

YOUNG INQUIRING MINDS

Kathryn Dove is a 12-year-old studying at Kingston Christian School in Kingston Ontario. Among her interests are art and science, which she likes to combine whenever she can. She likes to know how things work and why. While she knows that bacteria can be deadly, she thinks that the formations that grow on Petri dishes as well as the different colours that can be displayed are quite beautiful. She lives near a Conservation Area and is very concerned about how products we use interact with the environment. Kathryn just completed the Regional Science Fair hosted by Queen's University and received the bronze medal in her field for her presentation.

CHICA-Canada will be hosting a table at the CHICA-Canada booth (#620 in the Exhibit Hall) at which Kathryn will be demonstrating her research project to see if different dish soaps were equally effective in removing bacterial contamination from a dinner plate. The full abstract is available from CHICA-Canada on request, and will be printed in the Final Program of the 2013 National Education Conference.

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CHICA – Canada Distance Education Online Basic Infection Prevention and Control Course
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CHICA – Canada sponsors a six-module e-learning course for ICPs and others entering the field of infection prevention and control. For information contact *chicabasicde@mymts.net*

CHICA 2014 Conference/CHICA Nova Scotia
Booth 614
Co-hosted by CHICA Nova Scotia , the 2014 National Education Conference will be held at the World Trade and Convention Centre in Halifax May 25 – 28, 2014. For information on the 2014 conference, contact CHICA at 1-866-999-7111 or *chicacanada@mymts.net* . For more information on CHICA Nova Scotia, contact Kim Allain at *kim.allain@gov.ns.ca*.

CHICA Ottawa Region
Booth 612
CHICA Ottawa co-hosted the 2013 National Education Conference. For information on CHICA Ottawa, contact Judy Dennis *atjdennis@cheo.on.ca*

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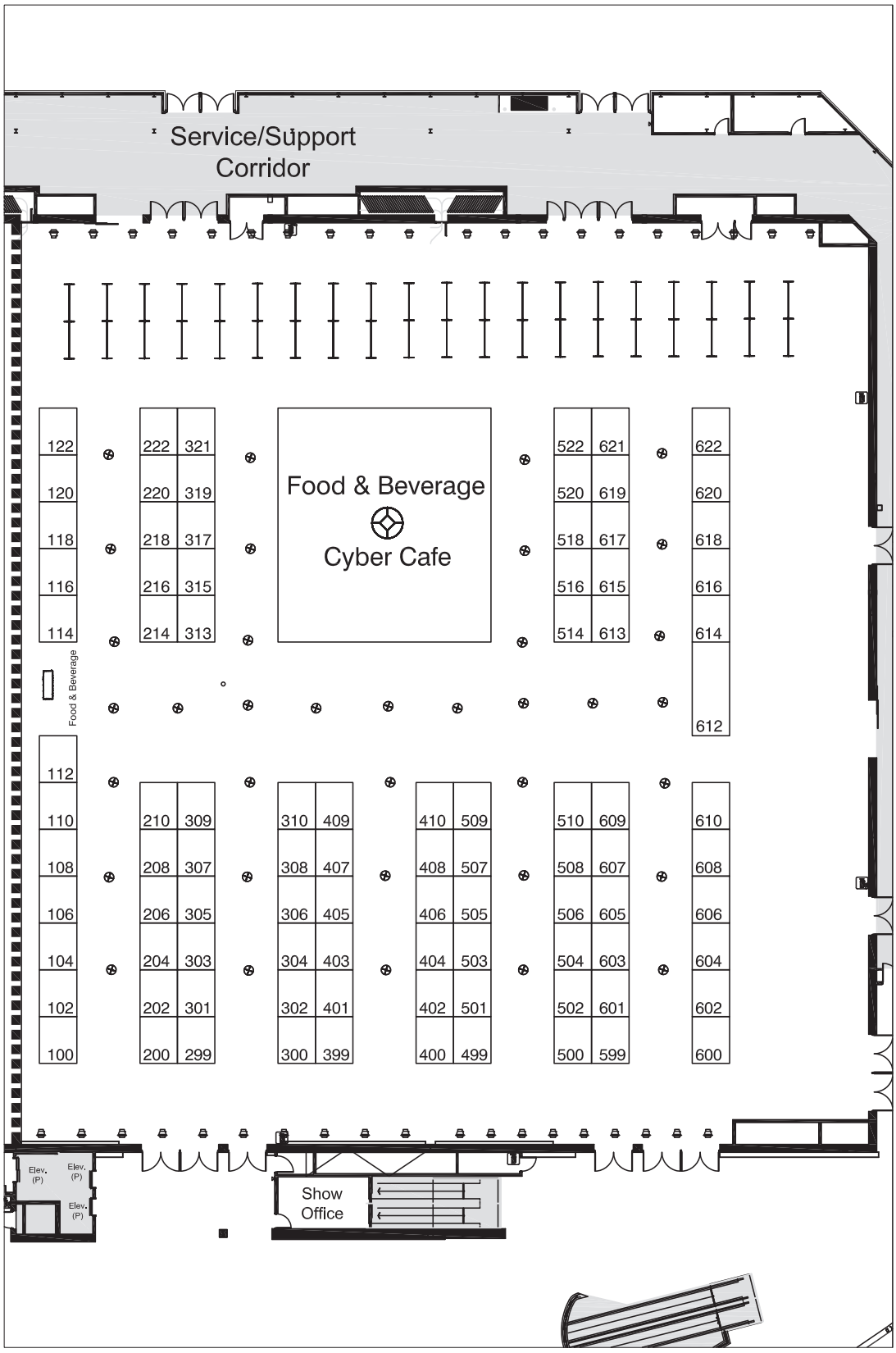
YCommunicate has provided the production expertise in the development of the CHICA Routine Practices E-Learning Tool, including the fall 2013 launch of the French adaptation.

EXHIBITOR FLOOR PLAN



Bruce Gamage, RN, BN, CIC
President, CHICA-Canada

Become **involved**

As I begin my year as president of CHICA-Canada, I find myself very excited by all the possibilities that this year will bring. I hope to follow the example of my predecessor, Jim Gauthier, by making this year fun, educational and memorable. I plan to take the opportunity to meet as many of my fellow CHICA members as possible – while continuing to learn and grow.

CHICA is a great organization. The combined work of the CHICA board, the membership office, chapters, interest groups and committees is amazing. But that work only has value if you get involved. None of these groups function effectively in isolation. We need your energy, input and ideas to keep CHICA growing and evolving. I strongly urge all CHICA members to become actively involved in your local chapters, as well as committees, working groups and interest groups. You will be amazed at what you will learn and how much fun it can be!

This year's conference will be held in Ottawa, our nation's capital. The conference theme "O CHICA-Canada – On guard for thee!" is a call to action for all our members. We share the responsibility for protecting and preserving the health of all Canadians. I strongly urge you to attend this year's conference. The program promises to be cutting edge, support your growth and education, provide opportunities for networking, expose your to new and innovative products and showcase CHICA-Canada as the pre-eminent source of infection prevention and control expertise in Canada. Wow, on top of all that you get to enjoy all that city of Ottawa has to offer, with all its charms, history, and culture. I hope to meet you there!

> "CHICA is a great organization. The combined work of the CHICA board, the membership office, chapters, interest groups and committees is amazing. But that work only has value if you get involved."

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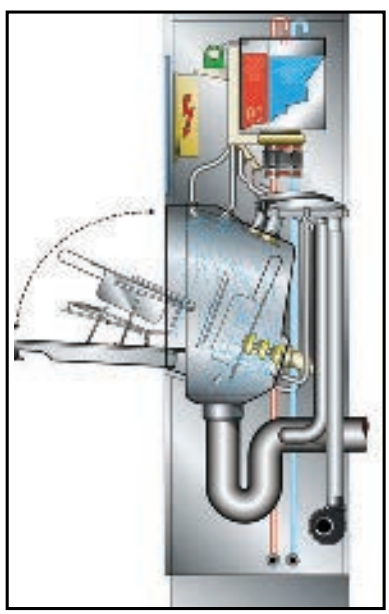

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Bruce Gamage, RN, BN, CIC
President, CHICA-Canada

Et… action!

J'entreprends mon mandat à la présidence de APIHC-Canada avec beaucoup d'enthousiasme, au vu d'une année très riche en perspectives. J'espère suivre l'exemple de mon prédécesseur, Jim Gauthier, et rendre cette année agréable, instructive et mémorable! Je compte rencontrer le plus grand nombre d'entre vous et continuer d'apprendre et d'évoluer.

L'APIHC est une organisation d'exception. Le travail conjugué du conseil d'administration, du bureau des services aux membres, des sections, des groupes d'intérêt et des comités force l'admiration. Pourtant, ces efforts ne porteront vraiment leurs fruits que si vous-mêmes participez. Aucun de ces groupes ne peut être efficace en vase clos. Pour croître et progresser, l'APIHC a besoin de votre énergie, de votre contribution et de vos idées. C'est pourquoi j'insiste : mettez vos talents au service de votre section, d'un comité, d'un groupe de travail ou d'un groupe d'intérêt! Vous serez surpris de tout ce qu'on y apprend et du plaisir qu'on y a!

Cette année, le congrès aura lieu dans la capitale : Ottawa. Le thème « Ô APIHC-Canada – Protégera nos foyers! » est un appel général à l'action. C'est à nous en effet qu'il incombe de protéger la santé des Canadiens. Je vous encourage fortement à vous inscrire. Le programme d'avant-garde offre de nombreuses occasions d'apprendre et de se perfectionner, de créer des liens, de connaître des produits nouveaux et novateurs et de présenter APIHC-Canada comme la source d'expertise par excellence en prévention des infections au Canada. Et ce n'est pas tout : Ottawa jouera pour vous de tous ses charmes, de son histoire et de sa culture. Je vous y donne rendez-vous!

Cleaning Conundrums

Quality products and stringent procedures go hand-in-hand

As Canadian health care institutions search for ever-effective ways to prevent and control nosocomial infections, innovative tools and practices are on the rise. Everything from anti-infection SWAT teams to germ-killing ultraviolet robots and novel antibiotic therapies are being investigated to find best practices and protect patients and staff.

Effective prevention of health care-associated infections can substantially reduce health-care costs by minimizing the length of hospital stays, morbidity and morality associated with HAIs.[1] However, not every hospital system has the ability to invest in the newest technologies or therapies so it's important not to lose sight of basic strategies that can also make a positive difference.

Enforcing stringent cleanliness requirements is a key element in infection prevention and control strategies. Quality products can help institutions achieve these requirements. Kruger Products works with health care organizations to understand their unique needs and provide the right mix of towel, tissue, wipes and dispensing products to meet their hygiene and business objectives. Premium products are more effective and do a better job of cleaning, while touchless dispensers can help control the spread of bacteria and minimize the risk of cross-contamination.

Enforcing stringent cleanliness requirements is a key element in infection prevention and control strategies. Quality products can help institutions achieve these requirements.

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Facts that Impact

Did you know that in Canada

- HAIs are the 4th leading cause of death[2]
- Each year, an estimated 220,000 people acquire an infection while in hospital[3]
- 8,000 to 12,000 deaths each year are attributable to HAIs[3]
- 30-50% of HAIs are preventable[4]

The Ottawa Hospital recently launched its SWAT teams, which are rapid-response teams comprised of clinic, housekeeping and infection control staff. Their main objective is to oversee disinfection, de-cluttering and repair of areas when a *C. difficile* infection occurs. The hospital is hopeful this, in conjunction with its other infectin control practices, will curb rates of outbreaks.

The Total Room Ultraviolet Disinfector (TRU-D SmartUVC) is a mobile, automated germ-killing ultraviolet robot currently being used for the first time in Canada by the Vancouver General Hospital as part of a pilot project. After a staff member cleans a room, TRU-D floods the space with the appropriate amount of germicidal energy for a customized duration to eliminate infectious germs from contaminating surfaces.

2 Statistics Canada. Ranking and numbers of deaths for the 10 leading causes of death, Canada 2000 and 2009.

3 Zoutman,DE, Ford DB, Bryce E et al; The state of infection surveillance and control in Canadian acute care hospitals; *American Journal of Infection Control*, 2003; 31: 266-73.

4 The Canadian Committee on Antibiotic Resistance 2008.

1 Public Health Agency of Canada. *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety – A Discussion Paper.* 14 June 2010. 12 March 2013 <http://www.phac-aspc.gc.ca/nois-sinp/guide/ps-sp/partI-eng.php>.

Conference Survival Skills
Making the most of the 2013 CHICA-CANADA Conference

Gerry Hansen, BA
Executive Director, CHICA-Canada

Over the past years, CHICA-Canada conferences have gained recognition as the premier Canadian education and networking opportunity for ICPs. With the dynamic educational programs developed by a committee of infection prevention and control experts, delegate attendance has grown significantly and offerings of current research via poster and oral presentations have tripled in the last five years. Notable has also been the increased response of industry to have a presence at the event.

With this growth comes an almost dizzying mix of education, networking, industry showcase, interest group meetings, committee meetings, and special events. How does a delegate ensure that they make the most of their time and money while at the conference?

SET GOALS AND OBJECTIVES

What are your reasons for attending? Do you need to brush up on clinical applications? Do you want to find out about the latest research? Do you want to get comparative product information for product recommendations? Start planning your days well in advance of the conference. Think about information that you will personally need for your practice and also consider what others at your institution might need as well. Before leaving for the conference, talk to others whose work involves infection prevention and control. Show them the conference schedule and exhibitors list and ask if they would like you to gather specific information for them.

ESTABLISH PRIORITIES

If your primary goal is to learn about the latest in clinical applications, your energies should be directed toward the education sessions. There is a lot of knowledge being offered. Simply – you cannot possibly attend every session or every meeting. Decide which topics are the most important to you and which sessions you will attend. Plan to purchase recordings of education sessions that you may miss. Find out how to get information on interest group or committee meetings that you cannot attend. Obtaining product information from industry suppliers to the profession is a valuable education in itself. Spend as much time as possible touring the exhibits, using the following hints.

> "There is a terrific Exhibitor Passport program in place that helps increase traffic in the exhibit hall and has some wonderful giveaways at the end of it. "

WHAT?! NO HANDOUTS!

Printed handouts will NOT be distributed at the conference. Speakers have been asked to provide their handouts, in a format that is easily downloaded, prior to the conference. These will be posted to *www.chica.org*. Check the website regularly to download handouts of interest. The Ottawa Convention Centre and the Westin Ottawa have Business Centres for printing services. Contact the Business Centre for their applicable fees.

Take notes while listening to the speaker. Ask pertinent questions. Turn off your cell phone or BlackBerry! Leave the outside world behind.

MAP OUT YOUR EXHIBIT HALL 'FLIGHT PLAN'

Look through the Exhibitors List (pages 58-60) and decide which ones are the most important to you. Make an "A" list for the first day of exhibits and a "B" list for the second day. Visit the exhibiting companies you are familiar with but also stop to visit companies new to the conference who are sure to have information of great importance to your practice.

KNOW THE QUESTIONS – GET YOUR ANSWERS

Before going to a booth, formulate a list of well-defined questions. Those that directly address product performance are most helpful. Make sure to ask specific, yet open-ended questions. That way the exhibitor's representative has to really address the issue.

Ask for peer review articles or ask the representative to compare his or her product with a competitor's. It is always helpful to compare notes with your peers. Remember that applications at a 700-bed teaching facility will be different from those at a 200-bed long-term care facility. Ask for a list of the institutions that are currently using the product or service.

There is a terrific Exhibitor Passport program in place that helps increase traffic in the exhibit hall and has some wonderful giveaways at the end of it. But, don't forget that time is money to a sales representative as well and they have a job to do. It is polite to

"Use this opportunity to meet people outside of your chapter or employment place. Talk to those with similar fields of expertise; ask for permission to communicate with those who might be able to mentor you in the future."

be courteous and listen to what a representative has to say. Industry is an additional source of education for ICPs. However, if you are not interested, be honest and move on. It is better for the representative to have 10 solid leads than 100 poor ones.

Take notes while talking to the exhibitors before moving on to the next booth. This will help you sift through and share all that information when you return to work. This tip applies to education sessions as well.

EVALUATIONS

After each session, complete the evaluation form which will be contained in the Final Program. At the end of the last education session you attend that day, hand in your form to the room monitor. Not only does this assist next year's planning committee in the development of an education program that meets the needs of attendees, but it also gives our speakers an evaluation so they too can improve upon their presentation in the future. As an appreciation for submitting the valuable evaluation form, five lucky attendees each day will win a prize from the conference. After the conference, an online evaluation of the conference itself will be posted to *www.chica.org*. One lucky submitter will receive a complimentary registration to our 2014 conference.

THE MOST IMPORTANT PEOPLE? RIGHT BESIDE YOU!

Use this opportunity to meet people outside of your chapter or employment place. Talk to those with similar fields of expertise; ask for permission to communicate with those who might be able to mentor you in the future. Attend the Interactive Lunch on Sunday, June 2. Members of CHICA's leadership team (the board, chapter presidents, interest and committee chairs) will host the tables and are prepared to encourage conversation around CHICA-Canada, and your own practice.

HAVE FUN!

Don't let stress build up. Attend the special events that are designed to let you meet, greet and eat! But it is most important to take time for yourself to rest, reflect, re-organize, and re-energize. We want you to have the best experience at the 2013 conference and come back to us next year!

FIRST TIME ATTENDEE? HERE'S WHAT TO EXPECT

Plan ahead. Plan your travel days carefully. For example, you may not want to arrive or depart on days that you also plan to attend sessions or activities. Know in advance where your hotel accommodations are in relation to the conference, and plan adequate time to get to conference sessions and activities. For planning purposes, we have asked you which sessions you expect to attend. You are not bound by this. You can change your mind and attend any session you wish. At the same time, indicating which sessions you may attend does not guarantee a place in the room. Arrive at the session rooms as early as possible. Sessions fill up quickly, and you'll want to arrive early to help ensure you can attend the sessions you want. Be prepared for varying temperatures that occur in large-scale rooms. Layering works indoors as well as outdoors.

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Need we say more?

ASSISTANCE

The CHICA-Canada Registration Desk at the Ottawa Convention Centre (Rideau Canal Atrium) will be the focal point of all information and assistance. Need directions? Need to find out about the city? Need to leave a message for a colleague? Pick up your registration materials early so that you are not waiting in line when the next session starts. Then drop by the registration desk at any time – the friendly staff will be very happy to help you out.

UP-TO-DATE INFORMATION

Education sessions are presented and moderated by some of the most knowledgeable infection prevention and control professionals from all healthcare settings, including acute care, long-term care, community, prehospital, and alternative settings. PreConference Day (Sunday, June 2) focuses on four major areas of practice: Healthcare Facility Design and Construction; Routine Practices Education Tools, Teaching Moments, and Antibiotic Stewardship. The main conference program is two and a half days of varied information designed to provide an educational experience for those working in all healthcare settings. Every attendee will receive an attendance form to complete and keep in their professional file. If you are governed by the Royal College of Physicians and Surgeons, you should pick up the tri-part CME credit form from the Registration Desk.

TIME WELL SPENT

CHICA-Canada National Education Conference are carefully and meticulously planned. All the details have been worked out for you; all you need to do is plan your days to gain the best experience.

For further information or assistance, contact:

Gerry Hansen, Executive Director
Telephone: 1-204-897-5990
1-866-999-7111
Fax: 1-204-895-9595
Email: *chicacanada@mymts.net*

Pat Rodenburg, CHICA-Canada Conference Planner
pat@buksa.com

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2013 Diversey **Education Bursary**

CHICA-Canada and Diversey Inc. are pleased to announce the winners of the 2013 Diversey Education Bursary. The objective of the bursary is to provide financial assistance to eligible CHICA-Canada members to attend continuing professional education programs. With the need for increased funding for CHICA-Canada members to attend or participate in educational events, the sponsorship of this bursary by Diversey Inc. enhances CHICA-Canada's ability to support its members in attendance at the annual conference, at a chapter educational event, or as a student at one of the distance education courses supported or endorsed by CHICA-Canada.

"We are pleased to partner with CHICA-Canada to provide this education bursary which advances our joint objective – promoting best practice in infection prevention and control to improve patient and staff safety," said Carolyn Cooke, Vice President, North America Healthcare Sector. "We see continuing education and shared knowledge as cornerstones to improving patient outcomes and program quality, and we are proud to partner with CHICA-Canada to be able to provide an opportunity for increased learning and knowledge sharing."

Following are the winners of the 2013 bursary:

Allana Marie Ivaney, Nova Scotia
Mary McNaughton, British Columbia
Patsy Rawding, Nova Scotia
Sheila Sheppard, Nova Scotia
Leanne Harding, Ontario
Karen Valentine, Saskatchewan

The 2014 Diversey Education Bursary will be online in November 2013. The deadline for applications is January 31, 2014.

Diversey

CHICA-CANADA

2013 Virox Technologies **Scholarship**

Through the financial support of the Virox Technologies, 13 CHICA-Canada members have been awarded scholarships to attend the 2013 National Education Conference in Ottawa. CHICA-Canada and its members thank Virox Technologies 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.

We are pleased to announce the 2013 scholarship winners:

Donna Baker, Ottawa, ON
Patricia Bedard, Ottawa, ON
Sharon Carella, Thunder Bay, ON
Sharon Connell, Lindsay, ON
May Griffiths Turner, Hamilton, ON
Tina Halloran, Wawa, ON
Kathryn Linton, Calgary, AB
Lisa Mackey, Calgary, AB
Darlene Meeds Montero, Saskatoon, SK
Danielle Richards, Vancouver, BC
Paula Stagg, Corner Brook, NL
Faith Stoll, Yarmouth, NS
Beverley Sutherland, New Glasgow, NS

The 2014 Virox Technologies Scholarship online application will be launched in November 2013. The deadline for applications is January 31, 2014.

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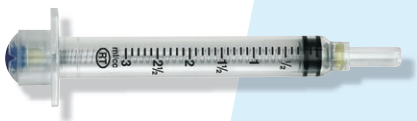

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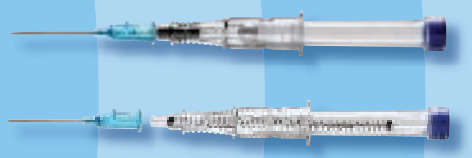

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Pat Piaskowski named
CHICA-Canada Honourary Member

The Board of Directors of CHICA-Canada is pleased to announce that Pat Piaskowski has been granted Honourary Membership. Pat has been Network Coordinator for the Northwestern Ontario Infection Control Network since 2005. Prior to assuming this position she was the Infection Control Coordinator at Thunder Bay Regional Health Sciences Centre for over nine years and in Long Term Care Infection control and administration for 12 years. She has maintained certification in infection control (CIC) since 1990 and completed an Honours Bachelor of Science in Nursing (HBScN) at Lakehead University, Thunder Bay, Ontario in 1993.

Pat has served as CHICA-Canada Board member (1991-1998) and President of CHICA (Community and Hospital Infection Control Association)-Canada (1997). In 2011, Pat was selected as a CHICA-Canada Champion of Infection Control. She is the current Editor in Chief of the Canadian Journal of Infection Control (CJIC) (since 2003). She has served on numerous local, provincial and national committees and task forces and is a founding member of the previous International Infection Control Council. Pat is co-author of the *Infection Control Toolkit on Strategies for Pandemics and Disasters* (2002), *Infection Control Toolkit: Infection Control in Emergencies and Disasters* (2007), *ESBL Toolkit* (2006) and *Best Practices in IPAC Related to Gram-Negative Resistance* (2012) and other articles published in the *CJIC*. She has presented at various local, provincial, national and international infection control conferences and seminars. In addition, she is currently a board member for the Nursing Leadership Network (Ontario) and a member of the Public Health Ontario Provincial Infectious Diseases Advisory Committee Infection Prevention and Control Committee (since 2004).

Pat is married with three sons and daughters-in-law and eight grandchildren.

Official recognition of CHICA-Canada's newest Honourary Member will take place during the Opening Ceremonies of the 2013 National Education Conference in Ottawa on Sunday, June 2.

Bring in a **New Member**

Win a complimentary 2013-2014 membership

Membership has its benefits. The CHICA-Canada website (*www.chica.org*) has so much information on the benefits of being a member. The member resource guide for finding other CHICA-Canada members, links to infection control sites, audit tools … the list is extensive. Tell another infection prevention and control professional (ICP), tell an ID physician, tell your medical laboratory technologist, tell environmental services, tell EMS, tell your designate, and tell your director about the benefits of joining our national organization.

If that person joins CHICA by May 1, 2013, both you and the new CHICA-Canada member will be eligible to win a complimentary 2013-2014 membership (value $195). You are eligible for the draw with every new CHICA-Canada member that you get to sign up. Should the winning members have already paid their 2013-2014 membership, a refund will be made to the person or the institution which has paid the fee.

Send in this form no later than May 1, 2013. An announcement of the winners of this offer will be made at the 2013 conference. Membership applications can be found at *http://www.chica.org/aobut_join.php*

New member name _____

Email address _____

Sponsoring member _____

Email address _____

Send this form by fax or email to:
Marilyn Weinmaster, CHICA-Canada Membership Director
c/o CHICA-Canada Membership Services Office | *chicacanada@mts.net* | Fax: 204-895-9595

IN MEMORIAM

In loving memory of Rachelle Swayne (1955-2013)

Isabelle Langman,
2013 CHICA- NEO Chapter President

In January 2013, our northern roads took our dearest friend Rachelle Swayne from us, her family, friends and IPAC Community. Rachelle had recently retired after many years of service and multiple years working as an infection control professional but still provided support to the new IPAC professional for the Matheson, Iroquois Falls and Cochrane (MICS) Group of hospitals in Northern Ontario.

Rachelle had that "infectious" smile, that twinkle in her eye, and that joie de vivre unlike any other. Her upbeat nature and charisma brought her respect and appreciation everywhere she went. Within the IPAC community, Rachelle was a wealth of knowledge and shared that knowledge freely with those around her and beyond. She always lent a helping hand. She was a devoted friend, team member, and CHICA NEO chapter executive member. Rachelle always went the extra mile and she did all that with pleasure because it was all worthwhile to her.

She truly brightened our path and her many contributions will allow us to remember her always. We love you; we miss you.

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They walk beside us every day
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[1] Single channel lumen scopes up to 1050mm. Dual channel scopes up to 998/850mm.

[2] As of April 2012, STERRAD® 100NX and NX are cleared to process 10 stainless steel lumens per load. V-PRO maX is cleared to process 20 stainless steel lumens per load.

[3] Compared to the STERRAD 100NX.

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Education Bulletin: Evaluating product information for Health Canada registered products

This article was written for CHICA Canada and its members by the CHICA Canada Corporate Relations Committee. Primary authorship credit is given to Ginny Marshall of 3M Canada. *Disclaimer: This article does not promote any particular manufacturer or their products.*

With the endless number of products currently promoted in the healthcare market, it is difficult to know which one(s) to choose. The product evaluation process can be particularly difficult, especially when trying to evaluate product features and efficacy claims without knowing how to validate the information you receive.

Although there are many aspects to a systematic product review process, for example the identification of a need, a review of evidence-based literature and best practice recommendations, evaluation of clinical studies, as well as nonclinical aspects such as purchasing agreements and financial impact analysis, this case study has two objectives:

- To provide guidance on the various steps that can be followed to help evaluate products registered through Health Canada (with specific focus on drugs and natural health products, including disinfectants) and ensure their validity.
- To provide ways to seek out product-specific information in order to make informed product decisions during the evaluation process.

Scenario: You have been approached by a vendor with a new product to evaluate. From their description, this product appears to suit your needs – but how can you be certain?

Objective: To keenly investigate the product features, benefits, efficacy, and Health Canada registration, in order to assist in your product evaluation process.

The following steps will help you to gather the information you require to help make your decision:

Step 1: Confirm the product has Regulatory approval from Health Canada.

a) Locate the Health Canada registration number.
b) Verify the product exists in the Health Canada database.

Step 2: Identify the credible sources of product information and compile the data you need to help make your decision.

a) Investigate the product label.
b) Investigate supporting product information.

Step 1: Confirm Health Canada Regulatory Approval

Step 1a: Locate the Health Canada registration number

An important first step in the evaluation process is to look for products that clearly display their Health Canada-issued registration number. For drug products, which include products such as pharmaceutical and biological drugs, veterinary drugs and disinfectants, a Drug Identification Number[1,2,3] or DIN number will be clearly displayed on the product label. Similarly, a Natural Product Number[4,5] or NPN will be clearly displayed on the label of products classified as Natural Health Products (NHPs) by Health Canada. Natural Health Products are products derived of naturally occurring substances that are used to restore or maintain good health. They include products such as vitamins and minerals, herbal remedies, homeopathic medicines, traditional medicines like traditional Chinese and Ayurvedic (East Indian) medicines and probiotics. Many everyday consumer products, such as certain toothpastes, mouthwashes, antiperspirants, shampoos, facial products and alcohol-based hand sanitizers are also classified as Natural Health Products in Canada.[6]

The easiest place to locate registration numbers are on product labels, however, these numbers may also appear on marketing literature if you do not have a product sample. It should be noted that in the event that the Health Canada-issued registration number is unknown, it is still possible to proceed to the next step

Step 1b: Verify the product exists in the Health Canada database

Once you have located the Health Canada-issued registration number, it is important to confirm its validity. This can be accomplished by visiting one of Health Canada's online databases using the appropriate links provided below. In the event that it was not possible to locate the registration number, it may be possible to search the Health Canada databases using criteria such as the company name, product name, or active ingredients.

To confirm product registration with Health Canada, visit the following web addresses and enter the appropriate registration number (if available), or conduct a search using other accepted criteria:

For Drug Products (DIN):
http://webprod5.hc-sc.gc.ca/dpd-bdpp/index-eng.jsp

"A Health Canada Establishment Licence ensures that manufacturing facilities have quality standards in place to produce safe products for consumers.[8,9]"

For Natural Health Products (NPN):
http://www.hc-sc.gc.ca/dhp-mps/prodnatur/applications/licen-prod/lnhpd-bdpsnh-eng.php

WARNING: If you have conducted a thorough search of the Health Canada databases using the links provided above and were not able to verify the product has Health Canada registration, you may wish to discontinue evaluation of the product. It is important to note that a Health Canada registration number is mandatory in order to sell these products in Canada.

In addition to individual product registration with Health Canada (verified in the process outlined above), the manufacturer of the product must also hold an Establishment Licence from Health Canada. For drug products, a Drug Establishment Licence (DEL) is issued, while a Natural Health Product Site Licence is issued for natural health products.

Regardless of the type of product (drug or natural health product), the purpose of a Health Canada issued Establishment Licence is to ensure that organizations are compliant with Good Manufacturing Practice (GMP) requirements, and Regulatory requirements related to manufacturing, packaging, labelling, import, distribution, etc. A Health Canada Establishment Licence ensures that manufacturing facilities have quality standards in place to produce safe products for consumers.[8,9]

To confirm the existence of a Health Canada issued Establishment Licence, visit the following web addresses and search using the company name:

For Drug Establishment Licences:
http://webprod5.hc-sc.gc.ca/el-le/prepare-search-recherche-del-leppp.do?lang=eng

For Natural Health Products Site Licences:
http://www.hc-sc.gc.ca/dhp-mps/prodnatur/applications/licen-site-exploit/form/index-eng.php

WARNING: If you have conducted a thorough search of the Health Canada database using the link provided above and were not able to verify the company has Health Canada Establishment Licence, you may wish to discontinue evaluation of the product or contact the company directly to inquire.

Step 2: Identify the credible sources of product information and compile the data you need to help make your decision

Step 2a: Investigate the product label

Once you have confirmed that a product has Regulatory approval from Health Canada you can be assured that the text on the product label has also been approved. This is particularly important because the product label contains several pieces of valuable information, such as the list of active ingredients, any product claims, intended product use, and directions. Information typically found on a product label is listed in Figure 1.

Currently, drug (DIN) products may only have medicinal ingredients listed on the product label, while Natural Health Product are required to fully disclose the medicinal and non-medicinal ingredients. Effective May 2012, Health Canada requires that all drugs intended for human use also list both the medicinal and non-medicinal ingredients[7], with the understanding that it will likely take many months for product with old labels to cycle out of circulation depending on the shelf life of the product.

Full disclosure of all product ingredi-

Figure 1: What is included on a Drug/NHP product label?
Health Canada Registration number (DIN, NPN)
Declaration of contents: medicinal and non-medicinal ingredients
Name of product
Name and address of manufacturer/sponsor
Intended use
Area or site of use
Directions for use
Warnings/Precautions
Appropriate cautionary symbols
Expiration date
Lot number

ents should minimize or eliminate questions regarding product composition. Until full ingredient lists are available on all drug products, it is best to contact manufacturers with questions. For instance, if there is concern about a particular ingredient, for example latex (and there is no claim of "latex-free" on the product label), you may ask the manufacturer to confirm that their product does not contain latex. It is also possible to request this information in writing from the manufacturer if it is necessary for your records. This allows an end user to seek the particular information they require while the manufacturer does not have to divulge trade-secret information. Full ingredient lists including their percent composition will not be released from a manufacturer, as a product's formulation is considered proprietary.

Product claims are particularly useful when evaluating a product, and claims permitted by Health Canada vary depending on the product type. For example, drug (DIN) products may only list claims on the label that are supported by clinical evidence, data which is often stored on file with the product manufacturer and that was submitted to Health Canada for review during the product registration process. Similarly, the clinical evidence provided to Health Canada during the registration process is used to support the intended use and directions for use as stated on the label. If a product is used incorrectly (i.e., not following the directions provided on the label), you can no longer assume the label claims are accurate, and the manufacturer is not liable for any potential adverse events. End users should feel confident in the product claims present on the product label when the product has Health Canada registration.

Although disinfectants are regulated as drug products by Health Canada, their product claims can be harder to interpret. Health Canada uses marker organisms in order to demonstrate a disinfectant's ability to kill particular organisms. For example, in order to claim a disinfectant is bactericidal, the product must kill three organisms: *Staphylococcus aureus, Pseudomonas aeruginosa, and Salmonella choleraeseuis* or to obtain a fungicidal claim the product must kill *Trichophyton mentagrophytes*. Health Canada also specifies the testing methods that are acceptable as evidence. The marker organisms that must be killed in order to support product claims for disinfectants are summarized in Figure 2.

Natural Health Products follow similar Health Canada Guidance Documents for product classification and registration. Many ingredients commonly found in these products fall under Single Ingredient, Product Monographs and Labelling Standards[10], which outline dosage forms, route of administration, doses, and uses for a particular ingredient. NHP Monographs are based on information obtained from scientific and traditional sources with consideration to historical use, prior marketing experience or clinical research that does not raise concerns about the safety of the product and supports the efficacy of the product for its intended purpose and use. For example, the use of cranberry taken orally for the prevention of urinary tract infection. Ingredients in a Natural Health Product that fall outside of an established monograph must be supported with clinical evidence or evidence-based literature for review by Health Canada during the registration process. Additional product claims may be made that apply to the overall effectiveness of the product (the sum of the individual ingredients), which also must be supported by clinical evidence provided to Health Canada.[4]

Step 2b: Investigate supporting product information

The most common resources used to identify additional product information include company marketing literature, company websites, and sales representatives. Often, marketing literature that accompanies a product contains the same information as outlined on the product label. Companies following industry best practices make product claims in their literature pieces that are supported by their product label and supporting references. What is important to note, however, is that product literature does not undergo an approval process with Health Canada and therefore increased prudence is required as it is possible for unsupported claims to be made. A simple way to double check marketing literature is to compare information to the product label, or request supporting evidence from the manufacturer.

Company websites also can be an excellent source of information, depending on the level of information a company makes available through this media. Some companies make product label, marketing literature, Material Safety Data Sheets, etc., all available publically on the Internet. Other companies, however, do not provide this information on their website and should be contacted directly. Typically a manufacturer is willing to provide product information upon request provided that it may be released to the public.

Finally, a company sales representative is often a willing and helpful source

of product information, and a knowledgeable point of contact for product questions. Information supplied by a sales representative can by verified using many of the tactics outlined throughout this article, should you feel the need to investigate. If you require assistance in gathering particular product information, sales representative are a great resource to help track down the information.

By following the steps laid out above, you will have confidence in the product information you have gathered. Once you have completed your product evaluation process, you will be ready to proceed with the clinical assessment of the product.

Figure 2: Marker Organisms for Product Claims on Disinfectants

Kill Claim	Marker Organism(s)
Bactericidal	*Staphylococcus aureus, Pseudomonas aeruginosa, and Salmonella choleraeseuis*
Fungicidal	*Trichophyton mentagrophytes*
Virucidal (to achieve a virucidal claim, the product must be able to kill non-enveloped viruses)	*Polio 1 Virus*
Mycobactericidal	*Mycobacterium bovis*

References:

1. Preparation of Human New Drug Submission, 1991.
2. Guidance for Industry: Management of Drug Submissions. Effective 2001/04/01.
3. Preparation of Drug Identification Number Submissions, February 22, 1995.
4. Natural Health Products Directorate: Product Licensing Guidance Document, Dec 2006 Ver 2.0.
5. Labelling Requirements Checklist, April 2011.
6. *http://hc-sc.gc.ca/dhp-mps/prodnatur/about-apropos/cons-eng.php*
7. Canada Gazette Part II, Vol. 144, No. 11. Regulations Amending the Food and Drug Regulations (743 – Non-Medicinal Ingredients), SOR/2010-105, May 13, 2010.
8. GMP Inspection Policy for Canadian Drug Establisments (POL-0011), January 31, 2008.
9. Natural Health Products Directorate: Site Licensing, Sept 2007, Ver. 2.1.
10. Health Canada Compendium of Monographs: *http://hc-sc.gc.ca/dhp-mps/prodnatur/applications/licen-prod/monograph/index-eng.php*

Summary of the CHICA-Canada Fall 2010 Education Survey

By: Donna Moralejo, Isabelle Langman, Joy Kellen, Liz Van Horne, Vicki Williams

Introduction

As part of its strategic plan, CHICA-Canada explored strategies for providing additional continuing education for infection control professionals (ICPs), as well as strategies whereby ICPs could share their educational tools and programs. In order to do so, an online CHICA-Canada Membership Education Survey was developed and distributed to all CHICA-Canada members in the fall of 2010.

The survey questionnaire was made up of 20 questions in total. Questions addressed members' demographics including practice settings, areas of expertise, training and experience. Respondents were also asked to identify their high-priority learning needs, preferences for learning, available resources and technological capabilities, and suggestions regarding sharing tools and programs. Participation was voluntary and anonymous.

This report summarizes the key results of the survey. The full report can be found on the CHICA-Canada web site.

Respondent demographics

A total of 319 members started the survey, with 247 to 319 members responding to all or some of the questions. The majority of respondents were from Ontario (57%), 28% indicated residency in one of the western provinces (BC, AB, SK, MN), 11% selected one of the eastern provinces (NB, NS, PEI, NL), 3% were from Quebec and the remaining 1% indicated another location (NWT, US). Acute care (e.g., hospitals) and non-acute care (e.g., complex continuing care, rehab, mental health, and long-term care) were the most common sectors of responsibility as indicated by 54% and 44% of 318 respondents, respectively.

Respondents were more likely to work full-time directly related to infection prevention and control (IPAC), 60% of 317 respondents, versus part-time. Only 10% of respondents reported working fewer than 5 hours per week in IPAC. The number of full-time infection control professionals (ICPs) per organization ranged from 0 to 20 with the majority of respondents working for IPAC programs with between one and five full-time ICPs (68%).

The most common background was nursing, reported by 74% of 305 respondents. Ten percent reported a background as a medical lab technologist, while other types of therapists (respiratory, occupational and physio) accounted for an additional 10% of respondents. The majority (88% of 292 respondents) had additional training in IPAC, having completed or being currently enrolled in at least one training program. Only 40% (120 of 300) of respondents had attained their certification in infection control (CIC) and maintained their certification where relevant.

Among 302 respondents, 45% reported working in the field of IPAC between 1 and 5 years. Forty seven percent of respondents had greater than 5 years' experience, with 25% of the total having worked in IPAC for greater than 10 years and 22% with 5 to 10 years of experience. Only 8% of respondents reported less than 1 year of experience in IPAC.

Education needs

The education needs identified by the 303 responding members were categorized and are summarized in Table 1. Detailed topics in each category are available in the full report on the CHICA-Canada website. Development of communication skills was the most commonly identified education need (50%) and included communication with senior leadership, healthcare workers, colleagues and the media. More than a third of respondents identified the need for education on surveillance and epidemiology topics, with topics ranging from basic, e.g., selecting definitions and setting up databases, to advanced, e.g., statistical methods. Education, both meeting their own educational goals and developing educational programs for healthcare workers, was identified by 35% of respondents as important.

Asked to rank their top three delivery methods, respondents indicated they preferred to receive their own education through either 1-2 hour long webinars or one-day workshops. These methods

Table 1: Education needs of respondents

Category	Number of Respondents	Proportion (%)
Communication	150	50
Surveillance and epidemiology	116	38
Education	106	35
Applying IPAC practices in unique settings	70	23
Environmental cleaning, sterilization and disinfection	56	18
Leadership	38	13
Research	33	11
Program planning and development	31	10
Construction and renovation	31	10
Outbreak management	20	6.6
Microbiology	16	5
Antibiotic stewardship	2	0.7

received equal ranking as top choice. The second highest ranked preference was self-learning modules, while an online short course was the third highest ranked choice. A majority of respondents (59%) also indicated that they could dedicate 1-2 hours for a single education session intended for their own professional IPAC education. Some respondents indicated that the time available for individual professional development depended on when sessions were held (inside or outside of work hours), their workload and co-workers' schedules.

Sharing of resources

Regular use of CHICA-Canada was reported by 31% of respondents with the most frequent reason being access to resources and guidance materials. When asked about sharing their own resources, only 23% of respondents reported that their IPAC program had developed education/training tools and programming for their organization that they thought would be suitable for sharing with other CHICA-Canada members, although 43% indicated they were unsure (n=277). Among those who indicated they had material suitable for sharing, 59% reported that they would be willing to share once a process had been established; the remainder of respondents was unsure. Before CHICA-Canada recognizes any tools and programs as useful educational material, respondents thought that the material should reflect evidence-based best practices (95%), be based on accurate and up-to-date information (95%) and undergo an evaluation process (89%).

Discussion and conclusion

The CHICA-Canada Membership Education Survey offered a snapshot of IPAC programs describing educational needs, preference for learning and availability of resources. Respondents noted that development of communication skills, information on surveillance and epidemiology, and education were some of the important aspects of their learning needs. They identified both how to meet their own educational needs, such as preparing for certification, and how to develop an educational plan and teach others as aspects of education they would like to learn about further. Webinars and one-day workshops were identified as the preferred methods of learning. Access to resources seemed to vary by individual setting.

While helpful in many ways, the survey was completed by about one -fifth of CHICA members in late 2010 and so it may be difficult to generalize results to all members and their current learning needs. In addition, the breadth and variety of topics identified as learning needs does not help identify priorities at the national level. Rather than repeat such a survey in future, CHICA-Canada will therefore explore other ways of identifying priority topics for its educational sessions, such as working through Chapter representatives.

These results have been shared with the Scientific Program Planning Committees for the 2013 and 2014 National Conferences as well as with different committees within CHICA-Canada with a mandate for education. The complete report can be found on the CHICA-Canada website. Chapters may find the topics identified as learning needs useful as they plan their own local educational sessions or conferences.

CHICA-Canada thanks the respondents; results will be considered in the development of its continuing education plan for all its members.

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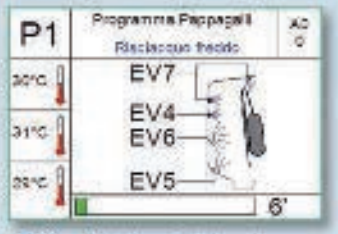

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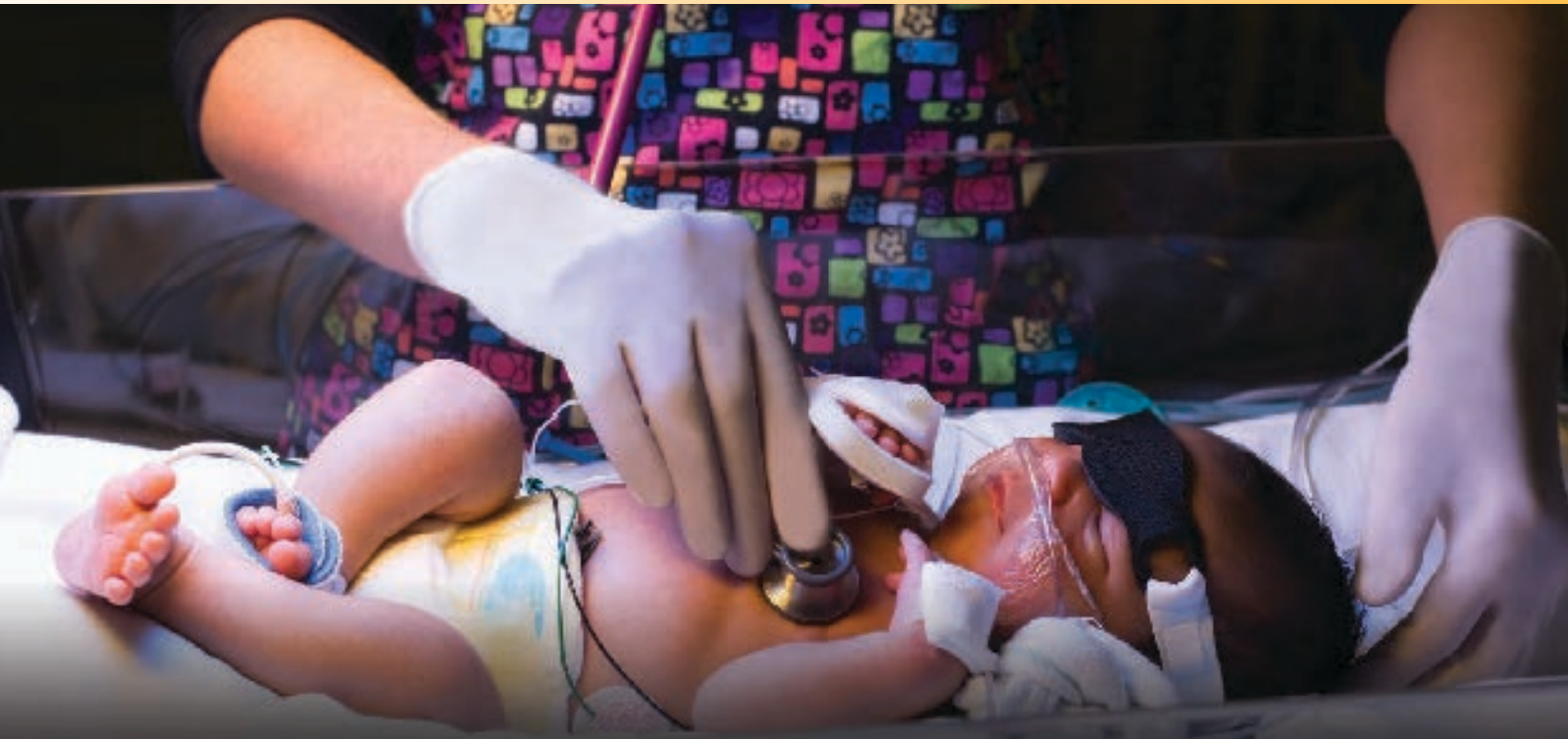

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2014 CHICA-Canada
Board positions available for nomination

The Nominating Committee of the Board of Directors of CHICA-Canada is charged with the responsibility of ensuring continuity by nominating a slate of officers for positions open in 2014. Additionally, nominations for board positions are welcomed from members of CHICA-Canada. Serving on the board of CHICA-Canada is an excellent way to participate at the national level. This 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 (one-year term)
Secretary/Membership Director (three-year term)
Director, Education (three-year term)

These terms commence January 1, 2014. Position descriptions and nomination forms are found in the CHICA-Canada Policy and Procedure Manual (Forms 3 and 4), or may be obtained from the Membership Services Office or downloaded from *www.chica.org* (Members area).

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
CHICA-Canada Secretary/Membership Director
c/o Membership Services Office
PO Box 46125 RPO Westdale, Winnipeg MB, R3R 3S3

Or by fax to:
1-204-895-9595

Or by email to
chicacanada@mts.net

Deadline for nominations: August 15, 2013.

NEW! Best Practices for Infection Prevention and Control Related to Gram Negative Resistance

Developed by CHICA-Canada in collaboration with the Association for Professionals in Infection Control and Epidemiology Inc. (APIC).

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Congratulations to the following graduates (October-December 2012):

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Carla Corpus, Toronto, ON
Lorraine Dales, Toronto, ON
Natalie Marcello, Sault Ste. Marie, ON
Laura McNaught, Toronto, ON
Patricia Peltsch, Port Dover, ON
Jennifer Sharron, St. Catharines, ON
Elaine Stainsland, London, ON

Recertified:

Doreen Alexander, Ajax, ON
Dana Anderson, Belleville, ON
Madeleine Ashcroft, Oakville, ON
Alice Brink, Oshawa, ON
Barbara Catt, Keswick, ON
Sonja Cobham, Willowdale, ON
Charmaine D'Souza, Scarborough, ON
Bonny Duncan, Penticton, BC
Sarah Eden, Toronto, ON
Laura Fraser, Windsor, ON
Nicki Gill, Kelowna, BC
Ruth Gratton, Brantford, ON
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Yvonne Richardson, Strathroy, ON
Donna Ronayne, Clarenville, NL
Marilyn Weinnmaster, Regina, SK
Aurora Wilson, Pickering, ON

CALL FOR APPLICATIONS

CHICA-Canada Online Novice Infection Prevention and Control Course
Position: Instructors – Modules 2 and 3

CHICA-Canada is currently seeking an individual or individuals to instruct Module 2 and Module 3 of the CHICA-Canada Novice Infection Prevention and Control (IP&C) online course. Details of the course can be found on the CHICA-Canada website. The work of the Module Instructors will commence three months prior to the start date of the relevant module and continue for two weeks following the end date of the module.

Module 2 Microbiology and Infectious Diseases *(6 week module from late October 2013 to mid-December 2013)*: The module consists of units on: Overview of Microbiology, Pathophysiology of Infection, Basic Bacteriology, Bacterial Infections, Bacteriology Laboratory Tests, Interpreting Bacteriology Laboratory Results, Antibiotic Therapy, Antibiotic Resistance, Basic Virology, Virology Laboratory Tests.

Module 3 Common Infections *(4 week module from January 6, 2014 to Feb 3, 2014)*: The module consists of units on: Infection of interest, Respiratory Infections, IV Catheter-related Infections, GI Infections, Surgical Site Infections, Other Bacterial and Viral Infections.

Duties of position:

- Conduct a complete detailed review of the module material and update and revise content as necessary, in consultation with the Course Coordinators and the Director of Education.
- Set discussion questions, assignments and exam content for the module.
- Grade assignments and exams, and provide timely feedback to students.
- Participate in the module Discussion Forum, in collaboration with the Discussion Forum Facilitator.
- Correspond with students and faculty, and resolve problems as necessary.

Module 2 is six weeks in length and Module 3 is a four-week module. The final week of each module is allocated for a take-home exam. Although time commitments vary over the course of the contract, Instructors should expect to devote an *average* of 15-20 hours a week. Workload will be heaviest during the preparation and exam-grading weeks of the module.

The Module Instructor has overall responsibility for the module. The Module Discussion Forum Facilitator is responsible for moderating and grading the discussion. The Course Coordinators are responsible for maintaining the course website and providing orientation and support to the Module Instructor and Discussion Facilitator.

Qualifications: The ideal candidate for this position would be an IP&C Professional. A strong Medical Laboratory/Microbiology background is preferred for Module 2 and applicants for both modules must have demonstrated expertise in the content area. Applicants should be currently practicing in the IP&C field, with at least five years' full-time experience in the last eight years. Preference will be given to candidates who hold a current CIC and have experience in the education of ICPs. Experience in acute care and long-term care would be preferred. E-learning experience with Blackboard would be preferred but training will be provided by the Course Coordinators. The candidate will have excellent communication (written and verbal) and organization skills, and be able to work with students and discussion forum facilitators from diverse settings. The successful candidate is expected to be a CHICA-Canada member.

More information: Additional information can be obtained by contacting the Course Coordinators Heather Candon or Jane Van Toen at *chicabasicde@mymts.net*

Remuneration:
This is a paid position with a set amount for the entire contract: $3300 for the six-week module and $2900 for the four-week module.

Submission of application:
Candidates must submit a letter detailing their qualifications, along with a resume and at least two current references via email by **May 15, 2013** to *chicabasicde@mymts.net*. Applicants will be notified of the final decisions by the end of June. Applications are not retained once a position is filled, therefore previous applicants who are still interested should reapply.

CHICA-HANDIC
Community of Practice

By Shasta Gibson, RN, BScN, CIC

Every quarter, when it is time again for another CHICA-HANDIC meeting, one may never know what will be encountered with the eclectic and wide variety of individuals that come from multiple backgrounds with multiple skill sets and knowledge.

With that in mind it was extremely refreshing to participate in a community of practice engagement session that was shared by the Infection Control Coordinator for the Central South Infection Control Network at the winter 2013 CHICA-HANDIC Chapter meeting held on February 15. This engagement session really allowed for the opportunity to share experiences, discuss perceptions, emotions and motivations as they pertained to the various stories told around the large boardroom table that afternoon.

All members were captive and engaged, participating in sharing similar experiences and key learning uncovered as a result of listening to colleagues share their story. The stories ranged from an emotional outbreak situation that impacted a family unlike anyone could imagine; a bat found in a genetics clinic of a busy acute care facility; to a facility attempting to manage what was seemingly difficult admission from a hospital outside of the country. All that was shared provided further insight to the unique roles of those who work within the exciting and ever evolving specialty of infection prevention and control in healthcare.

This community of practice acted as a reminder of how invaluable the CHICA-HANDIC quarterly meetings are for many reasons. It provides an opportunity to network with those who may not have the opportunity to work within a team of IPAC professionals and also share experiences and past knowledge acquired through situations that others have dealt with in their careers. It can also provide a safe environment to brainstorm ideas on how to overcome barriers encountered within the rapidly expanding field of IPAC and allow for a review of practice to ensure consistencies are in place where required.

This cements the reason for encouraging continued attendance of the meetings to ensure that the active learning that takes place is available for both novice and seasoned healthcare professionals involved in some way in the prevention and control of infections.

CHICA-NA (Northern Alberta)

By Sharon Wilson, RN, BScN, CIC
President-Elect, CHICA-NA

We started the year with election of our new executive members and thankfully kept several on from the previous years, including our Treasurer, Webmaster, and Education Chair.

Our monthly meetings to date have provided educational opportunities in the first hour and networking among the members present once business is completed. We are pleased that our technology skills using web-based meetings and teleconferencing is improving and allows our members to attend from remote locations. If there is a computer based power point presentation our online members can see the presentation. To date, we have 95 members including new ICPs, industry representatives and returning members.

Under the direction of our Education Chair, our chapter continues with planning for our upcoming CHICA-NA conference.

September 19-20, 2013

CHICA-NA CONFERENCE Basics & Beyond: September 19-20, 2013. This two-day conference will provide a variety of sessions that will attract both the novice and advanced level of practitioners with interest in infection prevention and control. A brochure will be following in the near future.

Kathryn Wyndham, Education Chair, can be reached at 780-735-9622 or email *kathryn.wyndham@covenanthealth.ca* if further conference information is required.

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