Inside:
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Emotional intelligence (EI) in infection control professionals (ICPs)


EI is the ability to recognize your emotions, understand what they are telling you, and realize how these emotions affect the people that you relate to and with. EI also involves realizing your perception of others and understanding how they feel.

More recently, management and leadership experts cite EI as essential qualities for leaders to help them succeed both professionally and personally. ICPs are leaders and developing their EI is another tool in assisting them to achieve positive impacts in the workplace. Whether working with management, staff or other departments, EI is an essential attribute for the ICP.

Using EI in the workplace enables ICPs to improve relationships with others and obtain their cooperation and collaboration to effect positive change. Whether improving hand hygiene compliance or promoting other infection prevention and control best practices, EI is an important quality for the ICP.

EI further expands on the balance between task and relationship in leadership. ICPs need to find the balance between the task side of leadership (getting the right job done at the right time in the right way) and the relationship side (understanding and working well with others). EI is a crucial aspect of building and sustaining positive workplace relationships.

ICPs can rate their EI test by examining their responses to five key elements of EI:

**Self-awareness**
Am I self aware and do I understand my own emotions? Do I avoid letting my emotions rule how I feel? Do I work at controlling my emotions and recognizing my strengths and weaknesses? Do I trust my intuition?

**Self-regulation**
Do I think before I act? Am I comfortable with change? Do I have the ability to say no? Do I avoid getting angry or jealous at work? Can I be humble about my own success?

**Motivation**
Am I willing to defer immediate results for long-term success? Do I love a challenge? Am I able to produce change with and for others?

**Empathy**
Empathy is likely one of the most important elements of EI. Do I have the ability to identify with and understand the needs, wants and ideas or viewpoints of others I work with? Do I truly listen when people tell me how they feel or what they want or perceive? Do I avoid judging or stereotyping people by which group they belong to, where they work or what they do?

**Social skills**
Am I truly a team player or am I focused more on individual success? Do I consistently recognize and encourage the skills of others and help them to grow and shine? Am I good at managing conflict and building and maintaining relationships at work relationships?

If an ICP can answer “yes” to the majority of questions then they likely have a high level of EI. For those who answer “yes” to some or a few of these self-reflective questions, there are a number of excellent resources available for developing and assessing their EI. There are many web based and print resources on the topic of EI that can be easily accessed by ICPs.

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ABSTRACT
Training for use of personal protective equipment such as gloves, gowns and masks, often involves didactic methods with insufficient emphasis placed on physical practice. Additionally, practice is limited by the availability of space, time and experts to monitor sessions.

Unfortunately, procedural skills such as these are susceptible to decay when there are lengthy intervals between acquisition and clinical use that do not include sufficient practice. Based on the literature, computer-based programs and simulations for practicing technical clinical skills have been explored extensively in other healthcare disciplines, but there are few examples in infection prevention and control. To address the need for alternate practice opportunities, a simple interactive computer-based simulation was developed. As an initial study, novices were trained using an established online tutorial, after which a subset of the group practiced using the simulation. At the end of practice and one week later, all trainees were asked to physically demonstrate their response to a mock clinical scenario. Changes in scores between end of practice and one-week retention suggest that the simulation is useful for enhancing skill retention. Further research and development is required to fully characterize the utility of the simulation for maintaining personal protective equipment skills after practice.

KEY WORDS:
Clinical skill, Psychomotor performance, Practice, Retention, Personal protective equipment, computer

INTRODUCTION
Use of personal protective equipment (PPE) – gloves, gowns, masks, and goggles – is one of many important infection prevention and control (IPC) measures in healthcare. Training of healthcare workers (HCWs) for IPC usually involves some combination of lecture-delivered material and demonstrations. While it is assumed that these methods are sufficient for transferring the required skills, it is clear from the statistics of healthcare-associated infections (1-3) that gaps remain in knowledge and practice. PPE skills, which have both cognitive and motor performance elements, require practice for effective acquisition and maintenance of proficiency (4). The effects of poorly retained skills are especially dangerous in emergency situations when chances of transmitting infections increase, and there may be insufficient time or resources to provide refresher training.

There have been efforts to diversify the format of training programs as well as increase the effectiveness and accessibility of programs since HCWs are often challenged for time. For example, the Southwestern Ontario Regional Infection Control Network (Ontario, Canada) developed a video titled The Grand Prix of PPE – What to Wear in Long-Term Care that takes a humorous approach to teaching the basics of using PPE (5). In comparison, the Ottawa Hospital (Ontario, Canada) launched a program that included verbal explanations, demonstrations and return demonstrations, videos, individual feedback and positive reinforcement (6). Measures of
success, including short-term retention of information and self-reported utility, were positive. However, such a program is time, space and labour intensive, especially if undertaken by a large facility for all HCWs.

In response to demands for safer and more accessible supplements to health professions education, computer-based instruction and simulation have emerged as viable options. Computer-based instruction may include the translation of textbooks to electronic format, tutorials for specific subjects, quizzing software, or simulations and study guides (7). Proponents of electronic learning argue that tangible gains in learning and performance will be achieved when electronic media are utilized to create experiential learning spaces (8). However, many computer-based programs may be only electronic reproductions of traditional classroom content, which may not lead to improved acquisition or retention (8).

From a theoretical perspective, simulation moves the learning experience closer to the top of Miller’s pyramid in his framework of clinical assessment (Figure 1; 9) where users are forced to elevate their skill level from simply knowing or knowing how to showing how (performance). A recent survey showed that medical students were amenable to the idea of enhancing their education using technology such as video games and believed that educators should utilize new media technologies more effectively (10). Computer-based simulations have been shown to be more effective than textbook-only studying for advanced cardiac life support (11), studying with a handout for anaesthetic emergencies (12) and is also effective for reducing errors in performing knee replacement surgery on bone models (13). In the field of IPC, a virtual simulation of care for an isolated patient with an antibiotic-resistant microorganism was developed (14). Pilot studies with this simulation received positive feedback for computer-based simulations in health professions education. However, there are few examples in IPC and many of the reports are incomplete with regards to development of the instructional program or effectiveness of skills transfer and retention. To address the need for accessible, experiential practice of PPE skills, we proposed the development of a simple, interactive, computer-based simulation. Our objectives were:

1. Develop a proof-of-concept computer-based simulation that allows users to practise PPE skills.
2. Conduct a preliminary assessment to identify any change in skill retention or learner satisfaction when an initial training program includes the simulation. We describe design considerations, the design process and the final simulation as well as methods used to evaluate the simulation. Finally, we outline results of these evaluations and discuss how the results may impact training in IPC.

METHODS

Design and development of simulation

Using PPE is a complex skill involving both cognitive and motor skills. Based on findings from a Delphi survey (15) and existing guidelines for PPE use, the skill was organized into three major tasks: selection of the correct items for the clinical task and environment; handling the items carefully, including correctly donning and doffing; and using items in the correct sequence to prevent contamination. Since selection and sequencing depend on the clinical scenario, this skill was classified as an open, procedural skill and we looked to the motor learning literature for optimal practice princi-
Each scenario consists of a brief statement describing a patient’s condition and a clinical task to be performed. We consulted a variety of sources including online resources, return demonstrations from a local hospital, and provincial and federal guidelines to develop the scenarios. For each scenario, an answer key and difficulty level were outlined and then reviewed iteratively by healthcare professionals for accuracy and face validity.

The feedback and scoring system includes both positive and negative scoring with the goal of making the simulation both realistic and challenging (e.g., one opportunity to complete each scenario) as well as encouraging repeated use (e.g., knowledge of results and points).

Performance on each floor determines whether the user advances through the game and previous users can start the simulation from any of the floors to bypass content that they have mastered. High scores are displayed on the main page, which may encourage a modest level of competition. Administrators can access session logs containing detailed information about users’ performance through the web interface or download the data, which can be viewed with spreadsheet software.

Evaluation of simulation for skill retention

Participants and procedures. The institutional Research Ethics Board approved the study protocol. Twenty-one individuals from the University of Toronto community (7 males, 14 females; mean age 27.6 years) participated in the evaluative study. All provided voluntary informed consent before participating in accordance with the guidelines set out by the 1964 Declaration of Helsinki and the institutional Office of Research Ethics. The data presented here are a subset of data collected for a larger study, which included validation of a novel tool for assessing PPE skills and is reported elsewhere (15).

All participants had minimal or no previous training for using PPE and underwent a training regimen consisting of three parts: (i) using an online tutorial – the Core Competency Education modules for hand hygiene and routine practices (Tut) for up to 40 minutes (19, 20); (ii) physically demonstrating the selection, donning and doffing of PPE in response to a mock clinical scenario described verbally by the experimenter; and (iii) a 20-minute review period. For the review period, participants were assigned to one of two groups. One group was allowed to review the material by using the online tutorial (Tutorial only [Tut/Tut], n = 10) while the second group was allowed to use the simulation (Tutorial then simulation [Tut/Sim], n = 11). The length of time that participants used the tutorial or simulation during this period was recorded. Participants also had the opportunity to ask questions and obtain feedback about their performance on the practice scenario. At the end of the review period, all participants performed a post-practice test in which they were videotaped while asked to physically select, don and doff PPE in response to a mock clinical scenario (different from the practice scenario). Since a retention test is the best way to gain insight into the permanence of behavioural changes after a training program (i.e., skill retention), all participants returned one week later and responded to the same mock scenario used in the post-practice test, which was videotaped.

After the retention test, participants completed a satisfaction survey about the program(s) used: the Tut/Tut group completed a survey for the online tutorial while the Tut/Sim group completed two surveys – one for each of the online tutorial and simulation, respectively. The survey consisted of 10 statements and asked users to rate their agreement with each statement on a scale from 1 (strongly disagree) to 5 (strongly agree).

Two expert observers, blinded to the users’ group assignment, reviewed the randomized videotaped performances. Each performance was scored using a novel assessment tool (15) in each of four categories: hand hygiene; donning, which encompassed selection, handling and sequencing; doffing, which encompassed handling and sequencing; and global rating to account for holistic performance indicators. For the scenario used, the maximum scores on hand hygiene, donning, doffing and global rating were 4, 51, 36 and 20 respectively.

Data analysis. Time spent using the assigned computer program was compared for the two groups using a one-way analysis of variance (ANOVA) with group (Tut/Tut, Tut/Sim) as a between-subjects factor. To assess skill retention after one week, we calculated a difference score for each participant in each performance category by subtracting the score at the end of practice from that obtained at retention test. These difference scores were subjected to a one-way ANOVA with group as a between-subjects factor. To assess learner satisfaction for the online tutorial, we performed a Mann-Whitney test (independent samples, non-parametric test) with group as a between-subjects factor. We also assessed differences in the ratings that the Tut/Sim group provided for the two programs using a Wilcoxon signed-rank test (related samples, non-parametric test) on this group’s ratings with program (Tutorial/Simulation) as a related condition.

Results were considered statistically significant at \( p < .05 \). To help determine the importance of any observed effects, effect sizes were calculated using Pearson’s \( r \) for both parametric and non-parametric tests (21). Effects were considered to be small, medium and large if their effect sizes were approximately \(.10, .30 \) and \(.50 \) respectively.

RESULTS

Skill retention after one week

As shown in Figure 2, for hand hygiene, donning and global rating the Tut/Tut group’s scores decreased while the Tut/Sim group’s scores increased. The analysis of scores revealed that there were significant differences between groups in the change in performance scores for hand hygiene $F(1, 19) = 4.62$, $p < .05$, $r = .44$, and donning $F(1, 19) = 5.34$, $p < .05$, $r = .47$, while the difference was marginally significant for global rating scores, $F(1, 19) = 3.05$, $p < .1$, $r = .37$. For doffing, scores for both groups decreased with the decrement being larger for the Tut/Tut group than for the Tut/Sim group, $F(1, 19) = 0.39$, $p > .05$, $r = .14$ (see Figure 2).
Learner engagement and satisfaction

Use of the online programs (tutorial and simulation) during the review period differed significantly between the groups. The Tut/Sim group, used the simulation during this time for a longer period ($M = 20$ min, $SEM = 0$, the maximum time allowed), while the Tut/Tut group went back to the tutorial for only a brief period ($M = 5.2$ min, $SEM = 3.3$ min), $F(1, 19) = 218.9$, $p < 0.001$, $r = 0.96$.

The Mann-Whitney test on survey responses for the online tutorial revealed that there were significant differences between groups for two statements. As shown in Table 1, the Tut/Tut group agreed more strongly than the Tut/Sim group for statement 7 regarding constructiveness of feedback, $U = 26.5$, $z = -2.12$, $p < .05$, $r = -0.46$, and statement 9 regarding confidence in knowledge and skills, $U = 32.5$, $z = -1.90$, $p < .05$, $r = -0.41$. The Wilcoxon signed-rank test on the Tut/Sim group’s ratings revealed that ratings for the tutorial ($Md = 4$) were significantly higher than for the simulation ($Md = 3$) on statement 2 regarding sufficiency of information for direction and encouragement, $T = 5$, $p < .05$, $r = -0.45$.

DISCUSSION

The primary purpose of this study was to develop and evaluate an interactive simulation that is beneficial for practicing PPE skills in order to enhance the retention of skills over a period without experiential practice. The simulation allows users to practice PPE skills in stages: handling PPE then selecting and sequencing PPE in response to clinical scenarios and finally, performing all three aspects of the task. The design process incorporated principles of skill learning such as appropriate practice conditions and feedback in order to align the needs of the users with the information and challenges presented by the simulation.

Analyses to evaluate the retention of skills after training indicated that, across all performance categories, those who practised with both the tutorial and simulation experienced increased scores or smaller reductions in scores after one week without practice. Even though the differences between groups were only statistically significant for hand hygiene and donning, the medium to large effect sizes for hand hygiene, donning and global rating scores suggest that these are all important effects, warranting further study. A larger sample size may be required to obtain stronger evidence (statistical significance) for the effect of simulation practice on global rating scores.

We measured the time spent using the assigned program during the review period and administered a survey after the retention test to analyse user engagement and satisfaction. During the review period, users assigned to the simulation used it for 20 min., while users assigned to the tutorial used it for only five min. This suggests that users were more interested and engaged in practice when presented with the simulation after initial instruction with the tutorial. It is unclear at this point, whether engagement was due to the novelty of the simulation or its design and content. Longer practice time for the group that used the simulation may also explain the enhanced retention seen with this group, as it is known that practice is required for retention of procedural skills. Further studies would be required to control for time spent and engagement with different practice programs to tease these two issues apart.

Results of the learner satisfaction survey indicated that, depending on their group, learners rated the tutorial differently on the constructiveness of feedback and their confidence in skill development. We believe that exposure to the challenges of the simulation allowed users to gain a new perspective on how the skills might be used in the clinical environment and enabled them to be more critical of the learning programs (statement 7) and more realistic about judging their own abilities (statement 9). Users in the Tut/Sim group rated the simulation as comparable to the established MOHLTC modules with the exception of the amount of information provided at the beginning to direct and encourage the learner (statement 2). It is possible that the simulation was lacking in directional information and the users’ ratings simply reflected this. Users may have also misinterpreted the intention of the simulation, expecting it to be similar to the MOHLTC modules,
a replacement perhaps that would be instructive, as opposed to practice-oriented. Together with the results of the performance evaluations, these results suggest that further studies must be done to discover the optimal simulation features to maintain proficiency of trainees at various stages.

We also acknowledge that there are limitations of the simulation design. First, the simulation currently provides limited interactivity with the environment, other HCWs and patients, which probably decreases the cognitive authenticity that supports deep learning (22). As such, users were unable to explore the ultimate results of their actions and related tasks, such as waste disposal and maintenance of the patient environment, were not practised. Second, users were not able to work through the scenarios using dialogues or discussions with peers or preceptors and there were no links to supporting information embedded within the simulation. Third, in this first iteration, the simulation was designed for users with different backgrounds and so contained relatively simple scenarios. This limits the utility of the program (in its current state) for more experienced HCWs.

Our current study design has limitations with respect to the sample size, retention period and sample demographics. In order to generalize the simulation and findings of effectiveness, future studies must involve more users (larger sample size), test long-term performance after clinically relevant time periods (weeks and months) as well as include users with field-specific experience. This may require that the simulation be embedded within an existing training program and that the content of the simulation be revised for specific groups of healthcare professionals.

Additionally, there could be an optional tutorial or instructional portion for less experienced users. This would also allow the inclusion of more detailed and contextually rich scenarios, which may enhance the fidelity of the simulation as well as skill retention. Future iterations should also take full advantage of the experiential learning experience that this medium can provide by utilizing a more holistic simulation of the clinical environment instead of independent scenarios.

In summary, we created a proof-of-concept simulation to demonstrate how skill characteristics may be used to direct the development of an interactive simulation to provide practice and encourage retention of a procedural skill. Learners rated the simulation comparable to a provincial web-based educational tutorial but would have liked the simulation to provide more guidance to direct learning at the outset. Our analyses also showed that learners using the simulation during practice had better retention of hand hygiene, donning and global skills one week after initial training and practice. While further research and development are required before this simulation can be implemented into training programs, this study has demonstrated that an online simulation can be useful for short-term retention of procedural skills that usually require physical practice.

### TABLE 1: Median and mean ratings of agreement with statements on the learner satisfaction survey for the Ministry of Health and Long-Term Care online tutorial and the newly developed simulation.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Tut/Tut Group</th>
<th>Tut/Sim Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tutorial Mdn</td>
<td>Mean</td>
</tr>
<tr>
<td>1 I clearly understood the purpose and objectives of the learning tool.</td>
<td>5</td>
<td>4.7</td>
</tr>
<tr>
<td>2 There was enough information provided by the learning tool at the beginning to provide direction and encouragement. **</td>
<td>4</td>
<td>4.2</td>
</tr>
<tr>
<td>3 The learning tool motivated me to learn.</td>
<td>4</td>
<td>3.6</td>
</tr>
<tr>
<td>4 Real life factors, situations and variables were built into the learning tool scenarios.</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>5 The learning tool provided clear and adequate information for me to complete the tasks/answer and question/problem-solve the situations.</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>6 The learning tool was appropriate for my specific level of knowledge and skills.</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>7 Feedback provided by the learning tool was constructive. *</td>
<td>4</td>
<td>4.2</td>
</tr>
<tr>
<td>8 The learning tool provided feedback in a timely manner.</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td>9 I am confident that I am developing the skills and obtaining the knowledge presented to me in this learning tool. *</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>10 I would recommend this learning tool to others who need to learn this skill.</td>
<td>4</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**NOTE:** Mdn represents the median ratings for the indicated group (Tut/Tut = Tutorial only, Tut/Sim = Tutorial and Simulation) and program (tutorial or simulation). * Ratings for the tutorial program were significantly different between groups at p < .05. ** Ratings from the Tut/Sim group were significantly different between programs at p < .05.
REFERENCES


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Factors limiting the usage of personal protective equipment in a tertiary-care hospital

ABSTRACT

Objective
Personal protective equipment (PPE) remains one of the cornerstones of standard precautions also known as Routine Practices. However, despite being one of the most important preventive measures for infection control it is often neglected by the health care personnel (HCP). The present study evaluated the compliance of HCP with use of PPE and the limiting factors affecting PPE usage in order to develop remedial measures for improving the compliance with use of PPE.

Methods
A structured questionnaire was distributed to the HCP to assess their practice regarding usage of PPE. The questionnaire also included various individual and organizational factors affecting the compliance of these HCP towards PPE.

Results
The mean age of the study group was 33.7 years and the male: female ratio was 1:1.4 (31:74). The compliance of usage of PPE by HCP was only 54%. The important factor leading to compliance was individual's own motivation (97.1%). The major factor hindering the compliance was the availability of PPE. The other limiting factors observed were understaffing (47.1%), inconvenience in usage of PPE (35.2%) and interference with patient care (26.2%).

Conclusion
The study highlighted the gaps in knowledge and adherence levels for recommended PPE. A combined facility wide programme involving the individual and the organization can improve the compliance of the HCP for use of PPE.

KEY WORDS:
Personal protective equipment, health care personnels, limiting factors

INTRODUCTION

Adherence to standard precaution (SP) also commonly known as Routine Practices (RP) is the most important approach in infection control. Appropriate usage of personal protective equipment (PPE) is one of the strongest pillars of Routine Practices. Personal protective equipment, if used effectively and correctly, tremendously reduces the risk of acquiring and transmitting health care associated infections.

Unfortunately, adherence to PPE usage is often the last line of defense against exposure to infection. Quality improvement of RP indicates that although PPE are available and the staff is increasingly aware of the need to protect themselves, compliance to RP remains inconsistent.

The various factors responsible for health care personnel’s adherence to RP and other infection control practices are either administrative or individual related. Many studies have highlighted factors such as stock irregularity or non-availability of PPE at the right time and the right place, lack of awareness of its use, a sense of wasting of time while donning PPE and shortage of staff for the non-compliance for use of PPE by HCP. Many of these problems can be overcome by proper education and administrative support.

There are limited studies from India regarding the compliance of usage of PPE in HCP. The present study was undertaken to explore the practice patterns of HCP for PPE usage and the limiting factors that lead to compromise in its compliance by the HCP. This would provide valuable support for improving infection control measures.
METHODS

The study was performed in a tertiary care referral hospital from August 2009 to March 2010. A voluntary anonymous survey was distributed to critical care providers, faculty, residents, medical assistants, staff, and registered nurses working in the intensive care units (ICUs), operation theatres (OTs), and wards of the hospital.

The survey questionnaire was distributed to all health care providers (HCP) during regularly scheduled infection control rounds and educational sessions. The questionnaire was completed by the HCP and collected on the same day. Incomplete questionnaires were rejected, and only complete questionnaires were used for final analysis. Two hundred and ten HCP who completed the questionnaire were finally included in the study.

The survey collected demographic data on respondents’ characteristics, which included age, sex, marital status, professional qualification, and years of experience in the hospital. The study groups were determined based on no standard protocols but rather according to their designation and the area where they worked in the hospital. Areas were either low risk area (HCP posted in wards), moderate risk area (HCP posted in medical intensive care units, ICUs) or high risk area (HCP in Surgical ICUs and Operation theatres, OTs). The risk areas were determined based on the disease severity of the patients admitted to the hospital. Respondents were given seven situations in which they were asked to identify the personal protective equipment (PPE) (which included gloves, gowns, masks, and eye wear) they thought should be used. The situations included insertion of central line, endotracheal tube, Foley catheter, control of major splashes of blood, cleaning of incontinent patients, delivery of oral medicines to the patients, and measuring the blood pressure of patients. This was done to assess the practice pattern of these HCP. The answers were marked as always, often, sometimes, rarely and never. Response score was either one or zero. If the HCP used the PPE, “always or often” they were given a score of one and other responses (sometimes, rarely and never) were given zero. This was not compared with any recommended guidelines.

The HCP were further required to grade the availability of the PPE in their wards on a scale of 4 (Always: 1; Often: 2; Sometimes: 3; Never: 4). Availability of PPE was the ease with which the HCP could obtain PPE when they were to enter the designated area or perform a task. Availability included whether the PPE were kept at the nursing counter and HCP had easy access or they had to wait outside the area until a staff would make it available for them on demand.

If the PPE was available always or often, a score of one (1) was given otherwise a score of zero was given. This was done to correlate the practice of the HCP with the availability of the PPE in their wards.

Respondents were asked about the management’s attitude towards PPE use and their own role regarding the infection control practices including PPE usage for the purpose of their own safety and infection control in their hospital.

The data was analyzed using Statistical Package for the Social Sciences (SPSS) for

<table>
<thead>
<tr>
<th>Table 1: Overall demographic profile of the study group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Characteristics</strong></td>
</tr>
<tr>
<td>Mean years of work experience in the hospital</td>
</tr>
<tr>
<td>Designation</td>
</tr>
<tr>
<td>Staff nurse</td>
</tr>
<tr>
<td>Nursing supervisor</td>
</tr>
<tr>
<td>Residents</td>
</tr>
<tr>
<td>Faculty</td>
</tr>
<tr>
<td>Ancillary staff</td>
</tr>
<tr>
<td>Area of posting</td>
</tr>
<tr>
<td>Low risk area</td>
</tr>
<tr>
<td>Moderate risk area</td>
</tr>
<tr>
<td>High risk area</td>
</tr>
<tr>
<td>Mean age of the respondents in years</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Females</td>
</tr>
<tr>
<td>Males</td>
</tr>
<tr>
<td>Marital status</td>
</tr>
<tr>
<td>Married</td>
</tr>
<tr>
<td>Unmarried</td>
</tr>
</tbody>
</table>
RESULTS

The present study included 210 health care personnels comprising of staff nurse, nursing supervisor, residents, faculty and ancillary staff such as technicians or nursing orderlies. The demographic characteristics of the study group are shown in table 1.

The mean age of the study group was 33.7 years and the mean years of work experience was over nine years. Female respondents (70.5%) dominated the study group.

A set of procedures for which a particular PPE usage was required were delineated in the study and the compliance of the study group for that procedure was ascertained (table 2).

It was observed that gloves were the most frequent PPE used followed by masks. Eyewear was the PPE that was neglected in most cases. It was not used in almost 96 percent of the procedures. Gowns were not used in more than 80 percent of the procedures.

In the present study, the overall compliance for PPE usage was significantly higher in the moderate and high-risk areas (table 3). The staff posted in the low risk area was more often found to neglect the necessary PPE to be used. The compliance for glove usage was not statistically significant (p value > 0.5) in any of the risk areas while in case of gowns and masks usage, the difference was statistically significant (p value < 0.5). The HCP working in the high and moderate risk areas used gloves and masks more often then HCP working in the low risk areas.

The odds of using PPE were much higher if they were readily available (table 4). The odds of using gloves were 4 times higher if they were readily available as compared to their non-availability. Similarly the odds of using eye were almost 24 times higher if they were readily available. The odds of using gowns were 4 times higher while mask usage were almost twice as high if they were readily available. This finding also emphasis the fact that at most places eye wear was not easily available.

It was observed that ready availability ensured PPE usage in over 95% of cases (table 5). About 11% of the HCP wore PPE because of the fear of the senior staff. The HCP felt that shortage of staff was a major factor hindering their compliance for PPE usage.

Almost 30% HCP felt that the recommended PPE usage caused discomfort to them and also interfered with patient care, while 16 percent of HCP felt that PPE usage was a waste of time. HIV positive status of the patient was the most important factor which motivated them to use PPE as seen in 95% cases.

DISCUSSION

This study group comprised of approximately 70% females and 30% males. The majority of the staff was young, the mean age of the study group was 33.7 years and mean years of experience was 9.6 years.

The present study highlighted the gaps in knowledge and adherence to recommended personal protective equipment amongst all types of HCP. In spite of the HCPs’ awareness, the compliance was uniformly poor (54 %). Other studies have also reported a similar finding that knowledge did not have direct relationship in improving the compliance of HCP (2,3,4). Nevertheless, it remains one of the most important prerequisite for improving practice by the HCP. This study reiterates the finding that in addition to increasing the awareness levels of HCP other factors should also be considered for improving their compliance.

Gloves were the most frequently used PPE (99%) in our health care setting followed by masks (72.4%). Though over usage of PPE may lead to unnecessary wastage of resources, it is still considered to be better than under usage for containment of health care acquired infections. However the fact that HCP should
be aware about the basics of PPE usage cannot be over emphasized. Gloves are pivotal for all infection control procedures but they should not be used as a substitute for hand washing.

Compliance for eyewear and gown usage was merely 3.8% and 16.7% respectively. This indicates that HCP were not fully compliant with guidelines for proper use of PPE especially eye wear and gowns. The non-compliance of HCP has been a matter of concern from early 1980’s and up to now this has has not changed significantly (3,4,5,10,11,12).

Availability of PPE was one of the major predictors for non-compliance with PPE usage. The odds of using PPE was much higher if they were readily available. This view was also supported by the fact that overall compliance of HCP for using all recommended PPE was significantly higher in the moderate and high-risk areas as compared to low risk areas. This is parallel to the observation that overall availability of PPE was also significantly higher in these areas. This fact has been supported by other observers who found ready availability of PPE leads to its increased use in any health care setting (3,9).

It is important to realize that the individual’s own belief in infection prevention measures, their perception of the risk factors, familiarity with available PPE including its correct usage and disposal are strong motivating factors in PPE usage. In our setting individual motivation played a strong role in PPE usage. Over 90% of the HCP agreed that appropriate use of PPE helps in protecting both the patients and themselves from getting infection. More than 85% of HCP were self-motivated to wear PPE and fear of their immediate in charge person was not a factor which motivated them to use PPE.

Many studies have highlighted the importance of factors such as discomfort or interference with patient care while using PPE [3,9,13]. Almost 25-35% of the respondents faced similar problems leading to non-compliance in the present study also. These problems could be overcome by appropriate selection of PPE and providing frequent breaks in between work schedules so that the HCP do not feel uncomfortable in regularly using the recommended PPE.

Almost 95% of the HCP wear all recommended PPE because of fear of getting HIV infection. Several other studies have also shown that HCP’s perceived risk of being exposed to HIV increases their compliance to PPE usage (14,15,16). The HCP in this category are less likely to be routinely compliant to PPE usage.

The organization plays a pivotal role in emphasizing the importance of PPE in any health care setting [9,17]. Besides the availability of PPE, it has been noted that understaffing was a major problem in nearly 50% of cases for non-compliance. Adequate staffing may help these HCP to follow the infection control guidelines including the use of barrier precautions.

Other practical problems which came to light included a long and tedious process for acquisition of PPE from hospital stores. The problem of stock irregularity was very disturbing as often the HCP received less supply in comparison to their demands. These practical problems leading to non-compliance have also been noticed by other observers (3,17).

In the present study it was observed that when the PPE were kept in a restricted area it limited their effective usage. When these PPE were kept in an open and accessible area for easy use, it led to pilferage of the PPE causing economic loss to the hospital. This problem

### Table 3: Compliance of the study group as per their area of posting

<table>
<thead>
<tr>
<th></th>
<th>Low risk N (%)</th>
<th>Moderate risk N (%)</th>
<th>High risk N (%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves</td>
<td>99 (99)</td>
<td>64 (100)</td>
<td>46 (100)</td>
<td>0.575</td>
</tr>
<tr>
<td>Gown</td>
<td>14 (14)</td>
<td>18 (28.1)</td>
<td>12 (26.1)</td>
<td>0.007</td>
</tr>
<tr>
<td>Masks</td>
<td>63 (63)</td>
<td>49 (76.6)</td>
<td>40 (87)</td>
<td>0.007</td>
</tr>
<tr>
<td>Eye wear</td>
<td>3 (3)</td>
<td>3 (4.7)</td>
<td>2 (4.3)</td>
<td>0.840</td>
</tr>
<tr>
<td>All PPE</td>
<td>36 (36)</td>
<td>34 (53.12)</td>
<td>27 (58.6)</td>
<td>0.016</td>
</tr>
</tbody>
</table>

### Table 4: Odds of use of PPE depending on availability of PPE

<table>
<thead>
<tr>
<th>PPE</th>
<th>Simple OR (95% CI)</th>
<th>P value (two sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves</td>
<td>4.494 (1.17-15.4)</td>
<td>1</td>
</tr>
<tr>
<td>Gowns</td>
<td>4.101 (1.76-9.5)</td>
<td>0.0007</td>
</tr>
<tr>
<td>Masks</td>
<td>1.949 (0.7044-5.39)</td>
<td>0.2556</td>
</tr>
<tr>
<td>Eye wear</td>
<td>24.4 (8.269-72.049)</td>
<td>&lt; 0.0001</td>
</tr>
</tbody>
</table>
has also been noticed by other workers at various places (9,14). The PPE should be kept in the jurisdiction of the nursing supervisor. This would also ensure easy availability of the required PPE besides preventing pilferage and undue wastage.

Irregular water supply in most of the hospital areas was an important cause leading to non-compliance of hand hygiene practices. Though the HCP were aware about the importance of hand hygiene for routine patient care and wanted to practice the same but lack of water for hand washing made this non-feasible on many occasions.

The study had a limitation in that it was a self-perceived survey of the health care personnel regarding their knowledge and compliance. It would have been better if independently a third party observation could have been made to substantiate the compliance of these HCP.

### CONCLUSION

This study has highlighted the need for more innovative activities besides increasing the awareness levels of HCP. There should be a training and orientation programme at the initiation and continuous reinforcement thereafter for all HCP regarding the importance and selection of PPE. The PPE should also be made easily accessible to the HCP for increasing their compliance. It should be the responsibility of the individual HCP to adhere to the set standards of the organization and they should be made accountable for not following them.

Compliance to PPE usage by HCP is often hindered by many limiting factors at both the individual and organizational level. However, a facility wide program involving both the organization and individual can definitely overcome these limiting factors and improve the compliance of HCP for PPE usage.

### REFERENCES

8. Green-McKenzie J, Gershon R, Kar-

### TABLE 5: Individual and organizational factors affecting the compliance of the study group

<table>
<thead>
<tr>
<th>Factors</th>
<th>Agree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I wear all the recommended PPE if they are readily available</td>
<td>202</td>
<td>96.2</td>
</tr>
<tr>
<td>I wear PPE because the In charge gets angry if I do not use recommended PPE</td>
<td>24</td>
<td>11.4</td>
</tr>
<tr>
<td>Understaffing is a major problem in compliance for PPE</td>
<td>98</td>
<td>47.1</td>
</tr>
<tr>
<td>It is inconvenient/ uncomfortable to use all the recommended PPE while doing patient care</td>
<td>74</td>
<td>35.2</td>
</tr>
<tr>
<td>Using all the recommended PPE interferes with patient care</td>
<td>55</td>
<td>26.2</td>
</tr>
<tr>
<td>Wearing all the recommended PPE wastes a lot of time</td>
<td>35</td>
<td>16.7</td>
</tr>
<tr>
<td>If a patient is Known HIV* infected I take extra precautions in wearing all PPE</td>
<td>201</td>
<td>95.7</td>
</tr>
<tr>
<td>PPE use prevents me from getting infection</td>
<td>204</td>
<td>97.1</td>
</tr>
<tr>
<td>PPE use protects patients from getting infection</td>
<td>200</td>
<td>95.2</td>
</tr>
</tbody>
</table>

*Human Immunodeficiency virus (HIV)


If you wish to contribute articles on research or general interest please contact the Clinical Editor:

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wanted to begin my message for this issue of the journal by saying how proud I am to be a CHICA-Canada member. I’ve just returned from our national education conference in Ottawa, and acted as CHICA-Canada’s representative at the APIC 2013 conference in Ft. Lauderdale. We put on an amazing show. The presentations were world-class, the social and networking opportunities were excellent, and the learning never ended. I want to thank the Scientific Program Committee and our conference planners once again for doing such a great job. While I was in Florida, I had many folk tell me how much they enjoyed our conference. Several told me it was the best ever.

I also want to point out that Ottawa, our nation’s capital, was a wonderful host. The sights, sounds, tastes and entertainment were fabulous. Running along the Rideau Canal and past the Parliament Buildings made getting up at 6:00 a.m. for the Run for IFIC a pleasure (well, almost). Congratulations to everyone who participated in or helped support this year’s run. We raised over $5000 for this worthy cause! I challenge our Nova Scotia Chapter to do better in 2014 – you’ve got a hard act to follow.

I’m sure all of you are aware that at this year’s Annual General Meeting we voted to change our name. Once our new Articles of Continuation and bylaws are approved by Corporations Canada, our name will become Infection Prevention and Control Canada/Prévention et contrôle des infections Canada. I think this is a great step forward. We want our organization to be recognized nationally and internationally as the premier infection prevention and control organization in Canada. However, a name change alone won’t accomplish that. We need to market ourselves. CHICA, or IPAC Canada as we will be known, needs to be rebranded. We need a new logo, with an updated look and new messaging. Still that’s not enough. We need to be proactive about taking positions on issues that are important to Canadians, our members, and the patients being cared for in our healthcare institutions. Governments and healthcare leaders need to hear from us if we are to be recognized as an organization that can have a positive influence on the Canadian healthcare system.

Our membership includes the brightest minds involved in the field of infection prevention and control in Canada. We need to harness this resource. We should be driving the research and development in our field to ensure that studies are being done to address the major knowledge gaps that affect our practice. We need to ensure that research findings are translated into clinical practice so that practice is based on the best possible evidence, not just the best that is currently available. Changing our name is the first big step – but we’ve still got a long way to go!

“...We should be driving the research and development in our field to ensure that studies are being done to address the major knowledge gaps that affect our practice.”
MESSAGE DE LA PRÉSIDENTE

Nouveau nom, nouvelle stratégie

Je tiens à dire, d’abord et avant tout, à quel point je suis fier d’être membre de l’APIHC-Canada. Je rentre à peine de notre congrès national à Ottawa et du congrès APIC 2013 à Fort Lauderdale où je représentais notre association et franchement, nous avons mis plein la vue! Les présentations étaient de tout premier ordre et les possibilités de réseautage, excellentes, sans compter des occasions d’apprendre à l’infini. Je remercie une fois encore le comité responsable du programme scientifique et les organisateurs de notre congrès pour leur travail extraordinaire. En Floride, beaucoup m’ont dit à quel point ils avaient apprécié notre congrès; pour plusieurs, c’était même le meilleur à ce jour.

Ottawa nous a merveilleusement accueillis! Notre capitale nationale nous a offert des paysages, des sons, des saveurs et des divertissements fabuleux. L’idée de courir le long du canal Rideau et devant les édifices du Parlement au profit de l’IFIC a fait de l’obligation de me lever à 6 h un pur plaisir (enfin, presque). Félicitations à tous les participants et commanditaires de la course! Nous avons recueilli plus de 5000 $ pour cette bonne cause. Je mets notre section de la Nouvelle-Écosse au défi de faire mieux en 2014. La barre est haute!

Vous savez bien entendu que nous avons voté en faveur d’un changement de nom en assemblée générale annuelle. Dès que Corporations Canada aura approuvé les nouveaux règlements et articles de proclamation, nous nous appellerons officiellement Prévention et contrôle des infections Canada / Infection Prevention and Control Canada. Je pense que c’est un grand pas en avant. L’objectif est d’être reconnus au Canada et sur la scène internationale comme le principal organisme de prévention et de lutte contre les infections au Canada. Bien entendu, le changement de nom n’y suffit pas. Il faut gagner en visibilité et repositionner APIHC ou plutôt PCIC Canada, puisque c’est notre nouveau nom. Nous avons besoin d’un nouveau logo, d’une image rafraîchie, de messages repensés et plus encore! Nous devons faire connaître de manière très dynamique notre position sur les questions qui préoccupent le grand public, nos membres et les patients de nos établissements de santé. Il faut que les gouvernements et les responsables de la santé entendent notre voix si nous voulons être reconnus comme une organisation capable d’une incidence positive sur le système canadien des soins de santé.

Notre association compte l’élite du domaine de la prévention et du contrôle des infections au Canada. À nous d’optimiser cette ressource! Nous devons orienter la recherche-développement vers des études qui permettront de combler les lacunes de la connaissance qui entravent notre pratique. Nous devons faire en sorte que les résultats de la recherche se traduisent en une pratique clinique fondée sur les données les plus probantes et non plus seulement sur le meilleur de la connaissance actuelle. Notre nouveau nom est une première étape substantielle, mais le chemin est encore long!

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Where do we go from here?

At the 2013 Annual General Meeting, members voted to change the name of our association to *Infection Prevention and Control Canada* (*IPAC Canada*/*Prévention et contrôle des infections Canada*). Members also accepted the Articles of Continuation and new By-laws. It is just a waiting game now as we anticipate Corporation Canada’s approval of the Articles and the new name. Hopefully confirmation will come soon and we can start rebranding as IPAC Canada.

The new name and new by-laws place a challenging yet exciting burden on administration. Efforts are under way to plan a daily communication strategy to bring IPAC Canada into the minds of the Canadian public and foremost in the thoughts of those involved with infection prevention and control across the continuum of care.

“Efforts are under way to plan a daily communication strategy to bring IPAC Canada into the minds of the Canadian public and foremost in the thoughts of those involved with infection prevention and control across the continuum of care.”

The board is discussing its strategy to introduce the new regulations which prescribe election of directors at the annual general meeting, not online or by paper ballot as we are used to. Directors will now be elected because of their skills as leaders, not necessarily because of specific portfolios. The by-laws have also increased the term of the president and the president-elect to two years each. These positions have always been a four-year commitment when directors served as president-elect, president, immediate past president, and conference chair. The increased terms gives each of the incumbents a greater opportunity to become well versed in the operation of the association, and to expand on the development of important relationships with our partners and stakeholders. The positions of immediate past president and conference chair will be eliminated. The figureheads of the conference will be the president and president-elect while the scientific program chairs and committee continue to plan and facilitate an excellent educational event.

At the same time, the board is in the process of a major change in structure. Board members will no longer have individual portfolios but will instead under-

take higher level discussions and plan proactively to elevate both the association and its members in their vision to improve patient and staff safety in today’s healthcare environment. The important work of the committees will continue but will be managed differently. This is an exciting year and it is an important year for CHICA and its members.

The 2013-2014 Member and Source Guide has been distributed. An online version can be accessed in the Members Area of www.chica.org.
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2013 National Education Conference Review

Thank you to everyone who attended the CHICA-Canada 2013 National Education Conference in Ottawa. From all reports, it was an exciting and dynamic education opportunity, often challenging the norms of practice. It was a great networking event and had a lot of fun as well. We are already planning for the CHICA-Canada 2014 National Education Conference to be held in Halifax, May 25-28, 2014. The Preliminary Program is posted to www.chica.org.

Here are some of our award winners:

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Sodium Hypochlorite Versus Hydrogen Peroxide: Sure They Are Both Hospital Grade Disinfectants, But Are They Equal As Cleaning Products?

ASK THE MICROBIOLOGY EXPERT
Diane Wallace, Wellington Dufferin Guelph Public Health, Fergus, ON

BEST FIRST TIME ABSTRACT
Jocelyn A. Srigley1,2, Colin D. Furness2,3, Michael Gardam1,2
1University Health Network, Toronto, ON, Canada, 2University of Toronto, Toronto, ON, Canada, 3Infonaut Inc., Toronto, ON, Canada
Description of Patient Hand Hygiene Behaviour in an Acute Care Hospital

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University Health Network – Toronto General Hospital
Temporal Association between Influenza Burden and Increased Nosocomial Antibiotic Resistant Organism Cases in an Academic Teaching Hospital (Summer 2012)

2013 ECOLAB POSTER CONTEST
Eleanor Paget, London Health Sciences Centre, London, ON

BEST POSTER
Catherine Walker, Robyn Latendresse, Michelle Perfect
Elgin St. Thomas Public Health, St. Thomas ON
Managing Influenza Outbreaks in Retirement Home Settings: It’s Not Like Long Term Care

EARLY BIRD REGISTRATION DRAW
Jennifer Joyal, Chapleau Health Services, Chapleau, ON

EXHIBIT PASSPORT PRIZES:
iPad Mini – Jo-Anne Cunningham, Amprior Regional Health, Amprior, ON
Miche Handbag – Lynne LaRose, Mics Group of Health Services, Cochrane, ON

FREE HOTEL STAY
Jane Stafford, Department of Health, Province of New Brunswick
2013 BOARD OF DIRECTORS

(Back Row) Jim Gauthier, Marilyn Weinmaster, Victor Leung, Bruce Gamage (Front Row) Mandy Deees, Suzanne Rhodenizer-Rose, Judi Linden (Inset) Michael Gardam

2013 SCIENTIFIC PROGRAM COMMITTEE


2013 Chapter Presidents

CHICA-Canada 2013 Chapter Presidents in attendance at the conference.

VIROX SCHOLARSHIP WINNERS

John Van Dyke and Nicole Kenny of Virox (left) and colleagues acknowledged the winners of the 2013 Virox Technologies Scholarship.

CBIC ACKNOWLEDGED ON 30TH ANNIVERSARY

At the Opening Ceremonies of the 2013 conference, Bruce Gamage acknowledged the Certification Board of Infection Control for its dedication to the high standards embodied in the CIC exam. After receiving an anniversary plaque from Bruce, CBIC President Craig Gilliam brought greetings from CBIC, noted that the CBIC Board met in Ottawa prior to the conference, and thanked CHICA-Canada for its long term support.

DIVERSEY EDUCATION BURSARY WINNERS

Carolyn Cooke (Back left) and Salah Qutaishat (Front Centre) acknowledge the winners of the first Diversey Education Bursary.

HONOURARY MEMBER

Pat Piaskowski was inducted as a Honourary Member in CHICA-Canada. With her is Sandra Gallery who introduced Pat during the Opening Ceremonies, and Bruce Gamage.

GERRY HANSEN CELEBRATES 25 YEARS WITH CHICA

Executive Director Gerry Hansen was acknowledged and honoured for her 25 years of administrative and executive support for CHICA. Bruce Gamage thanked Gerry for her professionalism and expertise that is widely recognized in Canada and internationally.
The sun shone early in the morning and enthusiasm was high! The 8th Run for IFIC was another successful fundraiser for the CHICA Scholarship which supports under-resourced country representatives to attend the annual International Federation of Infection Control conference. Over 50 runners and walkers raised $5,300 for the scholarship.

The individual winners of the day were:
- Tara Donovan: Fastest Woman
- Jim Gauthier: Fastest Man
- Terrance Smith: Fastest Walker

CHICA Southern Alberta raised the largest amount of donations. Our sincerest thanks go to organizers Jo-Anne Janigan and Michèle Laroque-Levac and the volunteers from CHICA Ottawa Region. We also thank Deb Canada and Diversey for their sponsorship of the run and breakfast.

Watch for information about the 9th Run or Walk for IFIC, which will be held in Halifax on Monday, May 26, 2014. Braveheart, Slayer of Germs is issuing a challenge to all participants to come out wearing their finest kilt! Hope it’s not too windy. ☺️
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   and Patient Safety - Jack Kitts
☐ ☐ P5 Emotional Intelligence - How Competency
   Supports Change - Suzanne Rhodenizer
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   and Changing Realities - Michael Gardam
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   Bill Beattie

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☐ ☐ C4 Vaccine Adjuvants
☐ ☐ C5 A Look in the Mirror - Comparing Rates Within
   Comparing Infection Rates to Others
☐ ☐ C6 A Look Through the Window
☐ ☐ C7 In the Emergency Department
☐ ☐ C8 Behavioural and Psychology Symptoms
   of Dementia
☐ ☐ C9 In the Operating Room
☐ ☐ C10 Communicating Surgical Site Infection
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☐ ☐ C11 Healthcare Workers Influenza Vaccination
☐ ☐ C12 GermSmart ® In Saskatoon Health Region

CD MP3  PRE-CONFERENCE DAY, June 2
☐ ☐ PC1. Overview of CSA Z8000
☐ ☐ PC2 Reading Blueprints 101 for the ICP
☐ ☐ PC3 WASH: Waste, Air, Space, Hand Hygiene
☐ ☐ PC4a, b, c What’s New in Healthcare Associated IP&C
   Surveillance at PHAC? (3CDs)
☐ ☐ PC5 Identifying Learning Needs
☐ ☐ PC6 Feedback that Heals
☐ ☐ PC7 What is Antibiotic Stewardship?
☐ ☐ PC8 Presenting Modules of
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☐ ☐ PC9 The Interface of Antibiotic
   Stewardship and IPAC

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Membership Fee Increase

The last increase to CHICA-Canada membership fees became effective January 1, 2012. As per discussions with membership which has requested small but regular increases, the Board of Directors has confirmed that fees will increase by 4% biannually. CHICA-Canada membership fees will increase as of January 1, 2014:

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Fee Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>$202</td>
</tr>
<tr>
<td>Institutional, First Representative</td>
<td>$282</td>
</tr>
<tr>
<td>Institutional, Additional Representatives, each</td>
<td>$122</td>
</tr>
<tr>
<td>Student Member</td>
<td>$122</td>
</tr>
<tr>
<td>Retired Member</td>
<td>$122</td>
</tr>
</tbody>
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Fees for Corporate Membership will increase to $2600. GST/HST is not applicable on membership fees.

Each member is entitled to one complimentary chapter membership and complimentary membership in any of our interest groups. Additional chapters are $25 each.

Bring in a New Member

Win a complimentary 2014-2015 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, 2014, both you and the new CHICA-Canada member will be eligible to win a complimentary 2014-2015 membership (value $202). 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 2014-2015 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, 2014. 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/about_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

The Canadian Journal of Infection Control | Summer 2013 | 129
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Financial assistance for the development of APIC ANYWHERE® has been provided in the form of unrestricted educational grants by Founding Supporter ECOLAB®
The Carole DeMille Achievement Award, the Association for Professionals in Infection Control and Epidemiology’s (APIC) lifetime achievement award, honours infection prevention and control professionals whose contributions have improved the practice of infection prevention through research, performance improvement, visionary leadership, and community service. Carole DeMille was known for her reverence of the past, vision of the future, and optimistic approach to present day realities.

Winner of the 2013 Carole DeMille Achievement Award is Candace Friedman, a long-time APIC and CHICA member.

Candace Friedman has worked in the health care field for over 40 years. She received her Bachelor of Science in Medical Technology and her Master of Public Health in Epidemiology degrees from the University of Michigan, Ann Arbor, Michigan.

She has broad experience practicing infection prevention and control and has published in this area. She has written articles, chapters in various books and co-authored a book, *Infection Control in Ambulatory Care*.

During her career, Candy served as an Infection Control Coordinator at Hutzel Hospital in Detroit, Michigan, and Infection Control Practitioner at the University of Michigan Health System (UMHS). She became Director of Infection Control and Epidemiology at UMHS in 1986. In 2012, Candy moved into a new field, becoming a project manager in the UMHS’ Office of Clinical Safety.

Candy has volunteered for various professional organizations. She served APIC in different capacities, including president. Candy was also a board member on the Certification Board of Infection Control and Epidemiology. She served on the board of the Michigan Society for Infection Control and was president of her local APIC chapter – Greater Detroit.

She has worked on toolkit projects for CHICA-Canada; topics include *C. difficile*, emergencies and disasters, and antibiotic-resistant Gram negatives.

Candy is the publications chair for the International Federation of Infection Control, assisting with its newsletter and Basic Concepts manual updates.

CHICA-Canada congratulates Candy Friedman for her latest well-deserved honour.
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Module 1
The Chain of Infection provides an overview of the chain of infection and how breaking any link in the chain can help prevent the transmission of infectious microorganisms.

Module 2
Routine Practices introduces Routine Practices and describes a point of care risk assessment, which is central to decisions about Routine Practices and shows how a point of care risk assessment can be applied.

Module 3
Hand Hygiene and Personal Protective Equipment explains when and how hand hygiene should be done. The module also describes how best to protect yourself and the patients in your care by using Personal Protective Equipment appropriately.

Module 4
Environmental Controls describes these elements and reviews strategies to reduce healthcare associated infections that are related to cleaning equipment, environmental cleaning, waste management, Sharps Safety and more.

Module 5
Source Control & Education describes the components of Source Control and explains how strategies improve patient flow, manage visitors and promote respiratory hygiene/cough etiquette that will help reduce healthcare associated infections.

Module 6
Healthcare Worker Roles & Responsibilities How does the application of Routine Practices vary according to the nature, scope and duration of contact with patients? While the principles remain the same, healthcare workers with “high”, “medium” and “low” patient contact will find that some elements are more applicable than others in their daily work.
SAVE THE DATE!

Antibiotic Awareness Week
November 17-23, 2013

Use Antibiotics Wisely · When Needed · As Prescribed

Visit AntibioticAwareness.ca for other Canadian initiatives and resources. Numerous Canadian health-related organizations have partnered in an effort to promote the prudent use of antibiotics and fight the threat of antibiotic-resistant bacteria. They include:

• National Collaborating Centre for Infectious Diseases (NCCID)
• Public Health Agency of Canada (PHAC)
• Association of Medical Microbiology and Infectious Disease (AMMI) Canada (AMMI)
• Community and Hospital Infection Control Association (CHICA) Canada (CHICA)
• Canadian Foundation for Infectious Diseases (CFID)
• Canadian Paediatric Society (CPS)
• Do Bugs Need Drugs (DBND)
• Canadian Institute of Public Health Inspectors (CIPHI)
• Canadian Public Health Association (CPHA)
• Canadian Pharmacists Association (CPhA)
• Canadian Association for Clinical Microbiology and Infectious Diseases (CACMID)

SENSEILATION AUX ANTIBIOTIQUES

MARQUEZ VOS AGENDAS

Semaine de sensibilisation aux antibiotiques le 17 du 23 novembre 2013

Utilisez les antibiotiques de façon mesurée · lorsque nécessaire · en suivant les directives

Visitez infoantibio.ca pour voir des initiatives et ressources canadiennes. De nombreux organismes liés au domaine de la santé ont agi de concert pour promouvoir l'utilisation mesurée des antibiotiques et de lutter contre la menace représentée par les bactéries résistantes aux antibiotiques. Ils incluent :

• Centre de collaboration nationale des maladies infectieuses (CCNMI)
• Agence de la santé publique du Canada (ASPC)
• L’Association pour la microbiologie médicale et l’infectiologie Canada (AMMI)
• L’Association pour la prévention des infections à l’hôpital et dans la communauté – Canada (CHICA)
• Fondation canadienne des maladies infectieuses (FCMI)
• Société canadienne de pédiatrie (SCP)
• Des pilules contre tous les microbes
• L’Institut canadien des inspecteurs en santé publique (ICISP)
• L’Association canadienne de santé publique (ACSP)
• Association des pharmaciens du Canada (APhC)
• Association canadienne de microbiologie clinique et des maladies infectieuses (CACMID)
Antibiotic Awareness Week 2012
Report on Activities

The full report is available from CHICA-Canada

BACKGROUND

Antibiotic Awareness Week 2012 activities were developed by the Communication and Education Task Group on Antimicrobial Resistance (CETAR). Building upon messaging developed for Antibiotic Awareness Day 2010, and for Antibiotic Awareness Week 2011, the campaign continued to promote the prudent use of antibiotics in Canada. The third annual event was a week-long campaign held November 12-18, 2012. The timing of Antibiotic Awareness Week in Canada again corresponded with Antibiotic Awareness Day in the European Union (marked annually on November 18, 2012), Get Smart About Antibiotics Week in the United States (November 12-18, 2012) and Antibiotic Awareness Week in Australia (November 12-18, 2012). The Canadian campaign included webinars, social media and e-blast messaging to disseminate information and resources. Messaging again centered on Canadian public health issues in AMR with a specific focus on healthcare practitioners. All messages and communications were developed in both official languages.

KEY MESSAGES

The overarching message was that prudence be used when prescribing antibiotics and consuming antibiotics, and that increasing antimicrobial resistance puts us all at risk. The messages targeted healthcare professionals, with the understanding that through these key actors, the public would also be reached.

The key messages for Antibiotic Awareness Week 2012 in Canada included:

• Use antibiotics wisely – when needed and as prescribed.
• Antibiotic resistance is a threat to the health of Canadians.

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**Campaign strategies and outcomes November 12-18, 2012**

The following strategies were outlined in the Antibiotic Awareness Week 2012 (AAW) Action Plan.

<table>
<thead>
<tr>
<th>1. Build awareness of AMR issues in Canada and around the world.</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Coordinate with international campaigns.</td>
<td>ECDC, CDC, Canada (aa.ca), and Australia all highlighted each other’s campaigns through our websites, as well as cross-promotion of each others’ resources via Twitter.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Increase collaboration among national and international organizations to build public health awareness about antimicrobial resistance.</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Bring organizations together to build common AMR messages, strategies, etc.</td>
<td>In addition to the collaborative promotional efforts by CETAR member organizations, the following organizations were among those that promoted Canada’s AAW: • Get Smart about Antibiotics, Centers for Disease Control and Prevention • European Centre for Disease Control • PICNET Provincial Infection Control Network of British Columbia • National and Provincial CIPHI networks • BCCDC • National Collaborating Centres for Public Health (NCCPH) • Halton Health developed display in the main entrance of the Region of Halton administration building. (set up an Antibiotic Awareness Week display using AntibioticAwareness.ca resources) • International Centre for Infectious Diseases</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Increase awareness among health care practitioners, animal health experts, patients and the general public about the prudent use of antibiotics.</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Send out notices/reminders about Antibiotic Awareness Week, resources, links to AntibioticAwareness.ca website.</td>
<td>3 e-blasts served to notify/remind people of Antibiotic Awareness Week and promote the webinars. Member organizations included these notices in their e-newsletters and sent out email messages to their respective audiences.</td>
</tr>
<tr>
<td>Distribute resources.</td>
<td>3 new Antibiotic Awareness Posters were created, and available for download at antibiotaicawareness.ca. The four fact sheets featured on AntibioticAwareness.ca, and the prescription pads with the script, were highlighted via Twitter notices.</td>
</tr>
<tr>
<td>Hold webcasts during Antibiotic Awareness Week.</td>
<td>The following 2 webinars were held: <strong>Wednesday, November 14, 2012</strong> Donald Low, Chief of the Department of Microbiology, UHN and Mount Sinai Hospital <strong>Friday, November 16, 2012</strong> PHAC: • Marc Andre Gaudreau, Manager, Strategic Issues • Rita Finley, Senior Epidemiologist, Centre for Foodborne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada • Irene Martin, National Microbiology Laboratory • Thomas Wong, Director of Professional Guidelines and Public Health Practice Division</td>
</tr>
</tbody>
</table>

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“Antibiotic Awareness Week helped increase the exposure of the AntibioticAwareness.ca website as it garnered more mentions on partner websites, through social media, as well as doubling the amount of hits on antibioticawareness.ca from last year’s campaign.”

CONCLUSION

Building on the past two Canadian annual campaigns, Antibiotic Awareness Week 2012 continued to help build momentum for upcoming AntibioticAwareness.ca campaigns.

Antibiotic Awareness Week helped increase the exposure of the AntibioticAwareness.ca website as it garnered more mentions on partner websites, through social media, as well as doubling the amount of hits on antibioticawareness.ca from last year’s campaign. In addition, partnerships with international organizations were further strengthened, providing a strong foundation for future campaigns with a global focus. CETAR will continue reaching out to national and international organizations in an effort to promote the prudent use of antibiotics.

Resources that were created will continue to be disseminated by CETAR member organizations during future campaigns and at upcoming conferences. CETAR will also look for ways to disseminate material and promote the message to “use antibiotics wisely” outside of Antibiotic Awareness Week campaigns. CETAR will continue to meet regularly to develop these ongoing initiatives and to plan for Antibiotic Awareness Week 2013.

INITIATIVES

In the weeks leading up to November 12-18, 2012, CETAR used the AntibioticAwareness.ca website to promote Antibiotic Awareness Week messages and activities in Canada. As a result of promotional efforts to drive people to the AntibioticAwareness.ca website, there was a steady increase in the number of visits during the months of October and November. This was most evident during the week of November 12-18.

NEW ANTIBIOTIC AWARENESS WEEK 2012 POSTERS

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