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

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Public Health Ontario
Northwestern Ontario Infection Control Network
289 Munro Street, Thunder Bay, ON P7A 2N3
Tel: 807-333-0137 Fax: (807) 683-1745
Toll-Free: 888-378-4916
E-mail: pat.piaskowski@oahpp.ca

WEB COMMUNICATION MANAGER
Shirley McDonald, ART, CIC chicawebmaster@mts.net

POSTING EMPLOYMENT OPPORTUNITIES/OTHER INFORMATION
CHICA-Canada Membership Services Office
chicacanada@mts.net

PUBLISHER
Craig Kelman & Associates

3rd Floor, 2020 Portage Avenue
Winnipeg, MB R3J 0K4
Tel: (204) 985-9780 Fax: (204) 985-9795
www.kelman.ca E-mail: info@kelman.ca

EDITOR - Cheryl Parisien
DESIGN/PRODUCTION - Kristy Unrau
MARKETING MANAGER - Aran Lindsay
ADVERTISING COORDINATOR - Stefanie Ingram

Send change of address to:
CHICA Canada
P.O. Box 46125, RPO Westdale,
Winnipeg, MB R3R 3S3
chicacanada@mts.net

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FEATURES

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Regina Qu'Appelle Health Region
430 Pioneer Drive, Regina, SK, S4T 6L8
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marilyn.weinmaster@rqhealth.ca

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Mandy.deeves@oahpp.ca

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University Health Network
200 Elizabeth Street, Toronto, ON M5G 2C4
Tel: 416-340-3758 Fax: 416-340-5047
michael. gardam@uhn.on.ca

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Archivist
Mary LeBlanc, RN, BN, CIC
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Tyne Valley, PE C0B 2C0
nanaandpapa@route2.pe.ca

Clinical Editor – Canadian Journal of Infection Control
Pat Piaskowski, RN, HBScN, CIC
Network Coordinator
Public Health Ontario –
Northwestern Ontario IC Network
289 Munro Street
Thunder Bay ON P7A 2N3
Tel: 807-333-0137 Toll-Free: 888-378-4916
Fax: 807-683-1745
pat.piaskowski@oahpp.ca

Web Master
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PO Box 46125 RPO Westdale,
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Fax: 204-895-9595
chicacanada@mts.net

Deliveries only:
67 Bergman Crescent, Winnipeg MB R3R 1Y9

Administrative Assistant
Kelli Wagner
Tel: 204-488-5027 Fax: 204-488-5028
Toll-Free: 1-855-488-5027
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Feedback: what's your viewpoint?

Pat Piaskowski, RN, HBScN, CIC
Clinical Editor, *Canadian Journal of Infection Control*

Many scientific publications have the opportunity for readers to respond to articles published in their publications. Community and Hospital Infection Control Association-Canada and our journal, the *Canadian Journal of Infection Control*, have now embraced this opportunity and developed a new policy to outline a formal process and structure for letters to the editor.

All articles published in *CJIC* undergo peer review by members of the *CJIC* editorial board. Based on the review feedback and recommendation to publish, author(s) of accepted articles submit revised drafts for final review prior to publication. The members of this board are listed in the journal. Although articles are peer reviewed, it is recognized that there is a considerable amount of scientific evidence, findings and data that is available in the field of infection prevention and control (IPAC) as well as areas where there is still some controversy or variation in expert opinion. In addition, as the current time to publication from acceptance may be up to one year, there may be new or different data and evidence on the particular topic or subject of the article when it is actually published.

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The editor will review the submitted letter and then submit the letter to the original author(s). The original author(s) will have the opportunity to respond to the letter in writing. The letter and response will then be published simultaneously in a future issue of *CJIC* as close to the original article publication date as possible.

A general statement on this letter will be added to the masthead of *CJIC* and on the *CJIC* section of the website.

The new Letters to the Editor policy deals with letters in response to articles published in current issue of *CJIC*. If readers wish to respond to CHICA Canada position papers or other statements these should be forwarded to the president of CHICA-Canada.

Letters to the Editor submitted by our readers add a valuable dimension to the articles published in *CJIC*, and bring new perspectives that help to improve IPAC knowledge and practices.

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A review of isolation practices in the haemodialysis setting

Authors:
Jennifer Scoging,
RN, CIC
Thunder Bay Regional
Health Sciences Centre

Corresponding Author:
Jennifer Scoging
Thunder Bay Regional
Health Sciences Centre
980 Oliver Road
Thunder Bay, ON
P7B 6V4
807-684-6397
Fax: 807-684-5822
Email: *scogingj@tbh.net*

KEY WORDS:
hemodialysis, transmission, antibiotic-resistant organisms

ABSTRACT

Background

In the past two decades, antibiotic-resistant organisms (ARO) have moved into the spotlight of hospital-acquired infection (HAI). HAI rates of ARO colonization and infection are monitored, analyzed, and publically reported in North America and Europe; however, transmission and prevention in outpatient settings is not consistently detailed. In an effort to determine best practice for the prevention of ARO transmission in the haemodialysis unit at an acute care hospital in Ontario, it was found that little relevant literature exists that relates to either an in-hospital or community-based dialysis unit. Subsequently, an informal survey posed to infection control practitioners with an interest in dialysis demonstrated little consistency in actual practices. While an epidemiological study is beyond the scope of this article, it may be insightful to provide the result of the survey, and encourage further research into best practices to protect this highly vulnerable population.

Method

A brief survey was distributed via email to Community and Hospital Infection Control Association (CHICA-Canada) members who are members of the Dialysis Interest Group, a voluntary network of active members who have a professional interest specifically in renal dialysis. Fifty-eight surveys were sent with 17 responses.

Result

An unexpected amount of variation in transmission-based precautions for methicillin-resistant Staphylococcus aureus, vancomycin-resistant enterococci, and extended- spectrum beta- lactamase-producing Gram-negative bacilli.

Conclusion

As Curtain and Dalziel found in 2010 (1), there is a scarcity of data regarding best practices for prevention of AROs in dialysis settings. Further research and recommendations are required.

INTRODUCTION

Since the introduction of haemodialysis (HD) for patients with end-stage kidney disease, infection control practices have been aimed at reducing and eliminating the risk of infection from bloodborne pathogens: hepatitis B, hepatitis C, and human immunodeficiency virus (HIV). Knowledge about bloodborne pathogen transmission, improved monitoring, and infection prevention practices have greatly reduced this risk to patients.

Contact transmission is the most important route by which pathogens are transmitted in healthcare settings (2). HD units are an environment where multiple patients receive dialysis concurrently; repeated opportunities exist for person-to-person transmission of infectious agents, directly or indirectly via contaminated devices, equipment and supplies, environmental surfaces, or hands of personnel (2). Guidelines for contact transmission prevention in acute-care inpatient settings are widely available from authoritative sources. Included in many of these documents are recommendations on applying the concepts to the ambulatory care setting; however extrapolating the information from these documents can be time-consuming and confounding for an Infection Control practitioner, as there are contradictory positions in the literature. HD patients are among the most vulnerable of all

"While there is a large bulk of literature outlining the risk of contact transmission and the higher risk of complications for hemodialysis patients, there is a distinct lack of research addressing how best to minimize this risk."

patients based on the nature of End-Stage Renal Disease: weakened immune status, frequent interactions with the healthcare setting (9-12 hours a week for dialysis treatment), frequent hospitalizations, high degree of co-morbidity, and the increased use of antibiotics. Additionally, the necessity of accessing the bloodstream via central intravenous lines or repeated skin punctures is known to lead to invasive infections. The rate of invasive methicillin-resistant *Staphylococcus aureus* (MRSA) infection (45.2 infections per 1,000 dialysis population) is higher than for any other known patient population and is 100 times higher than for the general population (3). Overall incidence of invasive MRSA in the general population ranges from 0.2 to 0.4 infections per 1,000 population (3). A recent prospective cohort study showed that nasal colonization with MRSA leads to higher all-cause mortality in HD patients (4).

Vancomycin-resistant enterococci (VRE) prevalence in the dialysis population has not been measured with a large point prevalence screen; smaller studies have measured colonization prevalence at 3.14 % (5), 6.2% (6), and 14.4% (7). Another study showed that 26% of outpatient dialysis blood cultures are caused by VRE (8). Less data is available on extended- spectrum beta lactamase-producing Gram-negative bacilli (ESBL) rates in HD patients; however, given the overall increase in antibiotic-resistant organism (ARO) colonization in HD patients compared to the general population, it might be reasonable to anticipate that the same will be true for ESBLs. One study has shown that patients receiving dialysis had a 13.60-fold higher risk of infection from ESBLs (9), and haemodialysis has been identified as an independent risk factor for ESBL infections (9)(11).

In the U.S., haemodialysis population hospitalizations secondary to circulatory infections such as bacteremia and sepsis are 1.5-2.0 times greater, even after adjusting for co-morbidity (10). In order to determine best practice for the prevention of ARO transmission in the haemodialysis unit at an acute care hospital in Ontario, an informal survey was posed to infection control practitioners with an interest in dialysis.

METHOD/RESULTS

The voluntary, informal survey (see fig. 1) was sent to 58 individuals across Canada.

Seventeen responses (30% response rate) were received and compiled. All responses but one were from hospital dialysis units which serve both inpatients and outpatients. One response was from a community-based dialysis unit.

A literature review was done to summarize any research into best practice specifically for preventing transmission of ARO in haemodialysis, and then broadened to include research that applied to any ambulatory care setting. [EBSCOHost *SmartText* search terms: isolation, patient isolation, VRE, MRSA, ESBL, ARO, renal dialysis, transmission, ambulatory, outpatient, waiting rooms, carbapenem resistance]. While there is a large bulk of literature outlining the risk of contact transmission and the higher risk of complications for hemodialysis patients, there is a distinct lack of research addressing how best to minimize this risk.

The use of Contact Precautions for MRSA, VRE and ESBL's are summarized in Table 2.

The definition of contact precautions in responses to the survey was consistent and in agreement with Public Health Ontario's Provincial Infectious Diseases Advisory Committee (PIDAC) best practice recommendations for additional precautions. All responses indicated that isolation rooms were used where available. Failing that, cohorting of patients is done within a geographic area in the unit. Additionally, each haemodialysis station is considered isolated, signage is posted, curtains may be drawn, and an isolation cart may be kept just outside the patient care area of the individual patient. One unit designates specific chairs for use for patients with each type of ARO. Separate waiting areas for ARO+ patients are available in three units, three other units seat their patients directly on arrival to the unit to minimize contact with other patients in a common waiting room. Private bathrooms, when available, are

1. **Do you [does your facility] isolate VRE/MRSA/ESBL positive patients?**
2. **If the answer to the above is yes, how are these patients isolated?**
3. **Do you [does your facility] have a separate waiting area/bathroom for ARO positive patients?**
4. **Do you [does your facility] isolate contacts of ARO positive patients?**
5. **If your dialysis centre is in-hospital, do you [does your facility] treat your inpatients with ARO differently than when they are outpatients?**
6. **Comments**

Figure 1. Survey sent to Dialysis Interest Group Members regarding Infection Prevention and Control best practices for prevention of ARO transmission

dedicated for use for ARO+ patients and then cleaned either when visibly soiled or when the patient leaves the unit.

Sixteen of 17 units surveyed use Contact Precautions for MRSA positive patients. One unit isolates MRSA only in the presence of symptomatic infection, otherwise Routine Practices are used. Just two units isolate MRSA-contacts (one only in the case of roommates with > 24 hrs exposure).

Fifteen of 17 units isolate VRE positive patients, the remaining two only in the presence of infection. Only two units isolate VRE contacts.

The greatest variation can be seen in ESBL isolation practices: only 11 units routinely isolate ESBL positive patients. The remaining six only isolate in the presence of infection or when performing dialysis in an intensive care unit (ICU).

DISCUSSION

Ontario's PIDAC best practice document for *Routine Practice and Additional Precautions in All Health Care Settings* sets out Routine Practices, the principle of which is that "all patients are potentially infectious and precautions should be used to prevent exposure to blood, body fluids, secretions, excretions, mucous membranes, non-intact skin, or soiled items." Contact Precautions are employed in addition to Routine Practices in patients who are known or suspected to be infected or colonized with MRSA, VRE, or ESBL (11). This conflicts with APIC Guide to the Elimination of Infections in Hemodialysis, which recommend no additional precautions save the use of gloves for all patient and environmental contact unless there is increased risk of transmission, for example by drainage (12). Post-discharge cleaning is not recommended to be modified or enhanced except in the presence of *Clostridium difficile* (12). HICPAC points to the use of active surveillance cultures and isolation (contact precautions) of VRE colonized patients to reduce transmission by 65% (13). In addition, multiple studies have shown that the *S. aureus* strain causing infections in patients are the same as the colonizing strain in > 80% of cases (14). A study published in the journal *Infection Control and Hospital Epidemiology* in 2011 suggests that "the acquisition of MRSA within the hemodialysis" unit "contributes to the high prevalence of MRSA among hemodialysis patients" (15).

Contact precautions are used for patients who are infected or colonized with epidemiologically important microorganisms that may be transmitted by contact with intact skin or with contaminated environmental surfaces (e.g., MRSA, VRE, ESBL, carbapenem-resistant *Enterobacteriaceae* (CRE), *C. difficile*). Contact Precautions include in addition to personal protective equipment, spatial separation with signage, use of dedicated equipment, and additional cleaning measures. These important recommendations can be challenging to apply in many haemodialysis departments as the physical layouts of such units are not uniform or made up of separate treatment rooms. In order to facilitate patient assessment most haemodialysis units have an open-concept design with few, if any, isolation rooms. Dialysis stations may be used four times in a day by four different patients.

All responding facilities reported that isolation rooms were used for patients with AROs when available. Although the majority of respondents isolated patients who were positive for MRSA and VRE, contacts of both MRSA and VRE were not routinely isolated as recommended by the PIDAC document. There was even less agreement in practice between sites with regard to isolation of ESBL positive patients. Lack of private rooms, lack of dedicated washroom facilities and lack of adequate environmental services are apparent challenges that are faced daily.

"...each haemodialysis station is considered isolated, signage is posted, curtains may be drawn, and an isolation cart may be kept just outside the patient care area of the individual patient."

	Additional Precautions employed routinely	Additional Precautions employed under Special Circumstances	**Total**
Precautions for MRSA	16 / 17	1	17
Precautions for MRSA contacts	1 / 17	1	17
Precautions for VRE	15 / 17	2	17
Precautions for VRE contacts	2 / 17	0	2
Precautions for ESBL	11 / 17	6	17

Table 2. Survey responses

SUMMARY

Implementing Additional Precautions in ambulatory settings proves challenging: space limitations exist in the waiting areas and the patient care areas, limiting the ability to segregate patients. Dedicated bathrooms are not always available and require increased monitoring of use and housekeeping resources. Maintaining high infection prevention and control standards is of additional importance in haemodialysis settings, given the invasive and repetitive nature of the treatment. Colonization with AROs directly correlates with patient morbidity and mortality. Colonization pressure is known to increase a patient's risk of acquiring an ARO, therefore it is imperative to implement and adhere to best practice to reduce transmission. Little agreement in actual practice was found with this survey.

Whilst this was a very basic survey, it illustrates some particular issues within an under-recognized population. Exploration of best practices and barriers to implementing them in this setting invite further study. Research specifically pertaining to the most effective and reasonable methods to stop transmission of AROs in a haemodialysis setting is needed. An authoritative document that addresses the specific challenges of preventing contact transmission of AROs would be beneficial.

ACKNOWLEDGEMENTS

Victoria Williams, BSc, BASc, CIC
Joanne Robin, HBScN, CNephC

> "Whilst this was a very basic survey, it illustrates some particular issues within an under-recognized population."

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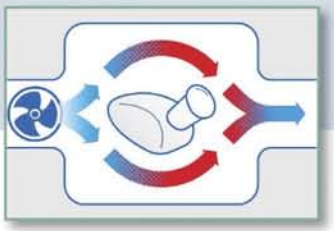

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Implementation of antibiotic-resistant screening

Authors
Heather Clouthier, RN,
Infection Control Professional

Karen Gauthier, RN,
Infection Control Professional

Lisa Mitchell, RN,
Infection Control Professional

Susan Blakeney, RN, BScN, MBA,
Director, Quality & Risk Management

Pembroke Regional Hospital
705 McKay Street
Pembroke, Ontario
K8A 1G8
Fax: 613-732-9986
Email:
heather.clouthier@pemreghos.org

ABSTRACT

Issue
New revisions of best practice guidelines included recommendations to screen for Carbapenem-Resistant Enterobacteriaceae (CRE).

Project
Policy changes and healthcare provider education were required to update and incorporate these changes in existing screening practices.

Results
An algorithm was developed by infection control professionals as a quick reference guide for healthcare providers.

Outcome
CRE screening was successfully incorporated into the organizations policy and patient care plans.

KEY WORDS:
antibiotic-resistant organisms (AROs), algorithm, swabs

GLOSSARY

Additional Precautions (AP): "Additional Precautions (i.e., Contact Precautions, Droplet Precautions, and Airborne Precautions) are necessary in addition to Routine Practices for certain pathogens or clinical presentations. These precautions are based on the method of transmission (e.g., contact, droplet, airborne)." (8)

Chain of Transmission: "The transmission of microorganisms and subsequent infection within a healthcare setting may be likened to a *chain*, with each link in the chain representing a factor related to the spread of microorganisms. Transmission does not take place unless all six of the elements in the chain of transmission are present. Transmission occurs when the agent, in the reservoir, exits the reservoir through a portal of exit, travels via a mode of transmission and gains entry through a portal of entry to a susceptible host." (8)

Provincial Infectious Diseases Advisory Committee (PIDAC): A panel established in 2004 as a source of expert advice on infectious diseases in Ontario. (9)

INTRODUCTION

Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin Resistant Enterococci (VRE) and Extended Spectrum Beta-Lactamase (ESBL) – producing bacteria, are all commonly recognized AROs. These AROs have been proven repeatedly to be associated with increased costs in the form of adverse outcomes (e.g., excess mortality and morbidity) and prolonged hospital stay. For this reason, The Ontario Agency for Health Protection and Promotion (Public Health Ontario) relies on the PIDAC to provide evidence based best practice guidelines to manage patients with a known ARO.

It is important to note that these guidelines do not distinguish between colonized and infected patients. Both colonization and infection pose a significant threat to any link in the chain of transmission of infection.

METHODS

In July 2011, PIDAC released a second revision to the March 2007 best practice guidelines entitled *Screening, Testing and Surveillance for ARO*. This revised document contained updated guidelines that included screening patients for a newly recognized ARO called Carbapenem-resistant *Enterobacteriaceae* (CRE). In order to implement the new guidelines it was essential that organizations amend

"CRE is important to the facility as numerous residents in the catchment area travel to the southern United States for the winter months and return in the spring. The additional screening on the algorithm accounts for this clientele and requests swabs for CRE."

current policy regarding screening for ARO. Transferring this policy change into practice at the bedside was paramount for success. Hence, for identification of positive patients, a quick reference/screening tool and teaching strategy for easy implementation was designed. To facilitate this change, an algorithm was created outlining criteria for: who, when, where and which swabs were required for patients meeting the criteria.

BACKGROUND

The organization is an Accredited Level C secondary referral hospital with a catchment population of 100,000, including a local Canadian military base and numerous patients returning from tertiary-care facilities. CRE is important to the facility as numerous residents in the catchment area travel to the southern United States for the winter months and return in the spring. The additional screening on the algorithm accounts for this clientele and requests swabs for CRE (8). All swabs are to be collected within 24 hours of admission for early identification, decreased transmission risk, and in order to meet the definition for hospital-acquired infections. As is practice at other organizations, all medical patients were indicated as candidates for MRSA, VRE, and ESBL swab collection. The collection of swabs for MRSA are to include nasal, rectal, portals with tubing such as tracheotomy sites or catheters, as well as any open wound areas. Swabs for VRE and ESBL are to include a rectal swab with stool content for best results. The facility has a policy to test for VRE on any stool samples sent for *Clostridium difficile* infection (CDI).

The screening questions were derived from PIDAC best practice guidelines to include patient medical history (e.g., dialysis or immunocompromised), associated care history (e.g., previous hospitalizations within the previous 12 months or services from external healthcare services) and social background where communal activities exist (e.g., sports teams or military personnel).

While following the algorithm, "yes" and "no" answers lead the healthcare provider to a pathway indicating the necessary swabs and/or further questions. For CRE, one rectal swab is to be collected and processed if and where the patient has spent time in a healthcare facility in the last 12 months. CRE is known to be prominent along the US Eastern seaboard (1,10,11), from Maine and south to Florida, and especially New York City (8). Greece (2,7), Israel (5), Italy (8), Turkey (8) and the Indian sub-continent (3,4) are also indicated as high risk for CRE transmission.

CLINICAL

The algorithm was discussed with clinical managers who agreed to a change in the patient kardex to indicate the screening tool was to be done and to enable the appropriate swab collection. Next, the clinical managers who were considered stakeholders in this change reviewed the algorithm. The policy became effective January 2012.

The healthcare providers were then introduced to the algorithm using a train-the-trainer approach during the first week of February 2012. Infection control professionals (ICPs) met with healthcare providers on each unit, attended unit meetings and unit safety huddles, as well as remained available for any specific consultation, teachings or concerns encountered. The lab technicians/technologists consulted the ICPs to ensure if indeed the CRE swab was to be processed, as this was a learning curve for healthcare providers in collecting and processing swabs. Weekly follow-ups in the form of ARO screening audits were performed on all units to ensure compliance and determine if corrective action was needed.

LAB

From March 2012 to July 2012, 90 per cent of patients admitted to our organization met the criteria based on the algorithm and were swabbed for MRSA, VRE, and ESBL, and appropriate precautions were initiated for positive results.

The first CRE swab was processed February 13, 2012. Since the first CRE swab, two additional patients meeting the criteria based on the algorithm were admitted to our organization and swabbed for CRE. The patients had recently returned after spending the winter in the southern United States where they were patients at a medical facility. They were placed on Additional Precautions as per PIDAC best practice guidelines and as per policy, CRE swabs were collected. They returned negative and Additional Precautions were discontinued only after the screening was completed and the negative results were confirmed.

ISSUES

The healthcare providers initial reaction was understandable: "Not another swab!" However, education as to why extra swabs were necessary made this concern surmountable very quickly. The timeline for collecting the swabs (within the first 24 hours) was reinforced at various education forums as well. It was an opportunity to ensure timely results for meeting the definition of healthcare-acquired infections (HAIs). Collection of swabs early also meant an increased chance of fewer contacts should a positive result be found.

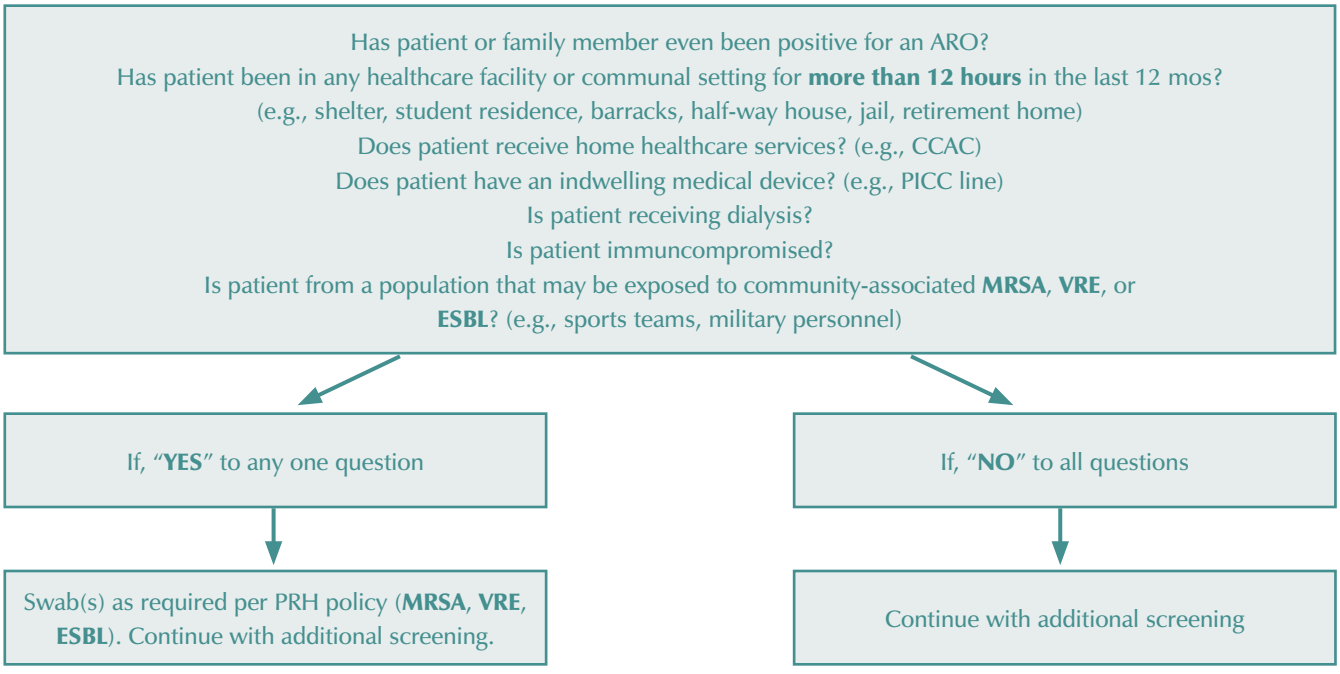
Written communication and resources were recognized as an important component in the policy change and algorithm use and success. Continuity of communication has always been paramount to patient care; therefore, each

Note: All Medical patients are to be swabbed for MRSA, VRE & ESBL

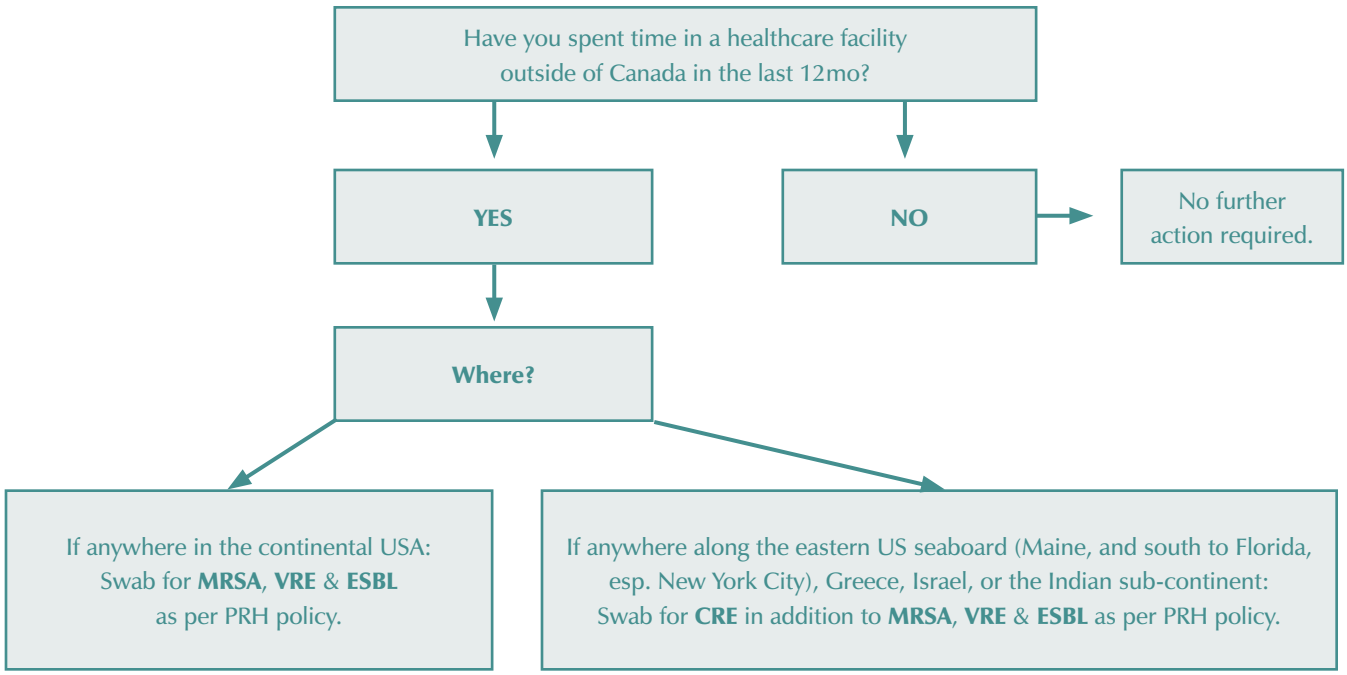
Algorithm to Assist in Screening Patients for Antibiotic Resistance Organisms (ARO)

(e.g., MRSA, VRE, CRE and ESBL)

To be done within 24 hours of admission for all admitted patients



Additional Screening



RETURN to Index

patient kardex was updated through a process of consultation with healthcare providers on the units. It was decided that clinical managers would take the new input into account and review changes with ICPs when revamping the kardex to include documentation cues for screening patients.

CHALLENGES

In June of 2012, four tertiary-care teaching hospitals in Ontario decided to change their practice and discontinued the practice of screening, surveillance and placing patients on Additional Precautions for VRE. These changes to practice at potential referral hospitals were communicated to our organization, and background information and rationale for the change was explained. A four-prong approach had also been discussed as part of the discontinuation which included: 1) hand hygiene, 2) environmental cleaning, 3) waste management, 4) de-cluttering.

Our current practice is to accept patients from these hospitals, but on admission to our organization they are swabbed for VRE immediately. These patients are treated as a contact patient of VRE and as such, are tracked and a second swab collected at least seven days after their initial admission swab. Our organization looked at the impact for our own patient population, and with Public Health Ontario guidance, made the conscious decision to await PIDAC review of the change before changing our own policy to discontinue the present swabbing protocol.

There were specific directions given to all healthcare providers on the management of patients transferred from hospitals that no longer performed VRE screening. These included swab collection as soon as possible after arrival, and limited unnecessary transfers from the original assigned room. The ICPs work closely with healthcare providers to guide and answer questions that result from this practice. Policy review and changes will be made at the time of the release of the updated PIDAC best practice guidelines on AROs.

CONCLUSION

ICPs continue to monitor compliance with the algorithm by conducting random audits of admitted patients. These are done on a monthly basis and results are forwarded to the clinical managers. Charts are audited to ensure that the screening tool is utilized and that the appropriate swabs are collected and sent to lab for processing. The kardex is to be dated when the swabs are sent. Results are placed on the patients' charts. All positive results are called to the appropriate patient unit and to ICPs by the microbiology lab staff. This transparent auditing system also provides the ICPs with an opportunity to discuss any concerns and/or to educate the staff. Results of auditing since the implementation of the algorithm indicates that the surveillance tool was used and that admission swabs were collected and processed for 90% of admitted patients.

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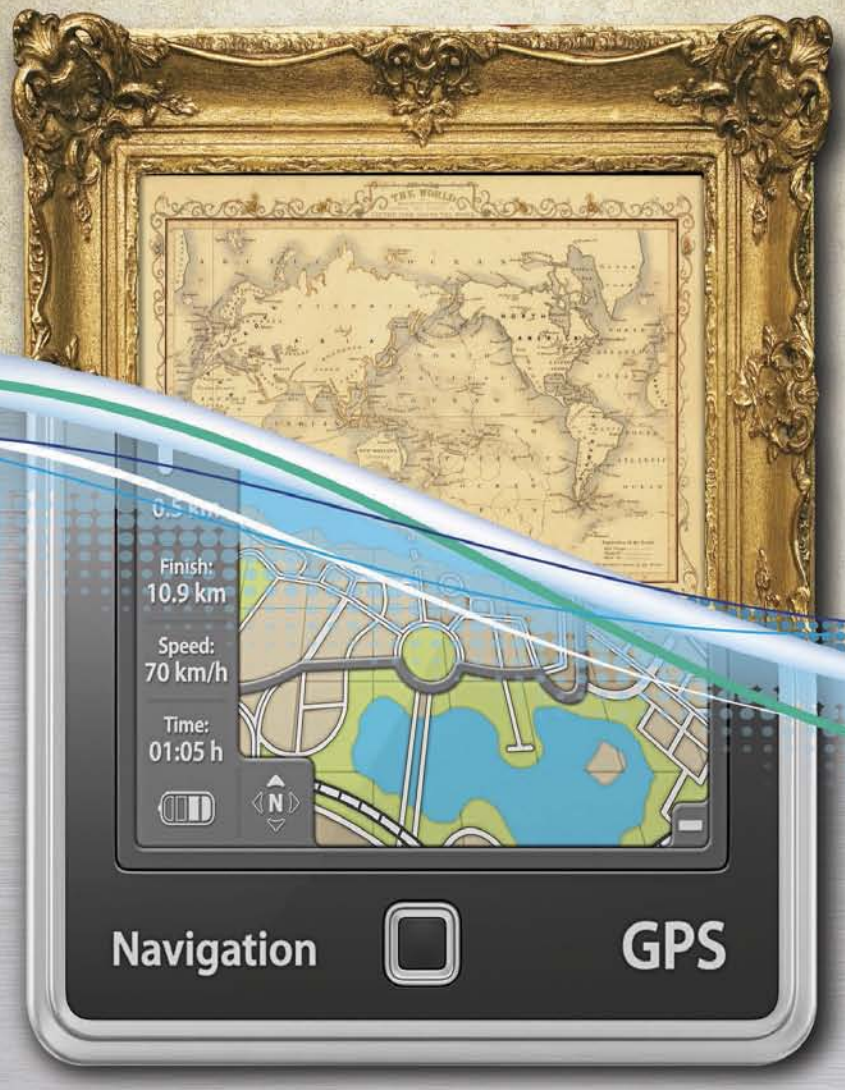

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Common infectious diseases among inmates in Dschang Prison, West Region, Cameroon

Authors:
Payne Vincent Khan, Ph.D;
Fusi-Ngwa Catherine Kesah, Ph.D*;
Tanning Kalvin Muluh, M.Sc.

Department of Animal Biology,
Faculty of Science, University of Dschang, P.O. Box 67 Dschang, West Region, Cameroon.

***Correspondence to:**
Fusi-Ngwa Catherine Kesah
Email: *fncathkesah@yahoo.com*
Tel: 00447780211246

ABSTRACT

Background
Welfare neglect and the deplorable state of the Dschang prison premises prompted an investigation to document common communicable diseases among the inmates of this prison, and to explore management options.

Methods
For six months, visits were made to the Dschang prison to screen inmates for certain infectious diseases. A total of 109 consenting inmates were interviewed using a designed questionnaire. All 109 participants submitted faeces for bacterial culture and processing for parasites, 96 accepted a physical examination, and 90 gave blood for haematology and blood parasite tests.

Results
Skin diseases predominated in study respondents who averaged 30 years. Findings included body lice (83%), scabies (62%), bedbugs (59%), eczema (33%), and less than 15% for pubic and head lice, thrush, skin rash, ringworm, and *Tunga penetrans*. A significant variation ($p<0.05$) was observed in prevalence between faecal bacterial and parasitic pathogens – *Salmonella* (79%), *Escherichia coli* (74%) and *Shigella* (44%); and *Ascaris lumbricoides* (27%), Hookworm (25%) and *Trichuris trichiura* (6%) with overall intensities 724.14 ± 821.65, 607.41 ± 694.58 and 241.67 ± 235.41 respectively. Only *Plasmodium* (3%) was identified in blood. Poor hygiene, malnutrition, overcrowding, sharing personal belongings, and lack of appropriate lodging and medical facilities including toiletries, bedding and potable water facilitated disease spread in the prison community.

Conclusion
Due to their high prevalence in the inmate population, skin diseases, faecal bacterial pathogens, and parasitic infections were accorded priority consideration. Adequate provision of modern amenities, prompt disease management, and health- and hygiene-related education should promote an improvement of health among inmates in this prison.

KEY WORDS:
prison inmates, common infectious diseases, aetiology.

INTRODUCTION

Around the world, a significant percentage of individuals enter prisons already harbouring communicable and non-communicable diseases. Many others become infected while they are incarcerated (1-4). To combat the increasing rate of infections among inmates, and prevent the spread of these diseases to prison authorities and to the general populace, it is necessary to understand the epidemiology of diseases among prisoners (5).

In Cameroon, prisoners are regarded as second-class citizens, and very little attention is given to their welfare (5). Hence, prisons serve as breeding grounds for diseases. Most of these diseases are preventable, and high prevalence rates suggest inadequate preventive measures and undue emphasis on cure rather than prevention. The crisis of disease prevalence in prison communities has significant effects on both inmates and the greater populace. Incarcerated people are our neighbours. Inmates are admitted and released, thus making them active participants in the community. As more people pass in and out of prison, so do problems and infectious diseases associated with incarcerations such as tuberculosis, sexually transmitted diseases and others (6,

7). These prisoners function as a means of propagating infections contracted in prison as they interact with the larger population. Prison administrators, prison guards, and others who interact between the two worlds on a daily basis, might also spread infections contracted from prisoners to the larger population (8).

In the Menoua Division of Dschang, no work has been published on infectious diseases among prisoners. Thus, this study sought to identify infections that are commonly found among the Dschang prison inmates in order to suggest strategies for better management of diseases in prisons, thereby preventing their spread to the public.

MATERIALS AND METHODS

The Dschang prison is located in Dschang, which is the divisional headquarters of the Menoua Division, West Region of Cameroon. Dschang is situated between latitude 05°20'N and longitude 10°03'E, at an altitude of 1382 to 1500m in the Western Highlands of Cameroon. The climate, being a Sudan-Guinean type, is characterized by two seasons: a dry season running from mid-November to mid-March, and a rainy season from mid-March to mid-November. Dschang has an annual rainfall of 1872mm, a relative humidity of 76.8% and an average daily temperature of 20°C (9).

This work was carried out at the Dschang prison from October 2008 to March 2009. At its inception, there was a pre-study visit to the prison compound, to inform the prison authorities and to obtain permission to carry out this work. The prison's medical personnel (clinicians and nurses) and inmates were also briefed about the study; only inmates who consented were sampled; and pre-labeled wide-mouth sample bottles were distributed to them for collection of faeces. Subsequent visits were scheduled with the prison authorities and medical staff.

Clinicians interviewed study participants individually using the researchers' questionnaire. General information obtained included each participant's name, age, sex, cell number and the number of inmates in their particular cell, religion, ethnic group, occupation before entering the prison, duration of stay in the prison, types of food consumed in the prison and during outings, and medical history. Data was also collected on personal hygiene, including information on how often bedding and clothes were changed, washed and ironed, exchange of clothes and other personal belongings, handwashing before meals and after using a toilet, and bathing frequency. Information collected on environmental hygiene included how often cells and toilets were cleaned, the implements used in cleaning, types of toilets, sources of water, and whether the water supply was regular.

A physical examination of each inmate by the clinicians generated data on dermatophytic infections or infestations documented on the questionnaires. The presence of lice, scabies, eczema and thrush was noted. Bed bugs were observed on clothes, and lice were observed in the pubic region. The skin scraping technique was used to confirm *Sarcoptes* infection (10).

For each inmate, 2.5ml of blood was collected using a needle and syringe by the prison nurse, and introduced into a specimen bottle containing ethylene diamine tetra acetic acid (EDTA). Each blood specimen was inverted gently several times and then labeled. A substantial quantity (4-5g) of first-morning faeces in a labeled universal sample bottle was submitted by each respondent. All the blood and faecal specimens obtained from the study subjects were promptly transported to the University of Dschang for analysis. Parasitological examination was initially carried out on all blood and stool specimens in the Laboratory of Applied Biology and Ecology of the Department of Animal Biology, Faculty of Science. Blood samples were later brought for haematological testing to the Laboratory of Animal Physiology of the Faculty of Agronomy and Agricultural Sciences.

Faecal samples were examined macroscopically, followed by culture for bacterial pathogens and then microscopy by the McMaster and floatation methods for parasites (10-14).

The Microhaematocrit technique was carried out (15) on all blood specimens. Red and white blood cells, and differential leucocytes were counted, and thin and thick films prepared and examined according to standard methods (15-18).

The Chi-square (2) test was used to evaluate the influence of host age and sex on infection prevalence. The student test (t-test) and analysis of variance (ANOVA) were used to evaluate the influence of sex and age respectively on the intensity of gastrointestinal nematodes. Means were separated with the Duncan test. Haematological data was analyzed with the t-test. All tests were realized using SPSS 11.01 for Windows, with significant level being 0.05.

TABLE 1: Overall prevalence of infections identified in inmates in the Dschang Prison

Type of Infection	Number of individuals		Prevalence (%)
	Examined	Infected	
Nematode infection	109	46	42.2
Plasmodium infection	90	3	3.3
Ectoparasitic/Dermatophytic infections	96	85	88.5
Salmonellosis	109	86	78.9
Shigellosis	109	48	44

RESULTS

Working with the inmates was most challenging. Out of a total of 300 inmates (286 males and 14 females), only 109 (97 males, 12 females) i.e., 36.3%, consented to this study. All the 109 inmates gave stool samples but only 90 willingly gave blood samples for analysis. In addition, only 96 of them accepted a physical examination. The majority of the inmates refused to participate in the exercise likely due to ignorance and fear to give specimens to unknown persons.

The 109 inmates (89% males, 11% females) were aged 10 to 55 years (mean 30.45 ± 10.5 years), including one (0.9%)

infant (10 years), 11 (10.1%) adolescents (13-18 years) and 97 (89%) adults (19-55 years). All the 109 prisoners harboured multiple infections potentially hazardous to society. Documented infections were caused by bacteria and parasites, with the majority (88.5%) being ectoparasitic/dermatophytic infections. Age group/longevity in the prison did not affect the prevalence of infections, and only slightly higher rates were observed for ectoparasites and dermatophytoses in the infant/adolescent age group (10-18 years) ($p>0.05$).

Among 96 respondents examined for skin diseases, there was a preponderance of body lice (83.3%), scabies (*Sarcoptes scabiei*) (61.5%) and bed bugs (59.4%) ($p<0.05$); rates were far below 50% for eczema, thrush and others (Fig.1). Notably, there were no ectoparasitic/dermatophytic infections in females, in contrast to 100% prevalence in males.

The culture of 109 stool specimens showed a significant difference ($p<0.05$) between rates obtained for *Salmonella* (78.9%) and *Shigella* (44%). Species of *Enterococcus* (105, 96.3%) and *Klebsiella* (103, 94.5%) and *Escherichia coli* (74.3%) were also found in high proportions.

Ascaris lumbricoides (26.6%) and hookworm (24.8%) were significantly more common intestinal nematodes ($p<0.05$) than *Trichuris trichiura* (5.5%), overall intensities were recorded at 724.14 ±821.65, 607.41±694.58 and 241.67±235.41 respectively. Parasite intensities, except hookworm, differed significantly between males and females; though the disproportionate sample size between both sexes was noteworthy (Tables 2 and 3).

Plasmodium was the only blood parasite identified and registered the lowest rate (3.3%). There was little or no variation among inmates packed cell volumes, and the red and white blood cell and differential leukocyte counts as they all harboured infections. Finally, all the inmates were treated free of charge by the researchers.

TABLE 2: Frequency of association of single and multiple infections amongst the inmates

Infectious Agents/Diseases	Number of individuals		Prevalence (%)
	Examined	Infected	
Ascaris lumbricoides	109	15	13.8
Trichuris trichiura	109	14	12.8
Hookworm	109	2	1.8
A. lumbricoides/hookworm	109	11	10.1
T. trichiura/hookworm	109	1	0.9
T. trichiura/*A. lumbricoides*	109	1	0.9
A. lumbricoides/hookworm/*T. trichiura*	109	2	1.8
Lice	96	9	9.4
Scabies	96	2	2.1
Lice/Scabies	96	10	10.4
Lice/Bed bugs	96	8	8.3
Lice/Dermatophytoses	96	1	1
Lice/Scabies/Dermatophytoses	96	6	6.3
Lice/Bed bugs/Dermatophytoses	96	8	8.3
Lice/Scabies/Bed bugs	96	18	18.7
Scabies/Dermatophytoses/Bed bugs	96	1	1
Lice/Scabies/Bed bugs/ Dermatophytoses	96	22	22.9
Salmonella spp.	109	50	45.9
Shigella spp.	109	12	11.0
Salmonella/*Shigella*	109	36	33.0

DISCUSSION

The environment of these inmates, their personal hygiene, and certain beliefs (such as that bathing everyday leads to fever or increases vulnerability to infection) contributed greatly to the high level of infection noticed in this prison community. Toilets and septic tanks in the prison were observed to be almost full and regularly seeped into the nearby farmland and stream, a problem aggravated by heavy rainfall. The crops from the contaminated farms were harvested and prepared by the inmates; some of the cooks were infected with one or all the infectious diseases identified during the study. The contaminated water from the stream was used for cooking, bathing and laundering when pipe-borne water was not available. Such conditions and their subsequent commingling aid in disease transmission (18-22).

The literature suggests that younger age groups are more prone to intestinal nematodes due to a number of factors like indiscriminate defecation and the unhygienic practice of eating without washing hands (18, 23-25). However, the older age groups in this study were slightly more prone ($p>0.05$) to nematode infections due to malnutrition, lack of proper medical care following prolonged imprisonment, and indiscriminate eating when permitted to go out and work without surveillance. Most of the older inmates had been in prison for a long time, and had gained the trust of the prison administration, which usually permitted them to go out and work without surveillance. During such times, these inmates were able to buy food from vendors who were not usually certified as being hygienically fit, as food was most often exposed to dust, flies, rain and the wind. These

TABLE 3: Intensity of nematode infection in the study population

Parasites	Males mean±standard deviation	Females mean±standard deviation
A. lumbricoides	773.08±855.13	300.0 ±100.0
Hookworm	636.96±748.06	437.50 ±179.70
T. trichiura	241.67±235.41	0

There was a significant difference between ascariasis and tichuriasis in both sexes

then functioning as vehicles for subsequent transmission of acquired pathogens to the other inmates (mostly the younger ones), who remained confined within the prison compound. Further, inmates were subject to overcrowding in their cells, thus adding to the conditions conducive to rapid and widespread transmission of acquired pathogens. In addition, older prisoners delayed taking any medication against worms, thus increasing their worm burden in comparison with younger prisoners.

Intestinal salmonellosis and shigellosis registered high prevalence in this study. These high rates are partly accounted for by the poor environmental conditions that prevailed in the prison cells, the inner courtyard and the immediate external environment of the inmates. The inmates lacked toilet paper, thus, they often used water (which could be contaminated or dirty) to clean themselves after defaecation. More commonly at night, all the inmates used a common bucket as a toilet, the contents of which were emptied the following morning. Water was not available at night for hand washing, and inmates were not allowed to go out to fetch it at night. Furthermore, razorblades, knives and nail cutters were forbidden, leading most inmates to trim their nails with their teeth. Such behavioural patterns promote faeco-oral transmission of microbial and parasitic infections.

The high prevalence of the ectoparasitic and dermatophytic infections in the male inmates can be associated with a number of factors. Inmates' personal hygiene was extremely poor: they neither bathed often nor washed their bedding and clothes frequently. The numerous cracks and crevices in the walls of the cells provided sufficient hiding places for some ectoparasites such as bedbugs. Lack of proper ventilation and sunlight in the cells also provided appropriate conditions for the growth and multiplication of ectoparasites. Cells were overcrowded with beds excessively close (less than 30cm apart) which encouraged cross-infections especially in already immuno-compromised persons (5, 26).

Most of the prisoners washed their clothes without soap. This made their clothes perpetually dirty and conducive hiding sites for ectoparasites. Further, the absence of a pressing iron for clothes and bedding made matters even worse. An inadequate diet, overcrowding, poor sanitary conditions, lack of medical facilities, ignorance, understaffing, and the location of a prison have all been postulated as factors encouraging cross-infections in inmates (7).

All the male inmates had very short hair, resulting in poor conditions for head lice to hide and propagate. In addition, the prohibition of intimate contact among inmates resulted in the low prevalence documented for pubic lice.

Ectoparasitic infections were completely absent among the females. This might be because the females' single cell was cleaner than the males' cells. Furthermore, the females were less crowded and congested in their cell as compared to the males. Since there was no contact between the males and females, there was no chance of cross-contamination. The high rates of ectoparasites and dermatophytoses among imprisoned children stunted their growth, requiring medical attention to decrease their prevalence to the barest minimum.

Some of the prisoners acknowledged recently having suffered from malaria and typhoid fever (just before their incarceration) and had not completed their treatment. Upon entering the prison, they served as sources of infection to the other inmates, poor personal hygiene encouraged the spread of typhoid, and cross-contamination due to mosquito bites encouraged the transmission of malaria. The researchers were informed that Fansidar (a malaria prophylaxis drug) was often given to these inmates by the Catholic Missionary Sisters. This no doubt accounted for the low prevalence of *Plasmodium* infection found, as the prophylaxis is known to reduce the chances of having malaria (27, 28). No inmate was free of infection, and this combined with malnutrition, poor living conditions and even stress greatly contributed to lowering prisoners' immune systems, thus, making them very susceptible to further infection.

CONCLUSIONS

There are numerous ways by which infectious diseases in these prisoners can be handled to improve their health status, and thus, their rehabilitation. These include appropriate management strategies, improving living conditions and sanitation, reducing practices that lead to contamination, improving diagnosis, treatment and management of infected prisoners, health education, and cooperation and coordination with civil health authorities.

Management strategies

Effective control of infectious diseases in this prison requires combined efforts on the part of policy makers and legislators, prison staff and local medical personnel. For example, on a broad scale, legislators need to acknowledge that a major contributor to the spread of infectious diseases in a prison is overcrowding, which leads to poor sanitation, hygiene and insufficient healthcare. If the government gains control over the overcrowding situation, such as by promoting alternatives for imprisonment, and increasing and improving existing lodging facilities, it is likely that the rate of infectious diseases in our prisons could be drastically curtailed. From another perspective, prison officials can manage infectious diseases by improving the prisoners' living conditions and sanitation, improving medical services and treatment, educating,

and coordinating with civil authorities. Since very little has been done to address these management strategies, the above points are better explained as follows.

Improving living conditions and sanitation: Infectious diseases thrive in unhealthy and unsanitary environments. Prisoners who are kept in substandard conditions have weakened immune systems, rendering them, as well as prison officials and staff, more susceptible to infection. The Prison Administrator (Regiseur) in partnership with the Ministry of Justice and Penitentiary Services could ameliorate this problem by ensuring that inmates have clean bedding, sanitary bathing and toilet facilities, a well balanced diet and above all, humane prison cells.

Reducing practices that lead to contamination: The prison officials should strongly discourage the inmates from sharing drinking cups, tooth brushes; combs and other potentially contaminated items because they might serve as vehicles for propagating infection. This can be achieved by giving talks to the inmates and the prison officials. Philanthropists could provide such items for the inmates who lack them.

Improving diagnosis, treatment and management of infected prisoners: Two major factors that contribute to the spread of diseases in prison units are the failure to early diagnose and the failure to provide adequate treatment. These difficulties exist partly due to the transient nature of the prison population. Penal systems are characterized by the continuous influx and outflow of detainees many of whom are infected with a variety of communicable diseases. However, it is common not to screen detainees until they have been in this system for some time, often not until they have been convicted of a crime. During this period, which can last a year or longer (awaiting trial), an infected detainee has the potential to infect numerous other prisoners as well as prison staff. The solution to this problem lies in good organization and vigilance. All detainees should first be screened for certain infectious diseases and those infected should receive adequate health care. Criminals should be given the same type of healthcare in prison that they would receive in the general community when not incarcerated. Family members and prison staff should be allowed to visit the infected prisoners, but must be advised to take protective measures. It must be emphasized to both the prisoners and prison staff that quarantine (isolation) of infected inmates is a medical necessity and not a form of punishment.

Health education

Over time, many fears and misconceptions have proliferated about the nature of infectious diseases and their mode of transmission. To counteract these fears and reduce risky behaviours, especially in prisons, prisoners and detainees should receive written and oral information about infectious diseases at the time they first enter the penal facility. These educational sessions should include information about modes of transmission, risk of infection, testing options, treatment and available counseling. Prisoners should be given the opportunity to ask questions from qualified persons. Inmates suffering from life threatening infectious diseases such as HIV/AIDS and tuberculosis should receive more extensive training on how to live with such diseases and prevent their transmission. All prison staff should receive training on infectious diseases. Staff should also understand the risk of transmission and advisable precautions as well as common myths and prejudices. This training is only complete if it includes sensitivity training for avoiding discriminatory behaviour and dealing with infected prisoners in a caring manner. Vaccines are not directly supplied to the prison population including their staff by the Ministry of Health. However, the prison administration through their health unit can ensure that their staff and the inmates get vaccinated at the nearby Dschang District Hospital or get vaccines from this hospital for use. It is also important for the prison to contact treatment centres for diseases like HIV/AIDS and tuberculosis so that priority consideration could be accorded inmates as well.

Cooperation and coordination with civil health authorities

Because of the undeniable link between prisons and community health, control

FIGURE 1: Prevalence of skin infections identified in inmates

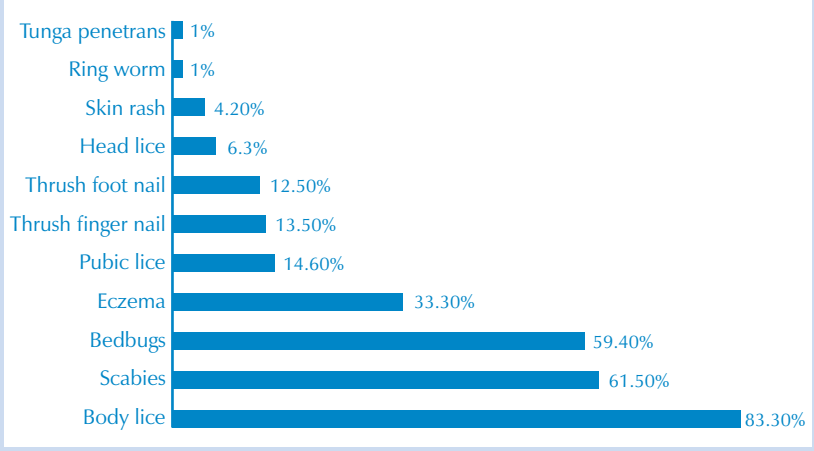
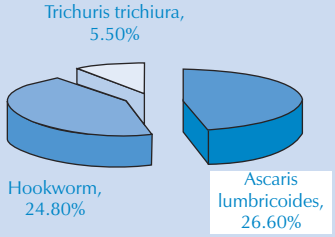


FIGURE 2: Prevalence of gastrointestinal nematodes identified in inmates



of infectious diseases requires prison medical authorities to coordinate programmes and cooperate with civil medical authorities on an ongoing basis. This cooperation needs to include the regular sharing of information, cooperation of medical personnel and a system to ensure that individuals with tuberculosis and other life-threatening infections continue to receive compulsory treatment following their release from prison. This cooperation can be facilitated if civil and penal medical authorities establish and maintain a comprehensive record-keeping system to keep track of individuals who are tested positive for tuberculosis and other dangerous infections. If these infected persons enter the prison, the authorities will then have the information necessary to guarantee continuity of care and take appropriate measures to prevent others from being infected.

Much still has to be done to ameliorate the living conditions in our prisons. This is of importance both to the inmates and to the outside community.

Conflict of Interest Statement

The authors declare no conflict of interest.

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None

Ethical approval

Not required. Authorities of institutions grant permission

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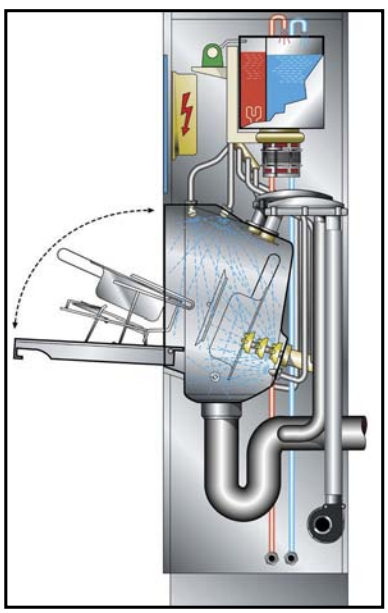

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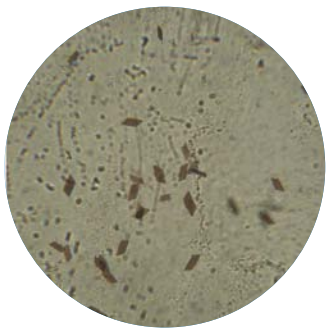

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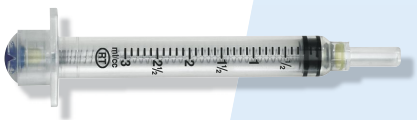

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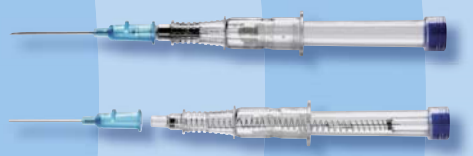

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What does it mean to be called an ICP?

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

That's a good question. Over the next three years, CHICA-Canada is working to define the core competencies for healthcare professionals with the specialized knowledge and skills base of an infection prevention and control professional (ICP). A special task group has been formed that will undertake a literature review and develop a core competencies document for ICPs in Canada.

We are following in the footsteps of several of our partner organizations. In the year 2000, the Infection Control Nurses Association (now IPS – UK) first undertook this task. They defined core components of the specialized knowledge required of an ICP, including healthcare governance, management and leadership, clinical research, and evidence-based practice. These core competencies were revisited in 2004. In 2010 the European Centre for Disease Control undertook the task of revising the document once again for adoption across Europe. Simultaneously, The Association for Professionals in Infection Control and Epidemiology (APIC) undertook a similar task. In 2012, they introduced a conceptual model to serve as a road map for personalized professional career growth.

All of these documents have common themes. As ICPs follow their career path from novice to expert, there will be certain competencies that will be needed for them to be successful. The career paths taken by ICPs vary – so not all competencies will hold equal importance for all members of our profession. The key concept is that core competencies can be used by all ICPs to help drive their continuing educational needs over time.

Wikipedia defines infection prevention and control as "the discipline concerned with preventing healthcare-associated infections. An essential, though often under-recognized and under-supported, part of the infrastructure of healthcare."

Infection prevention and control professionals come from varying educational streams. Many begin as nurses, some as medical technologists (particularly in clinical microbiology), and some as physicians (typically infectious disease specialists or medical microbiologists). In Canada, specialized training in infection control and healthcare epidemiology is offered by CHICA as well as several CHICA-endorsed academic institutions.

In the United States, the Certification Board of Infection Control and Epidemiology (CBIC) certifies ICPs, based on their educational background and professional experience, by testing their knowledge base with standardized exams. CBIC is an independent subsidiary of APIC. For the most part, the CIC designation is recognized in Canada – but has not as yet been accepted as an essential standard for calling oneself an ICP in Canada.

Part of the work of the CHICA task group will be to compare the competency models of APIC, ECDC, ICNA and others so that we get a comprehensive set of competency statements that fit our Canadian healthcare milieu – one set is not better than the other, but they are not in 100 per cent agreement.

The document will be very useful for guiding self-assessments and educational offerings (including the CHICA-Canada basics course). As members of CHICA we do have input into the CBIC exam so it will continue to be primarily relevant, but we will not be matching our core competencies to the CIC requirements as APIC has done. As the work of this task group progresses, I encourage all CHICA members to look for opportunities to have input into this important document. It will be a powerful tool for us all.

RETURN to Index

Professionnel en contrôle des infections : un terme chargé de sens

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

Qu'est-ce qu'un professionnel en contrôle des infections? Bonne question! Au cours des trois années à venir, l'APIHC Canada s'emploiera justement à définir les compétences de base des connaissances spécialisées et des habiletés fondamentales qui font d'un professionnel de la santé un professionnel en contrôle des infections (PCI). Un groupe de travail créé à cette fin passera en revue la documentation spécialisée afin d'élaborer cette définition des compétences de base à l'intention des PCI du Canada.

Nous suivons en cela les traces de plusieurs associations partenaires. En 2000, par exemple, l'Infection Control Nurses Association (ICNA, maintenant IPS – UK) a été la première à entreprendre cette tâche. Elle a défini les éléments essentiels des connaissances spécialisées exigées d'un PCI, y compris gouvernance des soins de santé, gestion, leadership, recherche clinique et pratique fondée sur des données probantes. Le tout a été actualisé en 2004. En 2010, le European Centre for Disease Control (ECDC) a amorcé une nouvelle révision du document en vue de son adoption à l'échelle européenne. L'Association for Professionals in Infection Control and Epidemiology (APIC) a fait le même exercice. Il en est résulté, en 2012, un modèle présenté comme une feuille de route de nature à guider les PCI dans leur perfectionnement individuel.

Tous ces documents se caractérisent par des thèmes communs. Entre autres, les PCI doivent acquérir certaines compétences pour réussir, au fur et à mesure qu'ils progressent dans la pratique et gagnent en expérience. Bien sûr, comme ils ne suivent pas tous le même cheminement, les compétences ne sont pas toutes d'égale importance pour chacun. Mais tous peuvent s'en servir pour fonder leur perfectionnement professionnel progressif.

Wikipedia définit le contrôle des infections comme la prévention des infections liées aux soins de santé, une discipline essentielle de l'infrastructure des soins de santé, quoique largement méconnue et sous-financée.

Les cheminements de formation des PCI sont divers. Beaucoup passent par les soins infirmiers, certains par la technologie médicale (et, en particulier, la microbiologie clinique) et d'autres par la médecine (souvent l'infectiologie ou la médecine microbiologique). Au Canada, l'APIHC et plusieurs des établissements d'enseignement qu'elle cautionne offrent une formation en contrôle des infections et en épidémiologie dans le domaine des soins de santé.

Aux États Unis, c'est le Certification Board of Infection Control and Epidemiology (CBIC) qui agrée les PCI selon leur formation et leur expérience professionnelle, en leur faisant passer un examen uniforme sur les connaissances acquises. Le CBIC est une filiale indépendante de l'APIC. L'agrément du CBIC est généralement reconnu au Canada, mais n'est pas considéré comme une norme permettant de se présenter comme un PCI.

Le groupe de travail de l'APIHC doit justement comparer les modèles de compétences de l'APIC, du ECDC, d'IPS-UK et d'autres pour en arriver à un ensemble exhaustif de compétences adapté au milieu canadien des soins de santé. Ce sont tous des modèles de qualité, mais ils ne sont pas exactement identiques.

Le document résultant sera très utile aux professionnels qui souhaitent évaluer leurs compétences, de même qu'aux établissements et associations qui veulent offrir une formation adaptée (y compris les cours de base de l'APIHC Canada). À titre de membres de l'APIHC, nous pouvons influer sur la teneur de l'examen du CBIC de sorte qu'il reste pertinent dans notre contexte, mais nous ne modèlerons pas nos compétences de base sur les exigences du Certification in Infection Control (CIC) comme l'a fait l'APIC. Tandis que progresse l'étude menée par le groupe de travail, j'encourage tous les membres de l'APIHC à saisir toutes les occasions de participer à l'élaboration de cet important document destiné à devenir un outil très efficace pour nous tous.

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Gerry Hansen, BA
Executive Director, CHICA-Canada

CHICA-Canada was incorporated in 1976 through the dedicated efforts of a small group of infection prevention and control professionals who recognized a national need for the services of an expert organization. The objective was, and still is, to move infection prevention and control into the forefront of healthcare and to promote the education and expertise of those professionally or occupationally involved in the prevention and control of infections across the continuum of care.

The original model for the Board of this organization was that of a Working Board, i.e., the Board took on various roles in the management of the organization. From that came portfolios that were managed by Board members. Policies reflected Board management of all decisions. Hence, management of the organization was performed by the Board. The Board was assisted by an administrator, in various capacities, over the years.

It has become apparent that the lines of ownership and responsibility have been blurred. There is no clear definition of the role of the Board as representing the members (owners) and visioning the near and distant objectives of infection prevention and control. There is no clear definition of the role of the Executive Director as developing the means to those ends. CHICA-Canada is currently well-managed by its Board and staff, but Board discussion has centered on issues that are staff-based, not the high level discussions that are necessary to move the association, its members, and its objectives forward. The Board has little time to focus on the big issues such as strategic goals, policy development, future trends, and monitoring.

The Board must focus on discussions that will promote the association as the Canadian voice of infection prevention and control, promote its members as the experts in infection prevention and control, and ensure that national and international perception of both the organization and its members is of the highest visibility and respect. It is clear that status quo is not an option.

The purpose of restructuring the Board of CHICA-Canada is not to radically shake up the purpose of the Board or its staff but to enable the Board and staff to perform their roles in governance of the organization. For the Board this means no longer recruiting Board members based on skills which mirror that of staff, but selecting members who can think conceptually and with a long-term perspective, and are able to welcome a diversity of opinions but abide by group decisions. They speak on behalf of membership rather than from their own or some splinter group perspective. They must place organizational accountability above personal gratification. They must be able to view the Board's task of assuring performance at arm's length – through setting expectations, delegating to the Executive Director and staff, and monitoring.

The Canada *Not-for-Profit Corporations Act* has dictated some procedure changes. The most obvious change is the new process for election of Board of Directors (see page 177). In considering all the aspects of organizational management in response to the requirements of the Act, the Board has taken steps to both revitalize and restructure its mandate as a Strategic or Policy Board.

Nomination of Board members

As the Board is moving towards being a Policy Board, not a Working Board, the election of Directors for specific portfolios is eliminated. Potential Directors will now be approached because of their skills in organizational knowledge, decision-making, and team-making. However, there is still a need for administration to have a

"The Board must focus on discussions that will promote the association as the Canadian voice of infection prevention and control, promote its members as the experts in infection prevention and control, and ensure that national and international perception of both the organization and its members is of the highest visibility and respect."

specific liaison on the Board for major areas of association expertise. For example, one Director will have added expertise in standards and guidelines development; one will have added expertise or a background in education; and one Director will be an MD with specific expertise in infection prevention and control. Two Directors will be Experienced ICPs, with a suggested minimum experience of five years, who hold all the attributes necessary of a Board member.

The exceptions are the offices of President, President-elect, Secretary, and Treasurer who have specific Board governance roles to perform in their portfolios.

Board of Directors

It is proposed that there be 9 Board members. (Our By-laws allow for a maximum of 11 but nine (9) has been and continues to be a workable number.) The current position of Immediate Past President has been eliminated and a fifth Director will be elected to complete the Board.

> "...change is urgent to not only clearly define the role of the Board and staff in governance but to move the organization and its members forward."

Officers

President – two-year term
President-elect – two-year term
Treasurer – three-year term
Secretary – three-year term

Directors

Director (Experienced ICP) – three-year term
Director (Experienced ICP) – three-year term
Director (Education background) – three-year term
Director (Standards/Guidelines background) – three-year term
Director (MD) – three-year term

Committee appointments and management

All of the work of the organization will continue without interruption. There will be individual chairs appointed for each of the major committees: Membership, Education, Standards & Guidelines, and Programs & Projects. Chairs will be appointed for each of the sub-committees or ad hoc committees. Committees will report through their Chair to the Executive Director who will then report to the Board on the operational status of committees and projects.

Chapters and Interest Groups will continue to liaise with the Board through a Director to be named.

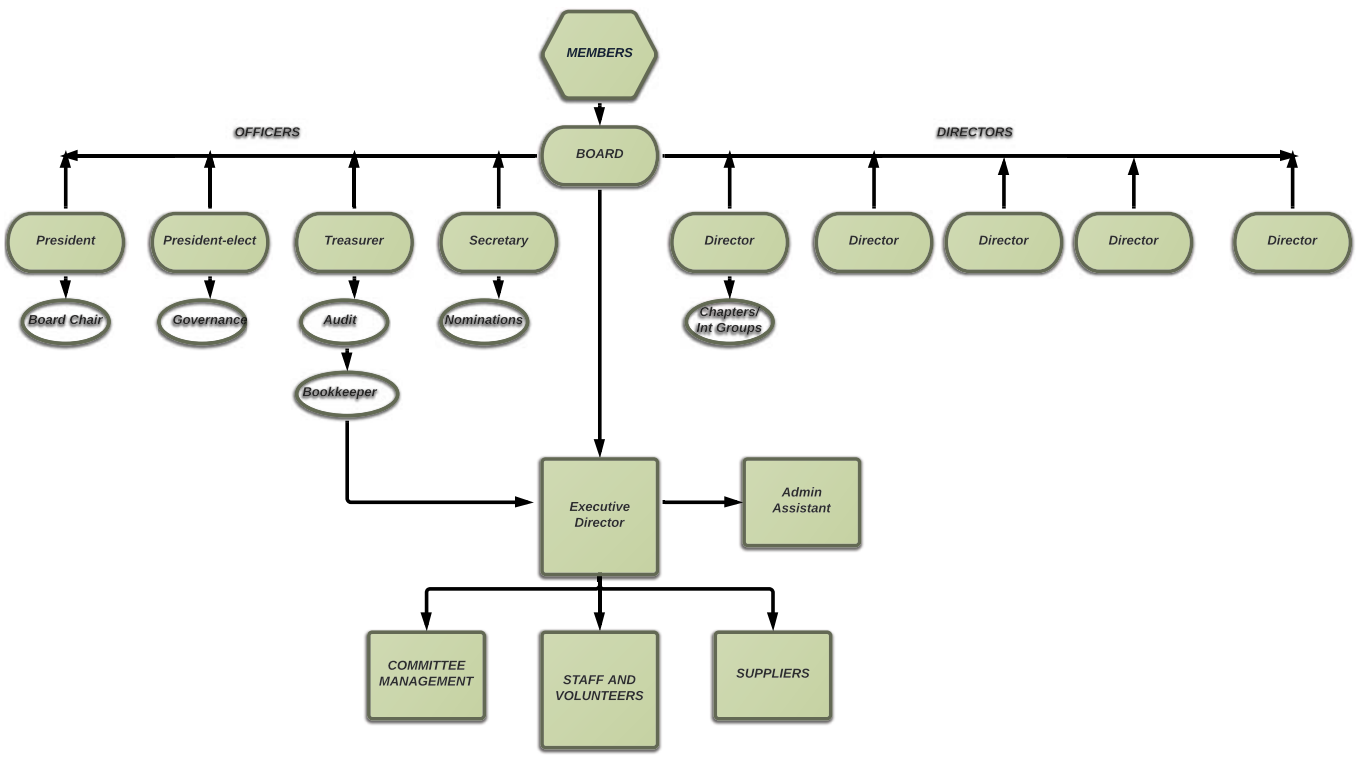
Organizational chart

The diagram below is an Organizational Chart of the new Board.

Conclusion

It is evident that change is urgent to not only clearly define the role of the Board and staff in governance but to move the organization and its members forward. The Board has recognized this and is becoming a change agent for success.

IPAC Organizational Chart
September 2013



REFERENCES: 1. Stone S, et al., Removal of bath basins to reduce catheter-associated urinary tract infections. Poster presented at APIC 2010, New Orleans, LA, July 2010.

Change to **Board election process**

CHICA-Canada/IPAC Canada's recently revised by-laws change the procedure for nomination and election of Directors and Officers (Articles 28 and 29). The Nominating Committee of the Board of Directors of CHICA-Canada/IPAC Canada is charged with the responsibility of ensuring continuity by nominating a slate of officers for positions open in 2014 (Policy 12.10). Additionally, nominations for board positions are welcomed from members of CHICA-Canada/IPAC Canada. Serving on the board of CHICA-Canada/IPAC Canada is an excellent way to participate at the national level. This offers the opportunity to meet a wide range of CHICA-Canada/IPAC Canada members, network with allied professional groups, and work with other motivated and experienced Board members.

In the past, the President position was a four-year commitment: one year as President-elect, one as President, one as Past President, and the final year as the National Conference Chair. The term of office for the President was changed at the 2013 AGM. In 2014 the new term of office will see the President-elect position become a two-year term, followed by a two-year term as President. The Conference Chair position is eliminated with responsibilities jointly shared by the President and the Scientific Program Chair.

Timelines for election of Officers and Directors:

December 15, 2013:
Announcement of the Nominating Committee slate of Directors

February 14, 2014:
Deadline for additional nominations from membership

February 28, 2014:
Announcement of final slate of candidates for election at 2014 Annual General Meeting

May 28, 2014:
Elections to be held at the Annual General Membership Meeting, Halifax

May 28, 2014:
Newly elected Board Orientation, Halifax

Positions open for election at 2014 AGM:

- Secretary (three-year term)
- Director (Education background) (three-year term)
- Director (Experienced ICP) (three-year term)

The latter Director position is new, replacing the position of Immediate Past President and maintaining the required minimum number of nine (9) Officers and Directors.

A description of the responsibilities of each of the positions will be provided with the announcement of the Nominating Committee election slate (December 15, 2013).

The term of office for current Directors and Officers has been extended to accommodate the first elections at the 2014 Annual General Meeting (AGM). The terms of the current President and President-elect have been extended to 2015.

Additional nominations from the membership of CHICA-Canada/IPAC Canada will be accepted until February 14, 2014. Nomination forms are currently under revision and will be provided with the announcement of the Nominating Committee slate in December 2013.

Association **name change**

Effective January 1, 2014, your association will be known as:
Infection Prevention and Control Canada (IPAC Canada)
Prévention et contrôle des infections Canada (PCI Canada)

The process of re-branding and communicating to members and external stakeholders has commenced. Approval for the change has been received from Corporations Canada and the Canada Revenue Agency. Legal requirements for the name change have been finalized, and changes to the website and journal are under way. An announcement will be made later in 2013 around new email addresses, etc.

Members will be able to indicate their preference for a new logo through an online comments and voting system in the fall of 2013. An announcement will be made when the voting page is online.

We have proudly stood under the banner of CHICA-Canada for over 40 years. That history and emotion will take us very confidently into the future as IPAC Canada.

Bruce Gamage, RN, BScN, CIC
President, CHICA-Canada/IPAC Canada

> "We have proudly stood under the banner of CHICA-Canada for over 40 years. That history and emotion will take us very confidently into the future as IPAC Canada."

Articles of Continuation and revised By-laws

At the Annual General meeting of the Community and Hospital Infection Control Association (CHICA-Canada) of June 5, 2013, more than the required two-thirds of members present who were eligible to vote at the meeting, including proxies, approved the Articles of Continuation and revised Bylaw #1 of Infection Prevention and Control Canada.

The Articles of Continuation and Bylaw #1 have been approved by Corporations Canada. Bylaw #1 has been posted to *http://www.chica.org/Members/members_chica_policies.php*.

The Articles of Continuation and revised by-laws were required by the Canada *Not-for-Profit (NFP) Corporations Act*. The Articles of Continuance confirm the association's intention to operate as a not-for-profit corporation. The by-laws have been revised to comply with the new *NFP Corporations Act*.

The major changes to the by-laws include the following:

1. Extending the term of the President-elect and the President to two years each.
2. Eliminating the position of Past President.
3. Revising election procedures so that Officers and Directors are elected at an Annual General Meeting. The procedure for the Nomination Committee to develop a slate of Officers and Directors, member nominations and publication of same will not change. The timing of the development of the slate and announcements will change to accommodate the change to election requirements of the *Act (see page 177 for additional information)*. Officers and Directors will come into office immediately after the election. Positions will be staggered so no more than three officers or Directors are to be elected each year. The President-elect position will be elected every second year.
4. Providing an opportunity for nominations from the floor at the Annual General Meeting.
5. Expanding the proxy form to include the proxy holder's permission to vote at his/her discretion in the case of nominations from the floor. More details on the revised proxy form will be shared with members prior to the 2014 Annual General Meeting.

> "The Articles of Continuation and Bylaw #1 have been approved by Corporations Canada."

2014 **Virox Technologies Scholarship**

Through the financial support of Virox Technologies, 13 CHICA-Canada members were awarded scholarships to attend the 2013 CHICA National Education conference in Ottawa. CHICA-Canada and its members thank Virox Technologies for their initiative to make the national education conference accessible to those who may not have otherwise been able to attend.

In partnership with CHICA-Canada, Virox Technologies will again provide scholarships to assist CHICA-Canada members with attending the 2014 National Education conference in Halifax (May 25-28, 2014). The 2014 Virox Technologies Scholarship online application will be launched in November 2013. The deadline for applications is January 31, 2014.

Diversey Education **Bursary**

CHICA-Canada and Diversey Inc. have collaborated on the establishment of the 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."

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

> "We see continuing education and shared knowledge as cornerstones to improving patient outcomes and program quality..."

Give us ONE minute and we'll give you a better solution

Why take several minutes to disinfect your high touch surfaces and medical equipment when you can **clean** and **disinfect** in **60 seconds?**

Oxivir Tb disinfectant cleaner is just as safe for your staff, patients and surfaces but ***faster.***

The ready-to-use liquid and wipes, powered by AHP technology, disinfects against most common healthcare-associated pathogens in just 60 seconds.

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Distance education **graduates**

CHICA-Canada congratulates the graduates of the 2012-2013 Distance Education Online Novice Infection Prevention and Control Course. The following group of graduates have successfully completed the course. This course also provides CHICA-Canada members with the opportunity to share their expertise in the roles of coordinators, instructors and discussion facilitators. Many thanks go to the faculty of the course and to the families and colleagues of the students for making it all possible for students to strengthen their knowledge and skills. We know that they are ready and eager to apply them to practice.

Congratulations and best wishes to:

Suzanne Bakai, Guelph, ON
Sylvain Beauvais, Moonbeam, ON
Michelle Belfon, Burlington, ON
Kelsey Breault, Dawson Creek, BC
Daleann Brinkman, Sioux Lookout, ON
Claude Bussière, Ottawa, ON
Sarah Chisholm, Victoria, BC
Akisha Caruth, Trinidad & Tobago
Mary Coulter, Ilderton, ON
Amanda Dick, Cochrane, AB
Jennifer Ellison, Calgary, AB
Loretta Erhardt, Togo, SK
Alysha Ferguson, Edmonton, AB
Roaxanne Fitzsimmons, Prince Rupert, BC
Danielle Florio, Sault Ste Marie, ON
David Jelley, Mississauga, ON
Christine Kayembe, Peterborough, ON
Sheri Kressock, Winnipeg, MB
Lisa Kroesbergen, Mt Brydges, ON
Kathleen Lawrence, Burlington, ON
Susan MacGregor, Manitouwadge, ON
Carolyn Maycock, Victoria, BC
Stefanie McBain, Crysler, ON
Debbie McDonald, Winnipeg, MB
Samantha Moir, Thunder Bay, ON
Jason Morris, Calgary, AB
Kelly Myers, Enfield, NS
Ruth Ann Ogilvie, Sebringville, ON
Julie Orton, London, ON
Trisha Raney, Perth Road, ON
Diane Schuster, Winnipeg, MB
Glenda Severin, St. Maarten
Kim Staikos, London, ON
Tanya Stipetic, Newmarket, ON
Euline Thompson, Kitchener, ON
Corinna Tinant, Brandon, MB
Ashley Wright, London, ON
Melissa Zepp, Winnipeg, MB

2012-2013 Faculty

Donna Moralejo, RN, PhD, Course Professor
Heather Candon, BSc, MSc, CIC, Course Coordinator
Jane Van Toen, MLT, BSc, CIC, Course Coordinator
Jill Richmond, BA, RN, BN, CIC, Practicum Coordinator
Tara Leigh Donovan, BHSc, MSc, Instructor
Gail Fisher, MLT, CIC, Instructor
Laura Fraser, RN, BScN, CIC, Instructor
Sue Lafferty, RN, BScN, CIC, Instructor
Cindy O'Neill, MLT, ART, CIC, Instructor
Deb Paton, RN, BScN, CIC, Instructor
Sharon Wilson, RN, BScN, CIC, Instructor
Anne Augustin, MLT, CIC, Facilitator
Lori Jessome-Croteau, RN, BScN, MHS, CIC, Facilitator
Tina Stacey-Works, MLT, CIC, Facilitator
Jill Richmond, BA, RN, BN, CIC, Facilitator

For more information on upcoming course offerings, see CHICA-Canada Educational Opportunities on the CHICA website.

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CIC® certification preparation

CBIC offers free resources to help CHICA members interested in CIC® certification. There are several podcasts and a webinar posted on the CBIC website at *http://www.cbic.org/certification/media* to help in preparation for the CIC® examination.

If you have any questions, please contact the CBIC Executive Office at *info@cbic.org* or 414-918-9796.

New Testing Agency

CBIC has retained Prometric to provide test development and test delivery services for the Certification in Infection Control (CIC®) examination. Prometric is well suited and positioned to assist CBIC in growing the availability of the CIC® exam globally, including more test sites, instant score reporting for international candidates, and the opportunity to translate the exam into other languages. CBIC is confident that the change to Prometric will translate into a better testing experience and customer service for candidates and current certificants. Transition to the new testing agency will be completed by January 1, 2014.

> "CBIC is confident that the change to Prometric will translate into a better testing experience and customer service..."

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:

Individual	$202
Institutional, First Representative	$282
Institutional, Additional Representatives, each	$122
Student Member	$122
Retired Member	$122

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 $30 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 2014 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:
CHICA-Canada Membership Services Office | *chicacanada@mts.net* | Fax: 204-895-9595

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STERIS

Moira Walker Memorial Award for International Service

About the International Service Award

This award honors an individual or group that has demonstrated extraordinary efforts to bring about change or improvement related to infection prevention and control in parts of the world that are under developed or under resourced. The annual award is in honour of Moira Walker, RN, CIC, a Past President of CHICA-Canada and Past Honourary Secretary of the International Federation of Infection Control. Moira's life was dedicated to enhancing the physical and spiritual health of her many friends and colleagues.

Nomination guidelines

- Who is eligible
  Preferred: Current CHICA-Canada members in good standing.
  The award may be presented to individuals, prior nominees, or a group of individuals, but not past award recipients, who have demonstrated international cooperation in the field of infection prevention and control or public health. Fundraising efforts alone will not be sufficient criteria for this award.
- Who may nominate
  Any member of CHICA-Canada may submit a nomination. The CHICA-Canada Board of Directors (the Board) also has discretion to name an award winner in the event nominations do not result in a winner of the award.
  The nomination form is available at *www.chica.org* (Opportunities).
- How to nominate
  A completed nomination form and covering letter outlining the nominee's projects that have resulted in this nomination must be forwarded to the Membership Services Office no later than March 1st of each year.
- Selection process
  The nomination forms and covering letters will be summarized by the Executive Director and forwarded to the Board for review. The Board will select the recipient(s).

Award

A print with a First Nations and Inuit art theme. Award winner(s) will be provided with a complete waived registration (excluding special events) for the national education conference at which the award is presented. In the case of a group award, one representative of the group will be provided a complete waived registration.

NOMINATION DEADLINE: March 1, 2014

Announcement and presentation

The award winner(s) will be advised by May 1 of each year. The award will be presented at the Opening Ceremonies of the CHICA-Canada National Education Conference.

2014 ECOLAB® POSTER CONTEST

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

YOU ARE INVITED to design a poster that will be used for Infection Control Week 2014 using the following theme:

Infection Prevention: Staying ahead of the game

Prize: Waived registration to 2014 IPAC Canada National Education Conference or $500.

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

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

HOST CHAPTER: CHICA Ottawa Region

Send submissions to:
Submissions will only be accepted by email.
chicacanada@mts.net or *chicacanada@mymts.net*

Submission format:
Electronic file in Word or PDF format only.
File size: must print out to 8.5"x11.0" paper
Name, address and telephone number must be included in the covering email. DO NOT include identifiers in the poster submission.

DEADLINE: January 31, 2014

CHICA-CANADA ECOLAB®

2014 Champions of **Infection Prevention and Control**

In collaboration with 3M Canada, CHICA-Canada has developed the prestigious Champions of Infection Prevention and Control Award. Applications are being accepted for the 2014 Champions of Infection Prevention and Control Award. This award will acknowledge the extraordinary accomplishments of the frontline Champions of Infection Prevention and Control. The award will recognize CHICA-Canada members who work beyond what is expected as part of their employment, tirelessly, and creatively, to reduce infection, raise awareness, and improve the health of Canadians. Awards will be presented at the 2014 National Education Conference in Halifax. Award criteria and nomination form will be posted to *www.chica.org* by November 1, 2013. The deadline for 2014 nominations is March 1, 2014.

3M

CHICA-CANADA

Award criteria and nomination form will be posted to *www.chica.org* by November 1, 2013.

A media release is provided to assist with any National Infection Control Week activities that may require a media release in your area. Add the local contact information at the bottom of the release. Available in both French and English. The template can be found at http://www.chica.org/news_icweek.php

NICW **media release**

Pass It On – Infection Control Matters!
National Infection Control Week
October 21-25, 2013

Infection prevention and control programs have been widely recognized to be both clinically effective and cost-effective in preventing and controlling the spread of infections in healthcare settings. Ultimately, the most effective way to prevent the transmission of infection is through hand hygiene and effective environmental cleaning. Everyone can help prevent the spread of infections by being involved, providing input, and initiating change in their own way.

Cleaning your hands is an ordinary procedure and does not take a lot of time and effort. You can use soap and water or alcohol-based hand rub. It takes only 20-30 seconds of your time to clean your hands.

National Infection Control Week will provide infection prevention and control professionals within healthcare facilities and community settings the opportunity to promote the "Pass It On – Infection Control Matters!" theme. Infection prevention and control professionals will be providing multi-modal education and collaborating with other organizations in order to deliver the message that infection prevention and control can be very simple and is most effective when everyone makes the effort.

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

CHICA-Canada is a national, multi-disciplinary, voluntary association of infection prevention and control professionals (ICPs) with 22 chapters across the country dedicated to the health of Canadians by promoting excellence in the practice of infection prevention and control.

Contact the infection prevention and control professional in your hospital, long-term care facility, or community for further information on activities planned for National Infection Control Week. Visit CHICA-Canada's web site (*www.chica.org*) for infection prevention and control information. For additional information:

ADD LOCAL CONTACT INFORMATION _____

_____

CHICA HANDIC

It's a Mystery! was the theme of CHICA-HANDIC's 17th annual Education Day held on May 16, 2013. Cohosting together with Public Health Ontario, we celebrated our event with more than 270 attendees at the beautiful Grand Olympia Banquet Centre, Stoney Creek. Recruited investigators were welcomed to 221B Bakers Street by Chapter President, Mark Jefferson, as they prepared for a day of infectious mysteries!

The first case was presented by Dr. Ross Pennie, renowned Canadian author of medical mysteries and Infectious Disease Physician, who discussed the life experiences that inspired him to write. The theme for this event was chosen in honour of Dr. Pennie and we were so pleased that he was able to join us before his retirement early June. Dr. Pennie, we wish you all the best!

Other spine-tingling cases full of suspense and intrigue were encountered, such as:

- *Mysterious Microbes*, a recount of an outbreak involving laboratory staff told by Dr. William Ciccotelli.
- *Newsworthy Investigations*, an exemplary discussion with Dr. Julie Emili of the challenges faced during last year's influenza season.
- *Unusual Suspects*, a look at case studies involving unusual infectious organisms by Dr. Cheryl Main.
- *Surrounded by Mayhem*, disaster clean-up techniques with a focus on flooding, presented by Jamie Green, Jeff Heidbuurt, Rex Alarcon, and Louis LeTarnec.
- *Gathering Evidence…Solving the Case*, a relevant and timely presentation by Dr. Dominik Mertz, who outlined tools and tips for identifying, containing, and preventing outbreaks across the healthcare continuum.
- To conclude the day, we were joined by motivational speaker Bob Koehler. In a presentation called, *The Investigator's Secret Weapon*, Bob taught us how to get the most out of life and the workplace every day. The message of this heartfelt and inspiring presentation was to "take this job and love it!"

The CHICA-HANDIC membership was thrilled to give our fourth Hygiea Award to a member who has made a significant contribution to the field of infection prevention and control. Congratulations to Virginia Tirilis on a job well done! She will join a prestigious list of previous Hygiea Award winners, including Anne Bialachowski, Risa Cashmore, and May Griffiths-Turner.

Our annual Education Day would not be possible without the inspired commitment of our Education Committee and the support of the CHICA-HANDIC members. Our 2013 conference planning team members were: Andrea Iacurti (Chair), Connie Gittens Webber, Manuela Lopes (new Education Chair), Cheryl Collins, Mark Jefferson, Stacey Guthrie, Virginia Tirilis, Mary Catherine Orvidas, Tamara Johnson, Angela diPietro, and Diane Thornley.

CHICA-HANDIC would also like to thank our industry partners for once again making our annual Education Day a huge success. We look forward to seeing you for another great day in 2014!

Use antibiotics wisely

Antibiotic Awareness Week - November 17 - 23, 2013

ANTIBIOTIC AWARENESS.CA

ASSOCIATION OF MEDICAL MICROBIOLOGY AND INFECTIOUS DISEASE (AMMI) CANADA

CANADIAN ASSOCIATION FOR CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES

CANADIAN FOUNDATION OF INFECTIOUS DISEASES

CANADIAN INSTITUTE OF PUBLIC HEALTH INSPECTORS

CANADIAN PAEDIATRIC SOCIETY

CANADIAN PHARMACISTS ASSOCIATION

CANADIAN PUBLIC HEALTH ASSOCIATION

COMMUNITY AND HOSPITAL INFECTION CONTROL ASSOCIATION

DO BUGS NEED DRUGS

NATIONAL COLLABORATING CENTRE FOR INFECTIOUS DISEASES

2014 National Education Conference

HOST CHAPTER: CHICA NOVA SCOTIA

The Preliminary Program is available at www.chica.org. The registration brochure will be posted and online registration will be launched in December 2013.

HEADQUARTER HOTEL: PRINCE GEORGE HOTEL

Single/Double: $205 plus applicable taxes* (more than two guests in room – additional $20 per person)
Deadline date for reservations: April 21, 2014

For reservations: 1-800-565-1567; Fax: 1-902-420-0202; Or email *pgreservations@princegeorgehotel.com*
To ensure you get the negotiated rate, indicate that you are with the CHICA-Canada conference.
www.princegeorgehotel.com
*2% Halifax Regional Municipality Marketing Levy and 15% HST.

GUEST HOTEL: DELTA BARRINGTON

Single/Double Delta Room: $179.00 plus applicable taxes*
Premium Room:
$204.00 plus applicable taxes*
Deluxe Room:
$219 plus applicable taxes*
More than two guests in a room – an additional $15 per person

For reservations:
1-902-474-5150 or 1-888-423-3582
Or contact Group Reservations at *hal.reservations.sm@deltahotels.com*
To ensure you receive the negotiated rate, indicate that you are with the CHICA-Canada conference.
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CALL FOR ABSTRACTS

Abstracts are to be submitted online through *www.chica.org*. Abstract guidelines are available in the Preliminary Program. Deadline for online submission: February 14, 2014

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Things That Make You Go Hmmmm

If you are a pre-hospital care worker, or an infection prevention and control professional with specific interest in this field, you probably have questions or have encountered situations that make you go "Hmmmm." Send your question(s) or situation(s) to CHICA-Canada by May 1, 2014 and it may be used in this interactive session. One submission will win a complimentary registration to the 2015 National Education Conference.

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Routine Practices for Infection Prevention & Control E-Learning Modules updated for 2013

Who should participate: Paramedics, Nurses, Physicians, Patient Care Attendants, Physiotherapists, Occupational Therapists, Respiratory Therapists, Phlebotomists, Diagnostic Imaging Technologists, Environmental Services Sta , Home Care Personnel, Dietary Staff, Social Workers, Pastoral Services, Unit Clerks, Office Staff, Laundry Personnel and Pharmacy Staff

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

Health Care 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.

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☐	☐	PC9	The Interface of Antibiotic Stewardship and IPAC

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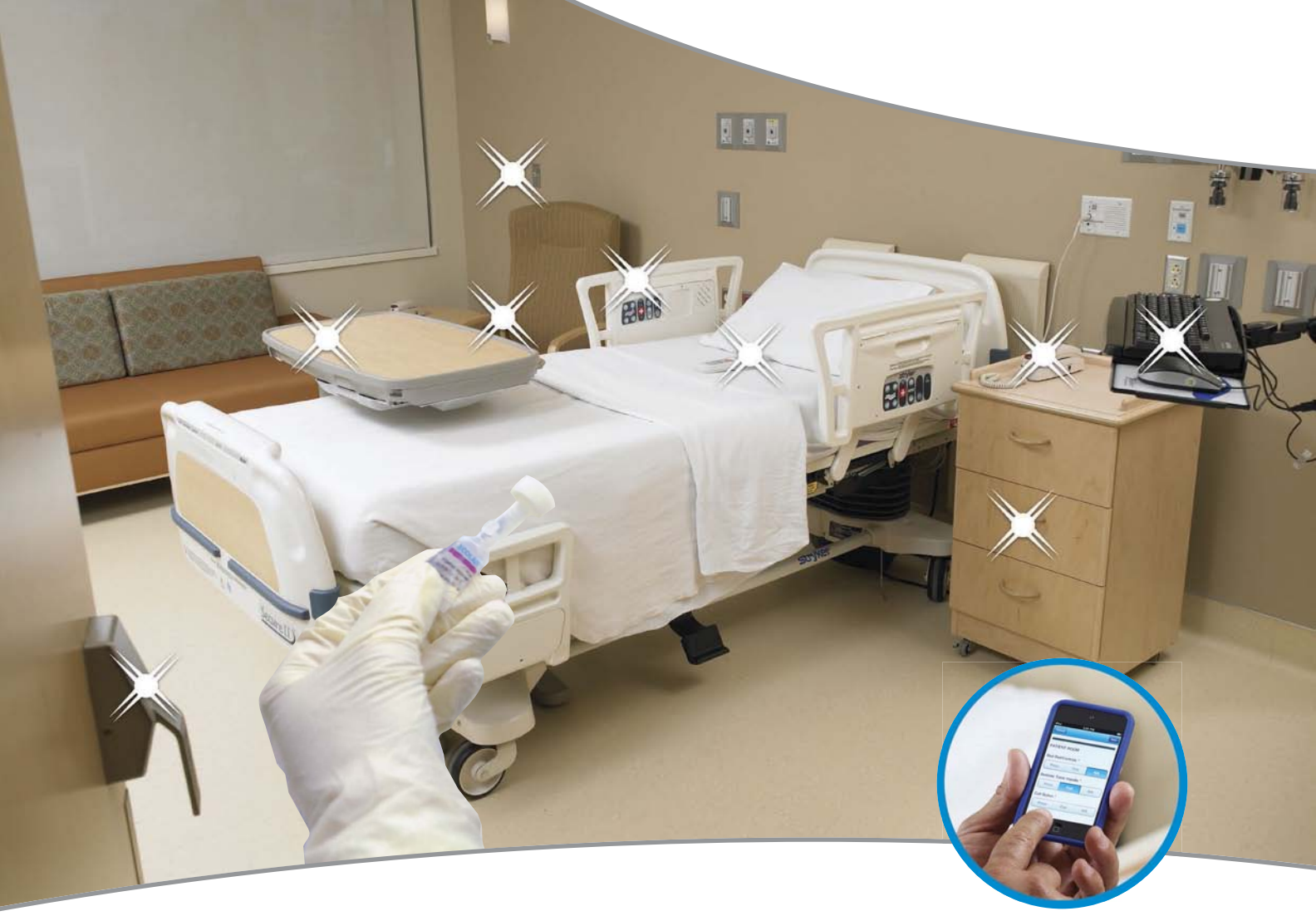

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