

Vol. 21 No. 1
Spring 2006



INSIDE:

Core competencies for
healthcare workers: a
consensus document

Bridging Global
Partnerships – Education
Conference 2006

**The Canadian Journal of
Infection Control**

**Revue canadienne de
prévention des infections**

Publications Mail Agreement # 40065075
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Association pour la prévention des infections à l'hôpital et dans la communauté – Canada*

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VISION

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

MISSION

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

The Canadian Journal of Infection Control is the official publication of the Community and Hospital Infection Control Association (CHICA)-Canada. The Journal is published four times a year by Craig Kelman & Associates, Ltd. and is printed in Canada on recycled paper. Circulation 3000.

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The views expressed in this publication are not necessarily those of the publisher.

ISSN - 1183 - 5702

Indexed/abstracted by the Cumulative Index to Nursing and Allied Health Literature, SilverPlatter Information Inc. and the International Nursing Index (available on MEDLINE through NLM MEDLARS system).

The Canadian Journal of Infection Control is a "Canadian periodical" as defined by section 19 of the *Canadian Income Tax Act*. The deduction of advertising costs for advertising in this periodical is therefore not restricted.

SUBSCRIPTIONS

Subscriptions are available from the publisher at the following rates:
 All Canadian prices include GST. Prices are listed as personal/institutional.
 Canada: \$30/\$38 (GST # 100761253); USA (in US funds): \$28/\$36;
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Pat Piaskowski RN, HBSn, CIC
Clinical Editor,
*Canadian Journal of
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Thirty years of excellence

Congratulations to the past and present CHICA-Canada, board members and chapter members, for achieving 30 years of excellence in infection prevention and control and to Southwestern Ontario Professionals in Infection Control (SOPIC) for 25 years of success !

Our website www.chica.org describes CHICA-Canada as ‘a national, multi-disciplinary, voluntary association of Infection Control Professionals (ICPs) committed to improving the health of Canadians by promoting excellence in the practice of infection prevention and control.’

In review of the past 30 years, we have many examples of how this description has been brought to life. I am sure that our archivist, Mary LeBlanc, along with many of our long time and honorary members can relate many

vivid examples of the progress that has been made by CHICA -Canada. Every year our annual report recounts the numerous, innovative and exciting changes in our field and in our organization. These annual reports and our annual meeting are truly a time to recount the past and to honour the many individuals and groups who have contributed to this success. Our membership services office, website, awards and poster contests, growing list of interest groups, Sudsy, our many educational tools, regional chapter educational offerings, conferences and international collaboration are all examples of our successes.

We have all worked hard, individually and collectively to achieve our success and have built a strong foundation for the future of infection prevention and control in Canada and the world. ●

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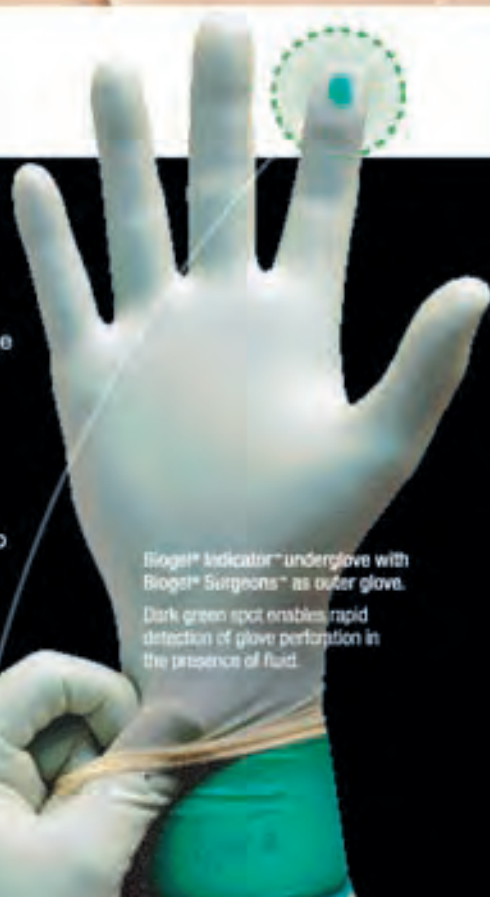
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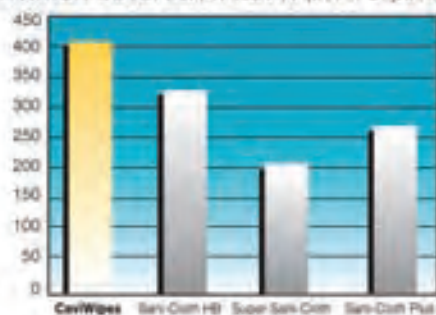
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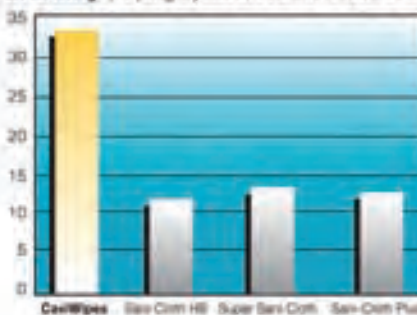
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Karen Hope

Building the future on a strong foundation

As I begin my term with a sense of anticipation and just a little nervousness, I am reminded that while I may be taking over the reins as President for 2006, in reality I am just a temporary steward of this dynamic organization known as CHICA-Canada. It is the thousand plus members of the organization that provide the momentum to keep our profession responsive to the challenges of a constantly evolving health care system and establish our role as experts in the field of infection prevention and control. The grassroots work done by these countless, often unrecognized

members, is the foundation of CHICA-Canada.

During my year as President-Elect, I had the opportunity to liaise with some of these industrious members, chiefly those that lead and participate in the Interest Groups. These groups continue to expand in scope and membership, and provide essential venues of support and communication for ICPs. The Hemodialysis Interest Group recently published a special report in the Fall 2005 issue of the Journal, outlining the results of a survey they conducted identifying infection control practices in hemodialysis units across the country. New interest groups have also been created, reflecting the changes in health care delivery and the subsequent expanded scope of our profession. This past year, three new interest groups formed: 1) prehospital; 2) mental

health; and 3) construction and design.

I am sure to some members it may seem that participating on a standing committee amounts to nothing more than reciting a report at a chapter meeting, however, while progress may be slow, it does occur. I am sure that members of the Government and Public Affairs Committee never thought there would be any resolution to the longstanding issues around accreditation and patient safety; however, persistent efforts have led to the recent development of a Memorandum of Understanding between the Canadian Council of Health Care Services Accreditation (CCHSA), the Canadian Patient Safety Institute (CPSI), the Public Health Agency of Canada (PHAC) and CHICA-Canada. The ultimate outcome of such a partnership is still uncertain, however initial developments are extremely positive and steps have already been taken to discuss a new Infection Prevention and Control standard within CCHSA, following a meeting held on November 4, 2005.

Fundraising efforts by the membership, and led via the Education Committee for the development of a novice ICP training program, came to fruition when the online Basic Infection Control course was piloted last fall through the University of Calgary. This year's goals will include exploring how to increase access to the course through additional venues, thus ensuring those increased numbers of practitioners required as part of any new IPC accreditation standard will be adequately prepared.

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continued on page 13



Karen Hope

J'entrepris mon terme avec anticipation et un peu de trépidation. Je suis peut-être présidente pour 2006, mais je ne suis en fait qu'un intendant de cette dynamique organisation qu'est CHICA-Canada. Ce sont les membres de cette organisation qui lui donnent l'impulsion nécessaire pour garder notre profession prête à relever les défis d'un système de soins de la santé en constante évolution et pour établir notre rôle en tant qu'experts dans le domaine de la prévention des infections. Le travail à la base accompli par ces nombreux membres, souvent sans reconnaissance, est la pierre d'assise de CHICA-Canada.

Au cours de mes années en tant que présidente désignée, j'ai eu l'occasion de rencontrer ces membres, notamment ceux des groupes d'intérêt. Ces groupes continuent à prendre de l'ampleur et offrent un lieu de soutien et de communication essentiel aux professionnels aux prises avec des préoccupations communes. Souvent, ils vont au-delà du réseautage et mettent au point des directives et des prises de position qui aident tous les professionnels au quotidien. Le groupe de l'hémodialyse a publié, par exemple, un rapport spécial dans le numéro d'automne 2005 du Journal qui révélait les résultats d'une enquête sur les mesures de prévention des infections dans les services d'hémodialyse à travers le Canada. De nouveaux groupes ont été créés, reflé-

Ériger l'avenir sur des fondations solides

tant les changements dans la livraison des soins de la santé et l'expansion de notre profession. Cette année, trois nouveaux groupes d'intérêt ont été formés soient 1) soins préhospitaliers; 2) santé mentale et 3) construction et conception. À en juger par le niveau d'enthousiasme des réunions inaugurales tenues à la conférence de Winnipeg en 2005, je ne peux douter des réalisations à venir de ces groupes au cours des prochaines années!

Pour certains membres, la participation à un comité permanent peut sembler se limiter à réciter un rapport aux réunions. Si le progrès semble lent, il survient tout de même. Je suis certaine que les membres du comité d'affaires publiques et gouvernementales n'ont jamais cru que les questions de certification et de sécurité des patients seraient résolues, mais leur persistance a mené à la signature d'une entente

entre le Conseil canadien d'agrément des services de santé, l'Institut canadien pour la sécurité des patients, le Service de santé public du Canada et CHICA-Canada. Les retombées d'un tel partenariat sont encore incertaines mais à première vue, elles semblent très positives et des mesures ont été prises afin de discuter de nouvelles normes de prévention des infections au sein du Conseil, à la suite d'une réunion tenue le 4 novembre 2005.

Les activités de collecte de fonds auprès des membres dirigées par le comité de formation pour la création d'un programme de formation de base sur la prévention des infections ont mené au projet pilote de cours en ligne par l'Université de Calgary l'automne dernier. L'objectif de cette année est de rendre le cours plus accessible sous


suit à la page 13

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Joanne Laalo

Representing our members

I was very excited to attend my first CHICA-Canada board meeting in November 2005 and would like to thank the board for their warm welcome. Throughout the meetings over several days, it became apparent that the board works very hard to represent the interests of CHICA-Canada members while keeping the CHICA-Canada vision and strategic goals in sight. I would like to share the highlights from the board meeting with all of you.

- Due to the hard work of Dr. Zoutman and several CHICA board members the evolving partnership with both CPSI and CCHSA looks to CHICA as the content expert leader for infection control.
- CHICA members asked for a more user friendly website, so look for a new, improved CHICA website in the upcoming months.

- An infection control audit kit is now available on the CHICA website at a lower 'recovery' cost for CHICA members versus non-members.
- Dr. Zoutman participated in excess of 100 media interviews in 2004-2005. CHICA-Canada's profile continues to increase with a steady flow of media requests received at the Membership services office (MSO).
- Look for the new CHICA-Canada chapter- based consensus document of core competencies in infection prevention and control for health care workers published in this edition of the journal.

I look forward to seeing everyone at the 2006 National Education Conference 'Bridging Global Partnerships' in London. ●



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CHICA – Eastern Ontario

Our chapter held its first meeting this year in February at the Providence Continuing Care Centre in Kingston, hosted by this year's president, Jim Gauthier. The afternoon educational component was a presentation from CHICA – EO member Kathleen Poole (ICP PCCC) titled *Outbreaks, Ill Staff and the OH&S Act*.

We would like to congratulate CHICA – EO member Janet Allen who recently accepted the position as Co-coordinator for the Southeastern Ontario Infection Control Network. Janet has always demonstrated strong leadership skills and will be an invaluable asset to our region in her new role.

The planning committee for our CHICA – Eastern Ontario Regional Conference scheduled for September 27 and 28, 2006 at Days Inn & Convention Centre Kingston, has been busy. The conference theme is **Infection Prevention – Planning for Tomorrow** and includes concurrent evening workshops on Wednesday, September 27 as well as a full day conference and exhibitors on Thursday, September 28.

Evening workshop sessions include *Topics for the Novice ICP* and *CIC Exam Preparation*. Cost for the evening sessions is \$30 and the full conference fee is \$80. For more information about the conference or exhibiting please contact Carol Whyman (whyman@kingston.net). Conference Vice-chair/registrar is Shirley McDonald (pbhg@kos.ca) and Program committee chair is Janet Allen (jake34allen@sympatico.ca). Also, as details start to fall into place our website will be updated.

As this is CHICA – EO's 20th anniversary we are looking forward to sending a large delegation of members to London for the national conference to join in the festivities there.

CHICA – Northern Alberta

The year 2005 continued to be one of growth and development. In addition to dynamic discussions and education sessions by members of the group, 12 members were able to attend the National Conference in Winnipeg. By year's end we saw the chapter grow to 65 members from 56, surpassing our goal to increase by 10%.

We are exploring the ability to teleconference our regular meetings and education sessions in order to

communicate and support those working in the farther reaches of northern Alberta.

Currently, we have various members participating in regional, provincial, and national initiatives and working groups such as Regional Pandemic Planning and Respiratory Etiquette committees. Members also participated in the Alberta Smallpox Emergency Response and MRSA Working Groups, Alberta CMRSA Outbreak Investigation Committee, Health Canada Scientific Advisory Panel of Reprocessing of Medical Devices, and Canadian Standards Association Sterilization Standards Technical Committee.

We are very much looking forward to 2006 with a revisited TOR and strategic plan in place, and an exciting educational program shaping up. A working group has begun planning for the biennial education day(s) to be held in the spring of 2007.

CHICA HANDIC

CHICA HANDIC has had a busy and dynamic year. We have shared infection prevention and control expertise with our partners and communities and continue to promote excellence in infection prevention and control practices across the healthcare continuum.

Our 2005 annual education day with the theme of *Staying Alive* was a resounding success with 250 attendees. Speakers addressed issues such as *Clostridium difficile* and core infection prevention and control competencies for healthcare workers.

This year's conference will be held on June 15, 2006 at Liuna Station in Hamilton. Details will be available on the CHICA HANDIC web page located on the CHICA-Canada website: <http://www.chica.org>.

Several members of CHICA HANDIC were appointed to the new Provincial Infectious Diseases Advisory Committee (PIDAC) and subcommittees in the fall of 2004. They have been involved with the many Ministry of Health and Long

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Term Care (MOHLTC) initiatives to strengthen infection prevention and control in the province of Ontario.

One such initiative is the creation of Regional Infection Control Networks. Four regions, including the Hamilton, Niagara, Haldimand and Brant region, submitted proposals for a network and were approved to move forward in the spring of 2005. Members of CHICA HANDIC participated in the working group to develop the proposal for the Central South Infection Control Network (CSICN). The CSICN appreciates CHICA HANDIC's assistance with information sharing and support of infection control professionals (ICP).

Members from the Niagara region planned and initiated The Infection Prevention Journal Club. The journal club is open to all health care professionals who are interested in educational sessions focused on the current literature regarding infectious diseases, their control and prevention. Persons interested in participating should contact Carla Feltrin by email: cfeltrin@niagarahealth.on.ca

Members from the long-term care sector have organized a long-term care infection control sub-committee for the Hamilton Infection Prevention and Control Committee, The Hamilton Long-Term Care Homes Infection Prevention and Control Sub-Committee will facilitate integration of new guidelines and allow for standardization of infection prevention and control practices. This group would like to expand to include long-term care providers throughout the region. For additional information please contact Cheryl Collins by email: ccollin@hamilton.ca

CHICA HANDIC looks forward to a great year in 2006. Our focus for the upcoming two years will be on the further development of chapter programs and activities to support our membership in the demanding field of infection prevention and control.

PRESIDENT'S MESSAGE

continued from page 8

Programs and Projects Committee has also been busy, investigating collaborative relationships with industry partners to enhance CHICA-Canada's profile and ensure that we remain a highly visible and fiscally viable organization. The Membership Committee continues to develop innovative strategies that ensure CHICA-Canada's sustainability and growth.

So, as we eagerly look forward to the 2006 CHICA-Canada Educational Conference in London, Ontario, proudly organized and hosted by SOPIC, I tip my hat to all members, past and present, who have brought the organization to this juncture, and challenge you during our 30th anniversary year and beyond to continue your strong support for CHICA-Canada through participation in any number of activities. Submit an article to the Journal, participate in the annual poster contest, join an interest group, run for an executive office, ●

MESSAGE DE LA PRÉSIDENTE

suit de la page 9

d'autres formes afin de s'assurer que les nouveaux praticiens requis seront bien préparés à la nouvelle norme de certification.

Le comité des programmes et des projets n'a pas chômé non plus, recherchant des alliances de collaboration avec des partenaires du secteur afin de rehausser l'image de CHICA-Canada et de s'assurer de notre présence et de la viabilité financière de notre organisation. Le comité des membres continue à mettre au point des stratégies novatrices pour assurer notre viabilité et notre croissance.

Nous anticipons la conférence 2006 CHICA-Canada qui se tiendra à London, Ontario, organisée par SOPIC. Je lève mon chapeau à tous les membres, anciens et actuels, qui ont mené l'organisme à ce point de son évolution et je vous invite à faire preuve d'un solide soutien à CHICA-Canada en ce 30^e anniversaire en participant à nos activités. Soumettez un article au Journal, participez à notre concours annuel d'affiches, joignez-vous à un groupe d'intérêt, posez votre candidature à un poste exécutif,



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Official Opening Ceremonies, London Convention Centre – Sunday, May 7 - 5:00 pm – 6:30 pm - ALL WELCOME
Guest Speaker: Sheela Basrur MD, MHSc, FRCPC – Chief Medical Officer of Health and Assistant Deputy Minister, Public Health Division, Ministry of Health and Long Term Care, Ontario

Official Opening of Exhibits, London Convention Centre – Sunday, May 7 - 6:30 pm - ALL WELCOME

President's Reception, Exhibit Hall, London Convention Centre – Sunday, May 7 - 6:30 pm – 8:30 pm - ALL WELCOME
 Cash Bar; Hors d'oeuvres



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- Idlewyld Inn – 519-433-2891

Saturday, May 6

Fundamentals in Infection Prevention and Control For the Novice ICP

(These sessions are recommended for ICPs with less than three years' experience.)

- 7:00 – 9:00 am Registration and Coffee
9:00 – 9:10 am Welcome by Conference Chairs and President of CHICA-Canada
9:10 – 9:45 am **A Day in the Life of an ICP: Got your runners on?**
Jim Gauthier MLT CIC, Providence Continuing Care Centre, Kingston, Ontario
The Novice ICP will get a 'feel' for multitasking and gain a better understanding of listening. A humorous session and fast-paced snapshot of a day in the life of an ICP.
- 9:45 – 10:30 am **The Infection Control Programme – The Nuts and Bolts**
Elizabeth VanHorne RN CIC, Ministry of Health and Long Term Care, Toronto, Ontario
Participants will understand the mandate of the infection prevention and control (IPAC) programs, and the scope of practice for ICPs. We will identify the primary components, goals, priorities, and strategies of a great Infection Control Program, including surveillance, policy and procedure development, consultation, education and research
- 10:30 – 10:45 am Refreshment Break and Networking
10:45 – 11:30 am **Breaking the Chain...Are you the Missing Link?**
Anne Bialachowski RN BN CIC, Hamilton Health Sciences Corporation, Hamilton, Ontario
The principles of the chain of infection will be identified, with a review of routine practices and additional precautions. Selection and application of personal protective equipment, and options in hand hygiene practices will be discussed.
- 11:30 – 12:30 am **Taking the Mystery Out of Chemical Disinfection**
Nicole Kenny, Virox Technologies Inc.
This session will focus on the differences between cleaning, sanitizing, and disinfection; identifying the various cleaning and disinfecting chemistries on the market; and understanding their strengths and weaknesses. Participants will gain the knowledge of being able to choose the ideal disinfectant required for the task at hand, based on the traits of the disinfectant.
- 12:30 – 1:30 pm Lunch and Networking (light lunch provided)
1:30 – 2:30 pm **Surveillance – The Epidemiology of Your Institution**
Lisa Landry BSc, Public Health Agency of Canada, Toronto, Ontario
Participants will come to understand the language of surveillance, identify goals, objectives, components and processes of surveillance, and learn the value of planning and clear communication. The pitfalls and perils of surveillance will also be discussed.
- 2:30 – 3:30 pm **Outbreak Management and Control for the New ICP – It's Not Always in the Book**
Grace Volkening MLT CIC, Southlake Regional Health Centre, Newmarket, Ontario
The components of an Outbreak using consistent definition will be defined, along with identifying key members to bring together. Strategies will be discussed on how to bring an outbreak to quick resolution.
- 3:30 – 4:00 pm **Building Your Bridges – Accessing all of the Resources**
Clare Barry BN MSc CIC, Public Health Division, Ontario Ministry of Health and Long Term Care
This session will identify key national and international resources for learning, and describe the Public Health Agency of Canada as an Infection Prevention and Control resource. You will learn the value of professional networking, and learn of key literature and e-learning sites for expert Infection Prevention and Control information.

Education Sessions & Objectives

Session times and locations to be confirmed in the final program. The language of the conference is English.

Sunday, May 7: Pre-Conference Day
London Convention Centre

ALL DAY SESSION – 8:00 am-4:00 pm
CURRENT ISSUES IN STERILIZATION AND DISINFECTION

- 7:00-5:00 pm Registration
7:00-7:45 am Continental Breakfast
8:00-8:10 am Welcome by Conference Chairs
8:10-8:45 am **Sterilization and Disinfection-Background and Emerging Issues** – Michelle Alfa PhD FCCM, Assistant Director, Microbiology Laboratory, St. Boniface General Hospital, Winnipeg

- 8:45-10:00 am **Reprocessing and the Canadian Standards** – Colleen Landers RN, Landers Consulting, Timmins
10:00-10:30 am Refreshment Break/Networking
10:30-11:15 am **Sterilization and Flash Sterilization** – Colleen Landers RN, Landers Consulting, Timmins
11:15-12:00 pm **High Level Disinfection and Biofilm Issues** – Michelle Alfa PhD FCCM, Assistant Director, Microbiology Laboratory, St. Boniface General Hospital, Winnipeg
12:00-1:00 pm Lunch Break/Networking (light lunch served)
(Note: Registrants for the afternoon half day sessions will be provided with lunch at 11:00 am)
1:00-2:00 pm **Recent Trends in High Level Disinfection: Are Oxidizers the Way of the Future** – Syed Sattar PhD, Centre for Research on Environmental Microbiology, University of Ottawa

- 2:00-3:15 pm **Sterilization Audits-Strategic Planning** – Clare Barry BN MSc CIC, Public Health Division, Ontario Ministry of Health, Long Term Care
- 3:15-3:45 pm Refreshment Break/Networking
- 3:45-4:15 pm **Sterilization Issues Across Canada-What to do when processes fail** – Michelle Alfa PhD FCCM, St. Boniface General Hospital, Winnipeg, Manitoba; Clare Barry BN MSc CIC, Public Health Division, Ministry of Health and Long Term Care, Ontario; Frédéric Bergeron RN BScN, Public Health Agency of Canada

Sunday, May 7: Pre-Conference Day
London Convention Centre

Afternoon CONCURRENT Sessions-12:00-4:00 pm

1. Issues in Long Term Care (12:00-4:00 pm)

- 11:00-11:45 am Registration and Light lunch (*Afternoon attendees only*)
- 12:00-1:00 pm **Pandemic Influenza Planning in Long Term Care: Are you ready?** – Mary Vearncombe MD FRCP, Epidemiologist, Sunnybrook/Women's College HSC, Toronto
- 1:00-2:00 pm **Legionella in a Long Term Care Facility-Toronto, Ontario** – Marjolin Pritchard CIPH(C) BAA MHSc, Toronto Public Health
- 2:00-2:30 pm Refreshment Break/Networking
- 2:30-3:15 pm **Survey of Infection Control Resources in Long Term Care** – Dick Zoutman MD FRCP, Medical Director, Infection Control Service, Kingston General Hospital, Kingston
- 3:15-4:00 pm **Prioritizing Resources in Long Term Care** – Jim Gauthier MLT CIC, Infection Control Services, Providence Continuing Care Centre, Kingston

CHICA-Canada Opening Ceremonies and Awards

London Convention Centre Sunday
May 7, 5:00 pm-6:30 pm – ALL WELCOME

Awards to be presented or acknowledged:

- 2006 Awards of Merit
- 2006 Virox Scholarship
- 2006 3M Research Grant
- CBIC Chapter Achievement Award
- 2006 Poster Contest Winner
- 2006 3M Chapter Achievement Award

Guest Speaker: Sheela Basrur MD MHSc FRCP, Chief Medical Officer of Health and Assistant Deputy Minister, Public Health Division, Ministry of Health and Long Term Care, Ontario

Dr. Sheela Basrur was appointed the Province of Ontario's Chief Medical Officer of Health and Assistant Deputy Minister of Public Health in February 2004. In her role, Dr. Basrur develops more effective health promotion strategies and programs, to deliver measurable results. Prior to joining the government at the provincial level, Dr. Basrur served as the Medical Officer of Health for the City of Toronto, one of the largest public health bodies in North America. Dr. Basrur was the first Medical Officer of Health in the amalgamated City of Toronto and led an organization of 1,800 staff committed to disease prevention and health promotion.

Her leadership and expertise on behalf of the City of Toronto during the SARS crisis is well known. Dr. Basrur's skilled handling of this infectious disease earned her the respect of not only her public health colleagues here in Ontario, but also across North America and around the world.

Afternoon CONCURRENT Sessions-12:00-4:00 pm

2. Dialysis Education (12:00-4:00 pm)

- 11:00-11:45 am Registration and Light lunch (*Afternoon attendees only*)
- 12:00-1:00 pm **Preventing Transmission of Bloodborne Pathogens in Hemodialysis Patients** – Edwin Tofflemire MD FRCP, Chief of Nephrology, Kingston General Hospital

- 1:00-2:00 pm **A Closer Look at the Hemodialysis Machine** – David DeMelo CDP, Biomedical Engineering, London Health Sciences Centre
- Water Management Systems and Dialysis Units** – Bradley Witmer, Biomedical Engineering, London Health Sciences Centre
- 2:00-2:30 pm Refreshment Break/Networking
- 2:30-3:15 pm **Prevention of Catheter Related Infection** – Charmaine Lok MD FRCP(C), Division of Nephrology, Toronto General Hospital
- 3:15-4:00 pm **Vascular Access in Hemodialysis** – Bonnie Thompson RN, Renal Care Program, London Health Sciences Centre

Monday, May 8
London Convention Centre

- 7:00-5:00 pm Registration (7:00-8:00 am-Continental Breakfast)
- 8:15-8:30 am Welcome from Conference Chairs
- 8:30-9:30 am **KEYNOTE SPEAKER** – Stephen Lewis, Former Canadian Ambassador to the UN and Special Envoy for HIV/AIDS in Africa

Stephen Lewis, Former Canadian Ambassador to the U.N., and Special Envoy for HIV/AIDS in Africa.

On June 01, 2001, UN Secretary-General Kofi Annan appointed Stephen Lewis as his Special Envoy for HIV/AIDS in Africa. Mr. Lewis' work with the UN has shaped the past two decades of his career. From 1995 to 1999, Mr. Lewis was Deputy Executive Director of UNICEF at the organization's global headquarters in New York. He was first appointed as Special Representative for UNICEF in 1990. In that capacity, he spoke and travelled regularly, acting as a spokesperson for UNICEF's passionate advocacy of the rights and needs of children, especially children of the developing world. In 1997, in addition to his work at UNICEF, Mr. Lewis was appointed by the Organization of African Unity to a Panel of Eminent Personalities to Investigate the Genocide in Rwanda. The 'Rwanda Report' was issued in June of 2000. In 1993, he became coordinator for the international study-known as the Graca Machel study-on the "consequences of Armed Conflict on Children". The report was tabled in the United Nations in 1995. From 1984 through 1988, Stephen Lewis was Canadian Ambassador to the United Nations. In this capacity, he chaired the committee that drafted the Five-Year UN Programme on African Economic Recovery. He also chaired the first International Conference on Climate Change, which drew up the first comprehensive policy on global warming. Prior to his nomination as Ambassador, Mr. Lewis was a noted radio and television commentator, and during this time he also became a prominent labour relations arbitrator. In the 1960s and 1970s, Stephen Lewis was an elected representative to the Ontario Legislature, becoming leader of the New Democratic Party and leader of the Official Opposition. Mr. Lewis holds 18 honorary degrees from Canadian universities. In 2003, he was appointed a Companion of the Order of Canada, Canada's highest honour for lifetime achievement.

- 9:30-10:00 am Refreshment Break in Exhibit Hall
- 10:00-11:00 am **Current issues within the Public Health Agency of Canada** – Shirley Paton MN, Chief, Nosocomial and Occupational Infections, Public Health Agency of Canada
- 11:00-12:00 pm **Late Breaking News-Approach du jour or Holy Grail – is social marketing the solution to changing hand hygiene behaviour?** – Gabrielle Teague, Joint Director, cleanyourhands campaign, National Patient Safety Agency, UK
- 12:00-2:00 pm Lunch in Exhibit Hall-Exhibits, Poster Presentations

2:00-3:00 pm **Influenza Pandemic Planning-Making inroads on a complex landscape** – Moderator: Susan Tamblin MD DPH FRCPC, Co-Chair, Ontario Pandemic Influenza Health Steering Committee; Chair, National Antiviral Working Group – Michael Gardam MD FRCPC, Director, Infection Prevention and Control, University Health Network, Toronto – Theresa Tam MB BS(UK) FRCPC FAAP, Associate Director, Infectious Diseases, Public Health Agency of Canada

3:00-4:00 pm **ORAL PRESENTATIONS**

4:00-4:15 pm Refreshment Break in Exhibit Hall

4:15-4:45 pm **CONCURRENT SESSIONS**

1. Vaccination Programs in Long Term Care – Allison McGeer MD MSc FRCPC, Director, Infection Control, Mount Sinai Hospital, Toronto

2. Travel Medicine for the International Relief Worker – W. David Colby MSc MD FRCPC, Director of Travel Medicine, Middlesex-London Health Unit

3. Hepatitis A Outbreak in the Community – Is Post-exposure Immunization Effective? Bryna Warshawsky MDCM MHSc CCFP FRCPC, Associate Medical Officer of Health, Middlesex-London Health Unit

4. Peer Vaccination Program for Staff – Wendy Reed BScPT, Director, Occupational Health, St. Joseph's Health Centre, London; Heather Newman RN COHN(C), Occupational Health, St. Joseph's Health Centre, London

5:00-6:00 pm **PLENARY SESSION**

Impact of Outbreaks on Health Care Workers – Bonnie Henry MD MPH FRCPC, Physician Epidemiologist, British Columbia Centre for Disease Control; Robert Maunder MD FRCPC, Head, the Integrated Medicine Project, Mount Sinai Hospital, Toronto; Barbara Switzer RN BScN MHN, Emergency Planning Co-ordinator, Public Health Agency, Toronto

Tuesday, May 9
London Convention Centre

7:00-5:00 pm Registration

7:00-8:15 am **Strut Your Stuff! Breakfast** – Dick Zoutman MD FRCPC, Kingston General Hospital, Kingston / CHICA-Canada Physician Director

8:30- 9:30 am **Great Expectations: Increasing effectiveness and efficiency in IC Programs** – Denise Murphy RN BSN MPH CIC, Vice President, Safety and Quality/Chief Pt. Safety and Quality Officer, Barnes-Jewish Hospital at Washington University Medical Center, St. Louis, Missouri

9:30-10:00 am Refreshment Break in Exhibit Hall

10:00-11:00 am **ARO SYMPOSIUM**

International Perspective on Resistance – Ulrika Ransjo MD PhD, Director, Infection Control, Uppsala University Hospital, Sweden

Canadian Perspective: Canadian Council on Antibiotic Resistance – Jim Hutchinson MD FRCPC, Medical Microbiologist, Health Care Corporation of St. John's

11:15-12:00 pm **CONCURRENT SESSIONS**

1. An Outbreak of MRSA in a Complex Continuing Care Hospital – Jim Gauthier MLT CIC, Infection Control Services, Providence Continuing Care Centre, Kingston

2. Community Acquired MRSA – Jim Hutchinson MD FRCPC, Medical Microbiologist, Health Care Corporation of St. John's

3. Antibiotic Resistance "From Farm to Fork" (CIPARS)/National Enhanced Surveillance for S. Newport – Kathryn Doré MHSc, Senior Epidemiologist, Surveillance Section, Public Health Agency of Canada; Nadia Ciampa BSc MHSc, Epidemiologist, Surveillance Section, Public Health Agency of Canada

12:00-2:00 pm Lunch in Exhibit Hall-Exhibits, Poster Presentations (Exhibits close at 3:00 pm)

2:00-2:45 pm **ORAL PRESENTATIONS**

3:00-4:00 pm **PLENARY SESSION**

Patient Safety-Canadian Patient Safety Institute Infection Control and Safer Health Care Now Initiatives – Phil Hassen MPH FCCHSE, Chief Executive Officer, Canadian Patient Safety Institute

4:15-5:00 pm **CONCURRENT SESSIONS**

1. The Changing Environment for Sharps Safety – Gavin Morcom, Director, Advanced Protection Technologies, BD

2. Finding the balance when applying precautions in Long Term Care – Shirley Paton MN, Chief, Nosocomial and Occupational Infections, Public Health Agency of Canada

3. Managing Physicians and HCW with Blood Borne Pathogens: The London Experience – Michael John MSc MB ChB FRCPC, Section Head, Infection Control, London Health Sciences Centre

4. TB Outbreak in Homeless Shelters – Elizabeth Rea MD MSc FRCPC, Assistant Professor, Associate Medical Officer of Health, Toronto Public Health Department

Wednesday, May 10
London Convention Centre

7:00-12 noon Registration

7:15-8:30 am **CHICA-CANADA ANNUAL GENERAL MEETING AND TOWN HALL** Breakfast included - ALL WELCOME – *CHICA-Canada Members must pick up voting card at entrance*

8:45-9:30 am **Clostridium difficile-Every Which Way and Loose** – Mark Miller MD FRCPC, Chair, Infection Control, SMBD-Jewish General Hospital, Montreal

9:30-10:00 am **Surveillance for Clostridium difficile-associated diarrhea with Acute-Care Institution Project, Canadian Nosocomial Infection Surveillance Program** – Denise Gravel Tropper BScN MSc CIC, Senior Epidemiologist, Public Health Agency of Canada

10:00-10:15am Refreshment Break

10:15-11:15 am **CLINICAL VIGNETTES: A Multi-Drug Resistant Tuberculosis Care-The Impact Across the Continuum of Care**

11:15-12:00 pm **Jeopardy Game** – Edwige deSouza BSc, Infection Control Practitioner, McGill University Health Centre, Montreal

12:00-12:30 pm **CLOSING CEREMONIES**

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BLACK AND SILVER BALL

Tuesday, May 9, 2006, 6:30 pm – Cocktails (cash bar)
7:15 pm – 10:00 pm – Dinner, Entertainment, Dancing
\$75.00 per person (not included in registration)
Dress: “Black and/or Silver (optional)”
Cocktail Dress, Business Suit



(Deadline for Ticket Purchase: Monday, May 8 – NOON)

DENISE PELLEY QUARTET With the Fred Astaire Dancers

Denise Pelley has performed with orchestras as far afield as Portugal and Germany. But it was her debut Jazz CD “Trust the Moment”, recorded in 1998 that brought her to the attention of jazz lovers across Canada. Born in Guysborough, Nova Scotia and raised in London, Ontario, Denise began to sing professionally as a teenager when she auditioned for pop band The Sounds of Karisma and spent the next two years touring. But the jazz artists she listened to growing up, Nancy Wilson, Ella Fitzgerald, Carmen McCrae, Billie Holliday, Mel Torme and Nat King Cole to name a few, drove her to develop a rapport with the jazz idiom that has now become second nature. Denise also performs gospel, blues, rhythm and blues and pop music. Last year she opened for Aretha Franklin at the John Labatt Centre in London, Ontario.

Denise enjoys performing with symphony orchestras and is a regular with the London Jeans 'n Classics series. On the festival circuit she has performed at the du Maurier Downtown Jazz Festival (Toronto), Ottawa Jazz Festival, The Royal Canadian Big Band Festival (London), Bluesfest (London), International Beaches Jazz Festival (Toronto), Waterloo Jazz Festival, and Sunfest (London) among others.

In 2003 Denise was honoured with being a recipient of the Queen's Golden Jubilee Medal, was named a YM-YWCA Woman of Distinction in the Arts and Heritage category. She won best jazz artist in London, Ontario's Music Awards in 2002 and 2003.

SOPIC CHAPTER CELEBRATES 25TH ANNIVERSARY!

Saturday, May 6

- Hilton London, 3:30 pm – 6:30 pm
- *Hustle* on over for a *Boogie-oogie-oogie* of a time
SOPIC's “Stayin’ Alive” at 25! Come to SOPIC's
70's MEET & GREET – Saturday, May 6 2006, Hilton
London (Carleton Room) 3:30 pm – 6:30 pm

Sunday, May 7-Tuesday, May 9

- Silent Auction, Exhibit Hall
- Local and national crafts and products to help support the SOPIC Chapter. Prize winners to be announced at the Black and Silver Ball.

Conference Chair

Margie Foster RN CIC
Director, Infection Control
Grand River Hospital
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M5

DEVELOPMENT OF A COMMUNITY ACQUIRED METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (CA MRSA) PROVINCIAL OUTBREAK INVESTIGATION PROTOCOL

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Issue: An increased number of MRSA positive skin infections in individuals with a history of illicit drug use, recent incarceration, or homelessness were reported May to July 2004 within the Calgary Health Region. Pulse field gel electrophoresis (PFGE) identified the strain involved in the majority of the infections as the USA 300 (CMRSA 10) strain; the same strain linked to community onset soft tissue infection outbreaks in the United States. This is the first reported outbreak of CMRSA 10 in Canada. A public health investigation of CA MRSA in Alberta began in June 2005 in order to determine the extent of the outbreak provincially, and to use outbreak information to guide preventative health measures.

Project: Through meetings with key stakeholders including regional/public health laboratories, Medical Officers of Health (MOHs), infection prevention and control professionals (IPC), and Alberta Health and Wellness (AHW) a provincial outbreak investigation protocol was developed. The protocol described: rationale for the public health investigation, a case definition, description of stakeholder responsibilities, and data submission tools.

Results: Regional laboratories submit the 1st clinical MRSA isolate for each patient to the Provincial Public Health Laboratory (PPHL) for typing. PPHL reports on MRSA strains to Regional MOHs, to AHW and back to the submitting laboratory. Case reports are completed regionally for each CMRSA 10 case and submitted to AHW for analysis.

Lessons Learned: Through coordinated efforts of key stakeholders, the public health investigation of CA MRSA in Alberta provided valuable insight into epidemiology and surveillance of MRSA provincially, especially CMRSA 10.

M6

WHERE DID THIS MRSA COME FROM

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Background/Objectives: Community-acquired methicillin resistant *Staphylococcus aureus* (CAMRSA) infections occurring in individuals without traditional risk factors are a major concern. We studied potential risk factors associated with culture-confirmed CAMRSA cases and determined whether CAMRSA strains differed from hospital-acquired MRSA (HAMRSA) strains.

Methods: A multi-center age-matched case-control study was conducted in Alberta, Manitoba, and Ontario. CAMRSA cases were NOT: previously MRSA +ve, hospitalized in the last year and nursing home residents. Each MRSA case was matched with 1 community-acquired methicillin-sensitive *S. aureus* (CAMSSA) infection and 1 community control obtained through random residential telephoning. A standardized questionnaire was done by telephone. CAMRSA isolate was matched to the next HAMRSA isolate. Genotypic differences of CAMRSA and HAMRSA were compared. Strains were typed by PFGE and the staphylococcal cassette chromosome was characterized.

Results: Results are available for 74 matched CAMRSA-CAMSSA pairs and 84 CAMRSA-community pairs. There were no differences in education, household income, house size, and day care (adult or child). Compared to MSSA patients, MRSA patients were more likely to have an MRSA + family member or other close contact (8/66 vs. 0/66 $P=0.006$) and to have recent travel outside of Canada (42/74 vs. 27/74, OR 2.8, 95%CI 1.3-6.4, $P=0.05$). Increased OR without statistical significance were found in MRSA patients: with a History of MSSA infection, who had received antibiotics in the last year and who had received health care while out of the country. In the MRSA-Community Control comparison, MRSA infection was associated with: a history of MSSA infection 60/68 vs. 2/68 ($P<0.0001$) of boils/abscess 38/82 vs. 20/82 (OR 2.50 95%CI 1.28-4.88, $p=0.009$), day surgery 19/84 vs. 7/84 (OR 3.40, 95%CI 1.25-9.22, $p=0.02$), ER visits 42/83 vs. 15/83 (OR 6.40, 95%CI 2.49-16.43, $p<0.0001$), health care outside Canada 9/84 vs. 2/84 (OR 8.00, 95%CI 1.00-63.96), and antibiotic use in the last year 74/81 vs. 31/81 (OR 17.05, 95%CI 6.61-48.61, $p<0.0001$). Typing showed that 56% CAMRSA strains, all having SCC Type IV, belonged to NML CMRSA7 or CMRSA10 clones; and 67% HAMRSA strains, all having SCC Type II, belonged to NML CMRSA2 clone.

Conclusion: Risk factors for MRSA and MSSA acquisition in the community may not be different. Patients using health care system services not described as risk factors, and those with household exposure are more likely to acquire MRSA than those who do not. Infection control programs may need to look at these factors when assessing their screening policies. Canadian CAMRSA strains are similar to those reported in that they are associated with the SCC Type IV genotype, and they belong to widespread community associated clones.

M7

FACTORS ASSOCIATED WITH MRSA ACQUISITION IN CONTACTS OF MRSA COLONIZED/INFECTED PATIENTS IN AN ACUTE CARE HOSPITAL.

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Background: Expert bodies recommend that patients at high-risk of colonization or infection with AROs such as MRSA be screened, and that additional precautions be used for MRSA colonized/infected (MRSA+) patients in the hospital, to prevent transmission to other patients and staff. We asked if roommate contacts of MRSA+ patients were a high risk group in our hospital.

Objective: To identify risk factors for MRSA acquisition in roommates of MRSA+ patients.

Methods: Data on all MRSA+ patients and their close contacts (CCs=roommates for >24 hrs) has been collected since 1998. CCs of MRSA+ patients are screened (nasal, rectal and wound swabs) on day 2,5,7 post-last exposure to the index patient. Follow-up (FU) was considered complete if >=2 screens were obtained between day 2 and 10 after the last exposure, with at least 1 >=7d after the last exposure. Attempts were made to complete FU post-discharge; all subsequent MRSA screening in our lab was reviewed. A retrospective chart review of the cohort of patients with complete FU was conducted to identify risk factors for MRSA acquisition.

Results: 327 roommate CCs were identified. Of these, 124 did not have complete FU (5 died; 119 discharged and FU not complete). 40 of these had >=1 screen 1 wk to 1 yr later; one became MRSA+, but with a strain different than his index patient (by PFGE). Of the 203 CCs with complete follow-up, 25 (12.3%) became MRSA+, all with the same strain as their index. 10 were positive on the first screen, 5 on the 2nd, 10 on the 3rd. Of the 177 patients MRSA- on complete FU, 98 had >=1 screen at a later date: 5/98 became MRSA+ (day 16,18,32,36,189 after last exposure): all had on-going exposure to hospitals or nursing homes; one (pos day 32) had a different strain than his index; the remaining were colonized with common strains (CMRSA1 or CMRSA2) that were the same as their index, so that it is not possible to determine definitively whether they acquired MRSA from their index or another exposure. In patients with complete FU, there was no significant association with MRSA acquisition and age, sex, underlying illnesses, ICU care, previous surgery or hospitalization, or residence in a nursing or retirement home. Patients were more likely to acquire MRSA if: the CC was an alcoholic (5/11 vs 18/168, OR 6.9, 95% CL 1.5,30, $P=.006$), the index patient had nosocomially acquired infection 1/60 vs 23/132, OR 13, 95% CL 1.9,530, $P=0.002$), or the CC required more assistance with feeding, continence or transfers (4/76 requiring assistance with none or one vs. 18/96 with 2 or 3, OR 4.2, 95% CL 1.3,18, $P=.02$).

Conclusion: In our hospital, roommates of patients with nosocomial MRSA, and those with alcoholism, are at high enough risk of acquiring MRSA to warrant additional precautions until acquisition of MRSA is excluded. Screening only when the index patient was identified detects <40% of acquisitions; screening at day 7 post exposure captures most, but not all patients who will acquire MRSA.

M8

COMPARING OUTCOMES OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS POSITIVE AND NEGATIVE ACUTE BURN PATIENTS: INFECTION CONTROL DOES MAKE A DIFFERENCE

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Background: Methicillin resistant *Staphylococcus aureus* (MRSA) has become a widespread nosocomial pathogen in acute care hospitals. MRSA poses limitations in patient management and challenges traditional bedside care on burn units due to the highly susceptible patient population.

Objectives: To determine outcomes of acute burn patients colonized or infected with MRSA and identify the infection prevention and control measures used to decrease nosocomial transmission in a tertiary regional burn centre.

Methods: A retrospective case control analysis was performed to determine if outcomes were significantly different in MRSA positive patients (n=44) compared to MRSA negative patients (n=44). The comparison group was matched by age, sex, total body surface area of the burn (TBSA) and presence of inhalation injury. A combination of surveillance methods (admission, prevalence, and discharge screening, review of clinical isolates, and environmental cultures) was used to identify MRSA colonization/infection, and pulsed-field gel electrophoresis (PFGE) was used to confirm nosocomial transmission. T-test and Chi-square analyses were performed where $p<0.05$ were considered significant.

Results: Of 1100 acute burn patients admitted during the study period, 44 (4%) were MRSA positive. Patients with MRSA had a significantly increased length of stay (49.9 days vs 19.5 days, $p<0.001$), required more days of mechanical ventilation (20.3 vs 5.1 days, $p<0.001$) and required more operations (4.2 vs 1.5, $p<0.001$). MRSA positive patients had more graft infections (8 vs 3, $p=0.03$) and more graft loss (7 vs 3, $p=0.07$). Nosocomial MRSA incidence rates per 1000 patient days were calculated and decreased from 5.03 in 2003 to 2.04 in 2005; despite admission of more MRSA cases from other facilities or the community during the same time period (0.94 in 2003 to 2.72 in 2005). The measures implemented to prevent and control transmission of MRSA on the burn unit were MRSA admission and discharge screening, weekly prevalence screens during periods of increased MRSA patient load and/or periods with nosocomial transmission, and environmental cultures from rooms post

MRSA positive patient discharge. MRSA typing using PFGE accurately identified cases of nosocomial transmission and acted as an indicator of infection prevention and control measures.

Conclusions: Patients with MRSA had a longer length of stay, higher number of ventilation days, required more operations, and had more graft loss than MRSA negative patients. Implementing an infection prevention and control program demonstrated decreased nosocomial transmission of MRSA by using ongoing patient and environmental surveillance and PFGE typing of MRSA isolates.

M1

THE PLAY'S THE THING: USING DRAMA IN INFECTION CONTROL TO PROMOTE BEHAVIOUR CHANGE

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Issue: Storytelling challenges us to reflect on our practices and motivate us to take responsibility for our actions and behaviours. Drama, a form of storytelling, is an effective tool to provide education by engaging health care workers' imaginations. Drama reaches into memories, feelings and experiences and is thereby a useful tool to bridge the gap between knowing and doing. Our experiential knowledge is often tacitly buried in our practices. While storytelling does not replace analytical thinking it provides a means for us to unlearn by rewriting our stories or imagine new perspectives by creating new stories and there fore is suited to promoting change.

Project: Drama was incorporated as one aspect of a multifaceted campaign promoting Hand Hygiene and the use of Alcohol Hand Rub. The following steps were taken in the development of the drama: 1) Through audience research messages were developed to be incorporated into a play; 2) A professional actor was hired to develop a play and coach infection control professionals in performing the play; 3) The play was piloted in different education venues (e.g., within a presentation, on a unit as a short in-service and as part of a half day seminar); 4) Based on the findings of the pilot, professional actors were hired to perform a 10 minute play 110 times in 25 different locations around the Region including sites in Acute Care, Home Care, Continuing Care and Rural areas.

Results: (*There will be a demonstration of the play*) Results from the pilot indicated that everyone (n = 144) found the play entertaining and that it communicated practical information. Almost 90% of these staff reported they would prefer this learning format to the usual educational inservices and 85% indicated they were more likely to change their professional practices with this type of educational presentation. In a baseline survey performed early in the promotional campaign 86/309 staff indicated they had seen the play. Of those who had seen the play 79% indicated they were more aware of hand hygiene because of the play. Observations made during performances showed that staff would spontaneously interact with the performers and make their own contributions to the play. Staff responded more positively to the play when taken to their work environments than when they were asked to view the play on their own time.

Lessons learned: The use of drama is an effective tool to capture the attention of health care workers in a working environment that competes for their attention. We have learned that certain venues are better received. Staff responded more positively when the play was brought to their places of work or in seminar settings. The use of this approach is still in a developmental stage. The next steps will be to develop a drama tool that encourages a reflective learning process and to measure the impact on changing behaviour.

M2

OUT OF MY COMFORT ZONE - EXPLORING A NOVEL APPROACH TO HEALTH-CARE WORKER BEHAVIOUR CHANGE

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Issue: Exploration of a novel approach to health care worker behaviour change in a health region.

Project: A Social Marketing Team was established within the Infection Prevention and Control (IP&C) Program to promote hand hygiene among doctors and nurses in an entire health region. The Team conducted focus groups and surveys of nurses and physicians to determine the perceptions and needs of staff regarding hand hygiene. New hand hygiene products were evaluated and installed, and in particular, alcohol hand rub was placed at the point of care to facilitate adherence. Education included information about the new hand hygiene products. Several communication channels were employed to convey the desired behavior and the benefits associated with the behavior. These channels included newsletter and magazine articles, local private media coverage, posters for unit and public bulletin boards, a drama troupe that performed on nursing units, computer workstation screen savers that provided facts about environmental contamination with micro-organisms, and an interactive online learning module. IP&C staff, program directors, and nursing unit managers were also informed about the promotion. Ongoing evaluation of promotional activities was conducted to determine effectiveness.

Results: Physicians and nurses did not view the need for hand hygiene in the same way. Both physicians and nurses questioned the anti-microbial effectiveness of alcohol hand rub, and agreed that hand rub was easier and quicker than hand washing. The traveling drama troupe was well received on the nursing units. Final impact of this four-year program is not yet available.

Lessons learned: (1) Social Marketing is a social change technology that IP&C can use to influence health care worker behaviour; (2) A clear specification of the desired behavioural outcome is paramount; (3) Promotion should target specific audiences to enhance efficiency and effectiveness; (4) Audience research is important for designing educational messages; (5) Nurses and physicians have very different views about hand hygiene; (6) Numerous communication channels are desirable to maximize audience exposure to messages; (7) A social marketing approach requires new learning for infection control practitioners, and may rekindle enthusiasm for staff education and infection control.

M3

HOSPITAL-WIDE STAFF EDUCATION & TRAINING IN INFECTION PREVENTION AND CONTROL: ACHIEVING SUCCESS THROUGH COLLABORATION AND ORGANIZATIONAL PROCESSES

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Background: Following the outbreak of severe acute respiratory syndrome (SARS) in 2003, the Ontario Ministry of Health and Long Term Care recommended that health care facilities provide infection prevention and control education and training, and implement evidence-based best practices to prevent and control the spread of infectious diseases in acute care settings, specifically Health Canada's *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care (1999)* guidelines. The objectives of this presentation are to discuss the project, list the steps taken to achieve the results, and identify the limitations and lessons learned.

Project/Methods: A collaborative approach was undertaken to ensure success and buy in from all levels of the organization. The stakeholders involved in program development included the members from the organizational development department, infection prevention and control program, information services, and occupational health and safety. The stakeholders opted to undertake in-class training to all 3000 staff across the three hospital sites to facilitate hands-on participation and return demonstration. The course was designed and tailored to meet the needs of clinical, non clinical and support staff. The clinical nurse specialist for the infection prevention and control program facilitated the sessions. Attendance was tracked electronically by name badge bar-code scanning and managed in a database format by information services. Clinical staff completed an online post-test while the non-clinical and support staff completed a paper quiz.

Results and Lessons Learned: Over 160 sessions were provided (1.5 hours for each non-clinical and support staff and 4 hours for each clinical staff). Close to 90% of all staff across the three sites attended these sessions. Having stakeholders from various departments within the organization participate in the planning of the program as well as the ability to automatically generate and submit attendance reports to the operational managers and program directors contributed to the high success rate in staff participation. This collaborative approach is now being adopted for training such as fire prevention. Ongoing studies are assessing possible impact on nosocomial infection and antibiotic resistant organism (ARO) colonization rates.

M4

A PROJECT MANAGEMENT APPROACH TO REGIONAL ROUTINE PRACTICES (RP) EDUCATION

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The Winnipeg Regional Health Authority (WRHA) is a regional health authority for the city of Winnipeg and 2 rural municipalities, which employs 27,000 health care workers and coordinates healthcare delivery to 6 acute and 3 acute/long term care facilities, 50 personal care homes and 12 community areas. In 2004, a regional Infection Prevention and Control (IP & C) Program was established to support education and implementation of standards throughout all sites and programs within the region. A need was identified for a regionally coordinated approach to Routine Practice (RP) training.

Project: In conjunction with the Project Management Office and the IP & C Program, the RP Project was established in February 2005 using a project management approach. Educational materials and tools were developed to support the training. An implementation plan was developed to ensure the effective management and sustainability of RP throughout the region. An audit tool was also developed to define and measure the outcomes of the project. The educational roll out began in October 2005 and was timed to coincide with the annual influenza campaign, as well as implementation of a new regional IP & C Manual in the hospitals. Dedicated educational facilitators and project resources provided the necessary education using direct staff sessions and train the trainer models.

Results: Education to community areas used existing forums and train the trainer model to educate over 2000 staff. Both train the trainer and direct staff sessions were delivered to Acute/LTC sites with over 50% of staff in some sites educated. Training to the 50 Personal Care Homes (PCH's) was provided using internal resources. The goal of the project was to educate 80% of direct care staff by March 31, 2006 and 100% of indirect care staff by June 2006.

Lessons Learned: 1. Availability of equipment and supplies in the Community differed from Acute / LTC / PCH sites and identified the need for these supplies to be available for both the education and practice in community areas. 2. Communication of the plan included presentations to Senior Management, Site leads and Stakeholders.

3. The use of a dedicated facilitator to assist with staff education promoted cooperation from sites and programs.
4. The need for tracking of staff who received RP training, as well as ongoing recertification was identified to ensure sustainability of education.
5. Increased awareness of the principles and importance of RP throughout the region was identified.
6. A specific educational plan and tools were required for physicians.
7. Different levels and intensity of education were needed for direct versus indirect care staff.
8. Allowing site flexibility in timing of the educational rollout was effective in increasing the number of healthcare workers educated at each site.
9. Development of program specific Self Learner packages and videos promoted staff support for RP training.

M9

DEVELOPING CONTENT FOR THE INFECTION PREVENTION AND CONTROL CORE COMPETENCIES ACROSS THE CONTINUUM OF CARE – THE ONTARIO EXPERIENCE

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Issue: The Ontario Ministry of Health and Long Term Care (MOHLTC), has developed a process for addressing the Walker Report recommendation that health care providers (HCP) across the continuum are to receive education and demonstrate knowledge of infection prevention and control.

Project: To address this, a Steering Committee, a content expert subcommittee along with sector specific subcommittees were formed. The Steering Committee has representatives from a variety of professional associations and sectors and is focused on recommending methods of facilitating the rollout of the program. The content expert subcommittee is comprised of CHICA-Canada members from Ontario who were selected based on expertise across the continuum of care and geographic location. The content developed is validated by the Provincial Infectious Disease Advisory Committee (PIDAC) subcommittee and a stakeholder group.

Steps taken:

1. Selection of content experts- CHICA-Canada members; Ontario representatives from across the continuum and by geography.
2. Development of guiding principles for content
3. Content development; defining essential core elements to improve patient and health care worker safety related to infections. Validated by stakeholder groups.
4. Web-based learning and evaluation is being done by a team of educational experts who will also evaluate the process
5. Pilot content in acute care setting and make changes from evaluation process.
6. Based on evaluation and stakeholders input, role out education for other sectors and target audiences.

Results: A key content of this project is how to sustain cultural change in infection prevention practices. By using CHICA-Canada experts, guiding principles, experts across the continuum of care combined with validation by stakeholders across the continuum of care and input from professional groups on how to sustain change, created a process to ensure maximum collaboration on this learning program. Samples of the content plus web-based learning and evaluation of the pilot project will be shared.

Lessons Learned: Creating sustained cultural change on infection prevention practices requires much collaboration from experts and stakeholders across the continuum of care and a unique approach to learning for health care providers.

M10

REGIONAL INFECTION CONTROL NETWORKS IN ONTARIO – INFLUENCING INFECTION PREVENTION AND CONTROL PRACTICES

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Issue: A key recommendation of the Expert Panel on SARS and Infectious Disease Control established by the Ontario Ministry of Health and Long Term Care (MOHLTC) was the development of Regional Infection Control Networks (RICN). Currently the health care system in Ontario is not regionalized. Although some areas of the province had localized networks, there was no common integrated structure in the province. Infection control activities needed to be integrated, coordinated and communicated across the healthcare continuum. The key roles for the RICN are coordination of infection surveillance, education, sharing of resources and best practices, and linkages with the Provincial Infectious Disease Advisory Committee (PIDAC). RICN have no legal authority over infection prevention and control programs in the region. Membership in the RICN is voluntary.

Project: In April 2004 the MOHLTC endorsed the recommendations of the Expert Panel and committed to the phased implementation of RICNs in Ontario by

2006/2007. In the fall of 2004, initial four regions submitted proposals, reflecting their unique geography and demographics, for consideration as initial networks. Each of these regions involved health care agencies and public health units within their area. Guided by these proposals, a working group of infection prevention and control professionals, public health managers and other experts developed a structural framework to guide the governance, and staffing of the networks.

Results: To date, 8 of the 14 networks have been established and have conducted information sessions on RICN, hired their key staff, established offices, formed steering committees, developed contact lists for ICPs across the continuum and are beginning to participate in surveillance projects established by PIDAC. Additionally, the networks are participating in preparation and education of documents from PIDAC. To date, these are Preventing Febrile Respiratory Illnesses, Prevention and Control of Transmission of *C. difficile* and Best Practices for Cleaning, Disinfection and Sterilization.

Lessons learned: In the absence of regionalized health care, network development must be approached differently, yet achieved successfully. Building upon existing formal and informal networks, including established CHICA chapters, has provided a strong foundation on which to build the RICNs. A strong centralized commitment and funding from the MOHLTC allows the networks to retain unique and individual characteristics, while still respecting the framework and guiding principles for which networks were created.

M11

CREATION OF A MEDICAL SUPPORT UNIT IN AN EMERGENCY MEDICAL SERVICES SETTING TO FACILITATE INFECTION CONTROL DURING COMMUNITY OUTBREAKS

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Issue: In 2003, four cases of SARS appeared in Toronto. This resulted in a major shift in the way Toronto Emergency Medical Services (TEMS) responded to outbreaks. The Medical Support Unit (MSU) was created to respond to outbreak conditions through daily communication, infection surveillance, prevention and control for 850 paramedics.

Project: Exposed paramedics were identified through self-reporting and dispatch records, and educated and counseled about their exposure. Paramedics placed under quarantine received phone calls from MSU staff for symptom surveillance. Sick paramedics were identified through pre-shift screening and self-reporting, and all symptomatic paramedics received daily follow-up telephone calls from MSU staff. MSU staff also advocated for paramedics who needed medical care. Surveillance was conducted by TEMS supervisors who were trained by the MSU supervisor, a former public health nurse. The MSU was overseen by a physician from the hospital that designates medical acts to paramedics. Communiqués were created after the daily media briefings from the Municipal and Provincial governments by the Manager of Community Safeguard Services who also managed the MSU staff. The MSU was reactivated during the September 2005 outbreak of Legionnaire's disease in a local long-term care facility: The disease's virulence and the delay in its diagnosis required the same diligent reaction as SARS.

Results: The response to both the SARS and Legionnaire's outbreaks was effective in protecting staff and minimizing the impact of exposures on operational needs. The response to the Legionnaire's outbreak was improved due to the SARS experience.

Lessons learned: Have a current and reliable plan before subsequent outbreaks, including infection control procedures, acquisition and distribution of personal protective equipment and a protocol for dealing with exposed, quarantined and sick paramedics; have constant, immediate and accurate information delivered to front-line staff as often as possible; have the ability to communicate with other health care institutions and all levels of government to ensure the most accurate information is being transmitted, and the importance of establishing a culture of PPE use before outbreaks occur.

M12

SURVEY OF INFECTION CONTROL RESOURCES AND PROGRAMMING IN LONG-TERM CARE FACILITIES IN ONTARIO

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Background/Objectives: Residents in long-term care facilities (LTCFs) are at considerable risk for developing nosocomial infections. There has not been a rigorous examination of infection surveillance and control in Canadian LTCFs. It is important to know whether the resources are in place to allow the implementation of the recommended intensity of infection surveillance and control.

Methods: A list of eligible LTCFs was compiled from Ontario Ministry of Health and Long Term Care data. Eligible LTCFs had residents who require 24-hour supervision, nursing and personal care. The survey was completed by the staff member most responsible for the infection control program in each institution and was completed for 2004. Non-responders received a second survey package and each mailing was followed with reminder postcards. The survey was designed to assess resident and LTCF characteristics, personnel, laboratory, computer, and reference resources and surveillance and control activities of the infection control program.

Results: 242 of 605 eligible LTCFs completed survey, a response rate of 40%. The mean number of beds was 127 (SD 74) with a range of 14 to 450. 220 of 232 of LTCFs had round-the-clock RN care. 126 were for-profit and 109 were not-for-profit. 68% of residents were 80 or older. 90% of ICPs were RNs and infection control programs received a mean of 8.8 hours ICP service per week. Only 6% of ICPs were

certified by the Certification Board of Infection Control and 35% (97 of 275) were CHICA members. ICPs engaged in surveillance 28% (SD 19) and teaching 22% (SD 15) of their time. Only 16% (38 of 232) LTCFs had physicians providing infection control services other than serving on infection control committees to the infection control program. 66% of LTCFs had access to lab services that provided daily reports on cultures, 91% were able to get surveillance cultures performed, and 89% had access to influenza testing results within 24 hours. 63% of LTCFs use computers for tabulating infection data and preparing reports and 41% use spreadsheets or specialized infection control software to analyze infection data. 94% of LTCFs conducted surveillance: however, only 79% conduct admission surveillance for MRSA, 79% collect data on CDAD, and 35% compared their results to benchmarks.

Conclusions: Human and other resources directed towards infection surveillance and control in LTCFs and the intensity of infection surveillance and control activities fall short of the recommendations of Canadian and United States expert committees.

T13

HAND HYGIENE: USING AN INTERACTIVE APPROACH TO LEARNING AND BEHAVIOR CHANGE

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Issue: Hand hygiene practice is a complex behaviour that is difficult to change. Past educational campaigns targeting health care professionals, patients, and members of the public have shown that behaviours are only improved as long as the campaign continues. Within six weeks of a campaign ending, the majority have returned to pre-campaign hand hygiene behaviours. Changes in the curricula of nursing schools have resulted in differentiated basic infection control knowledge, as well as non-standardized attitudes and behaviours regarding hand hygiene. Finally, personnel and financial cutbacks in health care have increased the staff workload, leaving limited time available for education and professional development. Experience in an urban health region has demonstrated that the window of opportunity for education is about ten minutes.

Project: The objective was to develop a model for delivering education to health care workers in the workplace that incorporates the principles of adult learning, is web-based and interactive and features "just-in-time" learning and to use the model to develop an learning package aimed at changing hand hygiene behaviour.

Results: Two underlying themes were developed; 'By looking after yourself you are also looking after your family and your patients/clients' and 'High personal standards should translate into high professional standards'. Based on these themes, both a personal and a professional approach were used to develop the core content. Three content areas for hand hygiene were identified: Clean your hands – how, what, when, where; Germs get around (transmission of micro-organisms); and Healthy hands (skin structure and maintaining good skin integrity). Both unconscious and conscious behaviours related to hand hygiene practices were addressed. A multimedia presentation of each topic was developed that could be completed by the learner in 5-10 minutes. Barriers to learning such as poor English were addressed by using animation, video and pictures. The content topics were inter-linked to allow for short or longer education sessions. A section for extended learning created to provide additional information for those who wanted it. Written materials such as the regional hand hygiene policy were incorporated into the module to facilitate access when needed. Responses from individuals involved in the initial usability testing of the learning module have been positive and enthusiastic.

Lessons learned: Delivering education to health care workers is a challenge that can be addressed using a web-base approach. The key principles are to make learning flexible by allowing people to learn in a way that works for them, keep it simple, recognize that staff have limited time for learning at work and get the learner involved by offering them opportunities participate in their learning and to practice their skills.

T14

FACTORS ASSOCIATED WITH HAND HYGIENE COMPLIANCE

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Background/Objectives: Hand hygiene, either by handwashing or hand antisepsis, is the single most important intervention in preventing healthcare-acquired infections. While research results on the effectiveness of hand hygiene interventions are often reported, better understanding of factors associated with hand hygiene compliance in the absence of an active intervention is needed.

Methods: Prior to a regional hand hygiene campaign launch, every clinical unit across a 1300-bed healthcare organization was invited to participate in a baseline hand hygiene audit. Interested clinical units identified a volunteer from their unit who conducted direct observations of hand hygiene compliance after attending educational sessions on how to conduct the observations. A "compliant" hand hygiene event was defined as performing hand hygiene before or after patient contact, or by putting new gloves on before patient contact. A "non-compliant" hand hygiene event was defined as no hand hygiene before or after patient contact (unless new gloves were put on before patient contact) or using the same pair of gloves between patient contacts. In addition to measuring hand hygiene compliance, the following factors were obtained: time of observation, job category of staff being observed, timing of hand hygiene in

relation to patient contact (i.e., before or after patient care), method of hand hygiene (new gloves or cleaning hands), type of facility (tertiary care vs. other); and type of patient care activity. Both univariate and multivariate analyses were conducted.

Results: Six acute care units, 1 long-term care unit and 2 outpatient clinics responded to our invitation (20% response rate). Volunteers conducted 395 observations between September 21st and October 18th, 2005. Overall compliance was 44% (95% CI 39.4-49.2); compliance by clinical unit ranged from 20 to 91%. Compliance occurred more often when patient care was observed under the following conditions: just before or after lunchtime, before patient contact, when compliance involved putting on new gloves (rather than hand hygiene alone), among nurses and other non-physicians, when compliance was observed at the tertiary care facility (versus other sites) and when patient contact included an invasive procedure (all these associations were statistically significant by univariate analysis, $p < 0.05$). When these factors were included in a multivariate analysis, which simultaneously adjusted for all aforementioned factors, four factors remained associated with hand hygiene compliance: time of day, timing of patient contact, method of hand hygiene, and type of facility.

Conclusions: The baseline audit reported an overall compliance of 44%, which is comparable to previously reported studies on hand hygiene. Hand hygiene compliance was independently associated with patient care observed at the tertiary care facility at times other than at lunchtime (when staffing levels are higher) and with putting new gloves on before patient contact. These results suggest that a favorable organizational climate, sufficient staffing levels, promoting glove use before patient contacts, and emphasizing hand hygiene afterwards may be key to increasing hand hygiene compliance rates in the absence of an intervention.

T15

COMPARING HAND HYGIENE ADHERENCE RATES FOR EXISTING HAND HYGIENE PRODUCTS WITH A NEW PERSONAL ALCOHOL HAND RUB DISPENSER (GELFAST)

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Issue: Hand Hygiene (HH) consistently has been at 46% in our health care institution. We trialed a new personal HH product. It is hypothesized that a personal HH device would help to increase HH adherence in situations where sinks and wall-mounted alcohol hand rub are hard to access.

Methods: The study was carried out from October to November 2005. The hand washing behaviour of nurses on two medical units were observed and recorded. One served as the control unit throughout the study. The other unit had a baseline period (soap+water or wall mount alcohol hand rub) and an intervention period with the new personal HH product, GelFast (G) was implemented in addition to the regular HH products.

Results: For the intervention unit, overall HH adherence during the baseline period was 45%, and 50% during the intervention period, an absolute increase of 5%, which translates into a proportional increase of 11% (OR: 1.21 [1.02-1.44] $P = .026$). The adherence rate of 44% for the control unit was not different from baseline period of the intervention unit. Nursing staff were more likely to perform HH during the intervention versus control period (OR 1.21 [1.02-1.44]; $P = .026$). In the intervention period, HH adherence increased most for: HH after touching an inanimate object $P = .01$ (OR=undefined), upon room exit (OR 1.41 [1.01-1.98]; $P = .035$), upon room re-entry (OR 3.6 [1.33-9.98]; $P = .0046$), and after removal of gloves (OR 2.67 .86-8.38; $P = .05$). There were no significant differences in adherence for room entry, and before/after any patient care activities. Personal HH product was used preferentially for before room entry (66% GelFast vs. 30% wall mounted alcohol (WMA) $P < .0001$), upon room exit (49% GelFast vs. 34% WMA $P < .0001$), after touching inanimate objects in patient room (75% GelFast vs. 8.3% alcohol $p < .0001$). During the intervention period, of the total alcohol hand rub used, 61% were GelFast and 39% were WMA ($P < .0001$).

Conclusions: The personal HH product, GelFast, provided an additional source of HH products to nursing staff, which ultimately increased HH adherence. Whether the increased HH rate with GelFast can be sustained is yet to be determined. This data will assist our institution in making hand hygiene program decisions.

T16

DESCRIBE THE STOOL: SEMI-LOOSE, SEMI-LIQUID, OR SEMI-SOFT?

A Wilson

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Issue: Inappropriate description and documentation of stool consistency leads to improper assessment of patients with diarrhea. This also leads to difficulty in determining the need for or discontinuation of additional precautions by the ICPs. This oral presentation will demonstrate the use of fake stool samples, which provide effective visual educational tool in teaching staff about consistent description and documentation of stools.

Results: Improved compliance in the proper assessment and documentation of patients' bowel movements

Patients with diarrhea are assessed more appropriately

Standardized, consistent and meaningful terminology is used in documenting stool consistency

Frequent Stool Chart is standardized for both campuses

Infection Control Practitioners reassess patients with diarrhea for discontinuation of precautions in a timely manner

Development of Policy and Procedure including an algorithm for the management of patients with suspected enteric infection

“Stool samples: have been used by the nurse educators to facilitate learning
Lessons learned: Simplified and consistent descriptive language of stool consistency in documentation, nursing kardex, electronic charting
 Improved communication between staff and ICPs
 Simple methods, such as a visual cue, when incorporated with adult learning principles are effective in teaching staff about a new concept.

**T17
 IMPORTANT RISK REDUCTION IN NOSOCOMIAL CLOSTRIDIUM
 DIFFICILE WITH INSTITUTION OF PROBIOTIC PROPHYLAXIS**

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Background/Objectives: Over the last few years there has been an increase in the rate of *Clostridium difficile* associated diarrhea (CDAD) and in the associated mortality and morbidity rate in several acute care hospitals in Quebec. The literature describes several control measures for preventing and controlling the spread of this disease which include application of contact precautions, vigorous cleaning and disinfection of the environment, control of antibiotic use and proper hand washing with soap and water. There has also been some suggestion that the use of probiotics can help in the prevention of hospital acquired diarrhea. Our hospital, a busy 350 bed community hospital providing trauma services and haematology-oncology services, also witnessed an increase in cases. In the spring of 2004 the use of probiotics (lactobacillus, Probiolac) was instituted based on a literature review which suggested a risk reduction of 50%. Therefore the purpose of this study was to determine the impact of the administration of Probiolac on the rate of CDAD.
Methods: All patients admitted to the hospital and receiving any form of antibiotic therapy also received Probiolac as prophylaxis regardless of the presence or absence of symptoms. Patients 50 years and older received 2 tablets of Probiolac BID and patients under 50 years received 1 tablet BID. This was done during a period of 7 months beginning July 6, 2004 through February 7, 2005. The incidence of CDAD was monitored on a daily basis through regular ward contacts and laboratory results. *C. difficile* toxins were investigated using an EIA assay for toxin A and B. A bowel monitoring sheet was placed in the patient's chart if diarrhea developed. The surveillance data was collected beginning April 1, 2003. Surveillance of CDAD incidence was continued post-intervention period until August 20, 2005.
Results: Rates of CDAD were compared using STATA8 glm function. Crude rates, and rates with adjustment for period and year, and risk difference were estimated. The baseline CDAD rate in our institution was mean 3.6 cases per 1000 patient days (min 2.2, max 6.0), the rate on Probiolac was mean 2.2 (min 1.4, max 3.0). The crude relative risk was 0.61, 95%CI (0.41,0.80) p < 0.0012. After adjustment for year and period the relative risk was 0.38, 95%CI (0.24, 0.60) p < 0.0001 with a risk difference of 2.7 cases per 1000 patient days, 95%CI (1.4, 4.0).
Conclusion: This study demonstrates a beneficial effect of probiotics on the incidence of CDAD with a relative risk of 0.38 in keeping with the systematic review. The main limitation of this study is confounding due to the before and after design and the multiple infection control methods that are involved; however rates of nosocomial CDAD were the lowest recorded rates in the presence of probiotics.

**T18
 EVALUATION OF A FEBRILE RESPIRATORY ILLNESS SURVEILLANCE
 SYSTEM: TWO YEARS' EXPERIENCE**

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Objective: Since SARS, Ontario hospitals are doing surveillance for febrile respiratory illness (FRI) to prevent transmission of viral respiratory illnesses. We have evaluated our FRI data to determine the incidence of viral respiratory agents amongst hospitalized patients, to assess our ability to recognize these transmissible diseases, and to measure the effectiveness of FRI surveillance.
Methods: Based on admitting diagnosis, two full time Infection Control Professionals (ICP) evaluate patients admitted to a 1,100 bed adult teaching hospital for presence

	Nov 1, 2003 - Feb 28, 2004	Nov 1, 2004 - March 31, 2005	Overall
# of patients screened for FRI	857	1168	2025
# of screened patients placed on DP	189 (22%)	307 (26%)	496 (24%)
# of confirmed viral illness	31	66	97
Influenza A	31	59	90
Influenza B	0	4	4
Parainfluenza	0	1	1
RSV	0	2	2
Initiation of DP for FRI patients later confirmed as having viral illness	27	62	89
At time of admission	12 (44%)	28 (45%)	40 (45%)
After admission	15 (56%)	34 (55%)	49 (55%)

of FRI. Patients with FRI of unknown etiology are placed on droplet precautions (DP) until non transmissible etiology is determined or until the patient improves on empiric antibiotic therapy. DP include placing the patient in a private room, use of mask, eye protection and gloves for the health care workers (HCWs), hand hygiene and cleaning of equipment and surfaces. Overall, 19.6% of patients placed on DP had confirmed viral respiratory illness. Forty five percent of the patients later confirmed as having a viral respiratory infection were placed on precautions promptly at time of admission. 92 % of all the patients with confirmed viral illness were captured in this surveillance system.
Conclusion: FRI is common in hospitalized patients however, less than 1/3 of the cases seen were due to viral respiratory infections. Many patients are being placed on precautions unnecessarily. There are frequently delays in implementing DP. This surveillance system is very resource intensive with high sensitivity and low specificity. Thus the criteria used to identify viral respiratory infections needs refinement. Further HCW education is required to ensure early recognition and initiation of precautions.

**T19
 A CLUSTER OF SPHINGOMONAS PAUCIMOBILIS RESPIRATORY
 COLONIZATION IN PAEDIATRIC CRITICAL CARE UNIT**

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 The Hospital for Sick Children, Toronto, Ontario, Canada
Background: *Sphingomonas paucimobilis* (*Sp*) is a slow growing, non-fermentative gram negative bacillus with normally low pathogenicity. It produces a protective biofilm that enables it to persist in environmental reservoirs. Outbreaks have been associated with contaminated hospital water supplies, ventilators, stocked distilled water and dialysis equipment with infrequent clinical infections including meningitis, bacteremia, peritonitis and wound infection. Between June - November 2005, 27 patients had *Sp* identified in their clinical specimens. Twenty-four were isolates from respiratory cultures, 2 were from blood cultures and 1 was from a surgical drain. In the preceding four years, no more than three *Sp* were isolated from samples annually.
Objective: To determine causative factors associated with this cluster of *Sp* colonizations and infections.

Methods: An outbreak investigation included 1) a chart review of the cases to identify risk factors and determine epidemiological links, 2) extensive environmental sampling to identify a reservoir and 3) molecular analysis of isolates by pulsed field gel electrophoresis (PFGE). The large number of respiratory isolates led to a review of procedures related to respiratory care and reprocessing of equipment. A case control study is ongoing.

Results: 26/27 patients had been in the Paediatric Intensive Care Unit. *Sp* was isolated from a variety of environmental sources including sink faucets, hoppers, dialysis drains, and ice machines in a variety of hospital locations. Despite changing contaminated faucets and ice machines in the affected units, new cases were not abated. A predominant clinical strain (19/27) was identified by PFGE. A second distinct strain accounted for 2/27 cases and all other clinical strains were unique. All of the environmental strains were unique from each other and from clinical strains. A review of practices revealed improper reprocessing of ventilator circuit temperature probes. Although *Sp* was not isolated from cultured probes, no new patients with *Sp* have been identified since the institution of appropriate disinfection processes.

Conclusions: This is the largest reported outbreak of health care acquired *Sp* colonization/infection. Although *Sp* is ubiquitous in our environment it had not previously caused colonization or infection. The cessation of new cases following the change in reprocessing suggests that improperly disinfected probes were the predominant source of our cluster.

**T20
 THE SHOW MUST GO ON: FLOOD REMEDIATION IN AN OCCUPIED
 HEALTHCARE FACILITY**

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Issue: In August 2005 the Women's College campus of Sunnybrook and Women's College Health Sciences Centre experienced a flood resulting from a malfunctioning cooling tower. All 10 floors in the east wing, plus the basement, experienced varying degrees of water damage for a total of 201 affected rooms or corridors. Activity in patient care areas and support services was impacted by either direct flood damage or the resulting remediation activities. These areas included a 21 bed high risk pregnancy unit and a 41 bed neonatal intensive care unit, laboratories, the pharmacy and the central sterilization department (CSD).
Project: A flood management group that included representatives from administration, facilities management, infection prevention and control, corporate planning, and outside remediation experts was formed. The objective of the group was to return the facility to its pre-flood condition while allowing patient care activities to continue uninterrupted and to ensure that patients, staff and visitors were not exposed to an increased risk from environmental pathogens.
Results: Flood remediation was carried out with minimal interruption to service over a six month period. Tools were developed to facilitate communication between individuals involved in remediation activities as well as to others within the facility. Surveillance activities that included regular air particle counts, airborne mold sampling, and visual monitoring of containment confirmed that the ongoing work did not negatively impact on the environment of the facility. A review of the internal disaster response indicated areas for improvement.

Lessons learned: Identifying the key stakeholders is an essential first step in responding to an internal disaster. Good communication with all people involved in the remediation project, as well as those impacted by the work, is necessary to ensure that policies and procedures are followed. Close adherence to general infection prevention and control construction principles will minimize the risk due to environmental pathogens for all people in the hospital including patients, staff & visitors.

T21

UP TO MY AC..ID FAST BACILLUS IN TB

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Background/Objectives: Hemodialysis patients are at high risk for communicable diseases given their impaired immunity and prolonged, close contact with others in a crowded environment. We describe the Infection Control challenges of managing a dialysis patient with pulmonary TB.

Methods: Modified airborne precautions were initiated after a CT scan was suspicious for active TB in a Hemodialysis patient. TB was later culture-confirmed and post exposure follow up was started.

Results: In December 2004, a hemodialysis patient developed unexplained dyspnea. TB was later culture-confirmed. In retrospect, a CXR four months earlier suggested TB. Other presenting symptoms were weight loss and fatigue (often attributed to uremia in the hemodialysis population). The patient originated from Ethiopia, but lived in Canada for 11 years. He had not undergone Mantoux testing prior to dialysis. The Hemodialysis Units have a policy that requires that all patients undergo Mantoux testing on their first hemodialysis encounter, but a review indicated that compliance was low (29%). Initial contact tracing identified 15 patient and 39 staff member exposures in 2 dialysis centers over the 4-month period. There were three conversions noted in this group (conversion rate 6%). Based upon these findings a second concentric ring of follow up was initiated. Out of the 77 staff members tested, there were three conversions (conversion rate of 3%). Two conversions were related to dialysis encounters, and one as a result of emergency encounters.

Conclusions: This experience demonstrates significant challenges for TB management in hemodialysis patients. Symptoms of TB can mimic uremia. TB screening programs are not standardized, and Mantoux testing is often falsely negative due to anergy. As a result of many hemodialysis patients requiring complex care, their access to health care is not limited to dialysis units, and contact tracing may involve large number of patients in staff in both dialysis units and other outpatient departments. Finally, few dialysis units have adequate facilities to accommodate patients on airborne precautions and would require costly upgrades to safely dialyze TB infected patients. More Canadian hemodialysis patients now have TB risk factors including immigration from endemic countries, advanced age and diabetes. Standards for pre-dialysis screening are needed to ensure early detection and treatment. Clinicians must maintain a high index of suspicion for TB in patients with respiratory symptoms.

and outside the rooms and on main entrance which enhanced staff compliance and improved hand hygiene practices amongst the staff. The new Screening and admission protocol was implemented for new ICU admissions and all potentially infected cases were managed effectively in newly designed constructed isolation or in single rooms. On-site IC education was initiated with improved healthcare workers compliance and resulted in low ICU infection rates.

Lessons learned: New admissions to ICU must be screened and patients must be considered as infectious or proved otherwise. There should be a waiting period between admission and discharge for proper environmental disinfection. Understaffing and long ICU hours must be addressed. Hand hygiene practices in critical units are of prime importance, therefore measures to improve and enhance hand hygiene by healthcare workers need to be taken into account

MP3

COMPLIANCE WITH ISOLATION PRACTICES IN AN ACUTE CARE PAEDIATRIC SETTING

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Background/Objectives: Although isolation precautions are an important aspect of hospital infection control, current rates of isolation in a paediatric hospital, and rates of compliance with established precautions are unknown. We therefore initiated a hospital-wide point prevalence study to determine unit-specific rates of patient isolation and compliance with isolation requirements.

Methods: This prospective observational study, between January 2004 and February 2005, required infection control practitioners to review the types and appropriateness of isolation of all inpatients except for those on the psychiatry unit. Six parameters were used to differentiate between appropriate and inappropriate isolation: 1) no isolation sign on the door/bedside, 2) incorrect isolation sign on the door/bedside (under isolated), 3) incorrect isolation sign on the door/bedside (over isolated), 4) no change to the computerized patient charting system to indicate the type of isolation required, 5) no observed personal protective equipment being utilized, 6) whether the patient was in isolation too long. Mean data was then compiled and analyzed.

Results: Seventeen per cent of patients in hospital during the study period were isolated, most frequently for community acquired infections. Droplet isolation precautions were the most common isolation category. Overall, only 74.6% were isolated appropriately. The solid organ transplant, haematology/oncology and bone marrow transplant units were those with the highest rates of inappropriate isolation primarily because the computerized patient charting system was not updated to reflect the isolation category of the patient.

Conclusions: At our hospital, community acquired infections and respiratory infections were the most common reasons for patient isolation. Monitoring of the appropriateness of isolation precautions offers the opportunity to reduce healthcare related transmission of infection, decrease wastage of healthcare resources, and identify specific target areas for improvement.

MP5

PATIENT CARE AREA INFECTION CONTROL AUDIT INSTRUMENT

K Clinker

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Issue: As a novice ICP, there was a need to review infection control processes within the 18 nursing care units under my responsibility. There was no formal nursing care unit audit instrument used previously to document infection control-related processes. A review of existing infection control audits lacked the specifics of: a rating system for deficiencies noted, ranking deficiencies noted in order of their infection control priority to be addressed, and a follow-up action plan sheet to address and document closure for deficiencies noted. The audit tool is an excellent formal instrument to document patient safety initiatives.

Project: An audit document was developed to address ten infection control processes on patient care units. This information was gathered from a number of infection control sources. The audit document was then peer reviewed. The audit document was then presented to the respective nursing managers and site Health and Safety Committees for their input. The document's format was kept similar to that used within the Occupational Health and Safety program of the Region to which the managers were already familiar. From the information gathered from the units, summary program audit reports were developed for surgery, medicine and long term care for the Acute Care facility, and Seniors, Adult Psychiatry and Brain Injury for the Mental Health facility.

The ICP was assisted in conducting the audits by the managers/program managers themselves or their designate(s) (staff on modified duties/safety reps).

Results: A summary of the audit results was provided to the managers/program managers of the respective areas. The action plan sheet was used along with the audit instrument in order to rank, capture and document actions taken to address identified deficiencies.

Lessons learned: Similar infection control deficiencies were noted in both the acute care facility units and the mental health facility units.

Infection control educational sessions were more easily facilitated and supported by management when staff infection control learning deficiencies were noted in the action plan sheet.

The action plan sheet enabled the ICP to obtain support and accountability from others within the service areas to ensure deficiencies were addressed.

Using a similar audit format as that used for safety audits heightened the awareness of infections, their prevention and control as a safety issue for patients, staff and the public.

MONDAY, MAY 8 - POSTER PRESENTATIONS

MP1

APPLICATION OF ADMISSION & SCREENING PROTOCOL, ICU DESIGN PLUS ADDITIONAL MEASURES COULD PREVENT POTENTIAL MRSA OUTBREAKS AND LOWER INFECTION RATES IN ICU

FM Khan, GA Coogan

Mouwasat Hospital, Dammam, Saudi Arabia

Issue: Patients in intensive care units (ICUs) have a higher risk of acquiring hospital-acquired infections than those in non-critical care areas. ICUs are areas of considerable broad-spectrum antibiotic use and therefore, antibiotic-resistant pathogens are frequent. Indirect transmission from patient to patient via healthcare workers hands is considered the most important mode of transmission.

There was an MRSA outbreak in March 2003 in our old open type 12 bedded ICU with only two isolation rooms. Outbreak investigation of this MRSA outbreak revealed many areas of concern in infection control (IC). We noted there were no screening for new ICU admissions and there were not enough isolation or single room and patients were lying on beds in an open area inside ICU separated by curtains without any effective barriers. Staff compliance was poor to basic IC practices such as Hand hygiene and cross transmission was evident between patients by ICU staff. We noted understaffing in ICU staff as well which could also have contributed to this outbreak.

Project: As a result of intervention by the application and implementation of screening and admission protocol plus a combination of other infection control measures, the MRSA outbreak was managed appropriately and was contained and terminated successfully with no further outbreaks until to-date. Since the hospital was undergoing a renovation and construction phase, as a Head of IC Task Force we recommended to the management to have more isolation rooms and single rooms in the new ICU. Later new ICU was designed and constructed with more isolation and single rooms which helped us improve IC practices in the unit. Other measures such as hand hygiene, standard precautions, isolation precautions which includes screening of new ICU admissions for MRSA. On-site IC education was initiated. Understaffing and long ICU working hours were also raised with Nursing Services and management and were improved. Environmental sampling and disinfection procedures were improved as per new protocol.

Results: As a result of the above measures no further MRSA outbreaks were identified and reported until to-date. Alcohol hand-rub solution dispensers were installed inside

MP7**UNDERESTIMATING SURGICAL SITE INFECTION (SSI) RATES WITHOUT Post-Discharge Surveillance**

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Background/Objective: Infection Prevention and Control surveyed selected instrumental implant surgeries to determine the surgical site infection rate from November 1, 2002 to October 31, 2004. 742 patients were followed in-hospital plus post-discharge for one year.

Methods: The Automated Infection Control Expert (AICE) program was interfaced with the operating room's MSM computer program to generate a record on each selected surgical patient. To collect SSI data, the Infection Control Practitioner (ICP) reviewed culture and sensitivity reports, emergency and urgent care visits, re-admissions, consult notes, antibiotic prescribing and patient charts. Quarterly reports of patient lists were sent by the ICP via intra-hospital computer to the primary surgeon for post-discharge SSI feedback. 50% and 63% of the primary surgeons responded to the post-discharge surveillance in each year respectively. All 742 patient health records were reviewed after one year for SSI development. National Nosocomial Infection Surveillance (NNIS) system report (issued October 2004) for spinal fusions was used to compare selected instrumental spinal surgical procedures at our institution

Results: There were a variety of selected instrumental spinal surgical procedures followed. There were initially 745 patients entered into the 2 years of data, however three patients did not have their ASA score identified, therefore unable to tabulate risk index, therefore 742 patients were reviewed. Due to the team effort between Neurosurgery and Orthopaedics, surgical teams consisting of surgeon and assist surgeon were reviewed rather than surgeon specific rates. 79% (22/28) SSI were discovered while in-hospital an additional 21% (6/28) were discovered after the patient was discharged.

Nov 1.02 to Oct 31.04 – In-Hospital vs. In-Hospital + Post-Discharge (D/C)

Risk Index	% SSI In-Hosp.	% NNIS	% SSI In-Hosp. + Post D/C
0	8/359= 2.2% p=0.05	1.04%	8/359= 2.2%
1	12/321= 3.7% p=0.29	2.64%	14/321= 4.6%
2,3	2/62= 3.2% p=0.45	6.35%	6/62= 9.7%
Total	22/ 742= 3.0%		28/ 742= 3.7%

Conclusions: Based on our results, the rates are significantly higher than NNIS for the low risk category (0) and higher in the middle category (1). In the highest risk category (2,3) the SSI rates are lower. The additional 21% (6/28) SSIs detected post discharge suggests that more active post-discharge surveillance is necessary to detect an accurate rate of SSI rates in our patient population.

MP9**CLEANING, DISINFECTION, AND STERILIZATION OF MEDICAL EQUIPMENT IN PATIENT-CARE AREAS OF THE HOSPITAL: A VERITABLE PANDORA'S BOX.**

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Introduction: The SMBD-Jewish General Hospital is a 638-bed acute-care, tertiary hospital. As part of the Infection Prevention and Control Unit (IPCU) consultation service, we are often asked to review cleaning, disinfection and sterilization (CD&S) procedures in various departments. We noted that no hospital-wide database existed of all CD&S procedures done outside of the Central Supply Department. We conducted an institution-wide audit to accomplish this goal and to determine if recognized standards were being followed.

Methods: One nurse audited every clinic, doctor's office and specialty area of the hospital using an ICP - developed audit tool in order to:
inventory equipment being reprocessed
identify personnel who reprocess equipment
describe the reprocessing steps.

The results were reviewed at the end of the audit, clarification and details of the audit were done weekly for 4 weeks with the entire IPCU team, and then written comments and/or recommendations were sent to the department if any corrections or improvements were necessary.

Results: Forty clinics/areas were reviewed. Nineteen out of 40 did no reprocessing at all, 13 reprocessed and needed no corrections, 8 needed corrections and the most common oversight was improper use of "cleaning" solutions.

We classified breaches in technique as "serious" if approved professional, national or institutional guidelines were not being followed. Several serious breaches in technique were discovered that required immediate action.

Conclusions: A hospital-wide audit with a pre-established tool is vital in establishing the CD&S procedures being performed in all patient areas. The number of personnel involved in such activities, the diversity in backgrounds and training, and the complexity of CD&S of medical equipment necessitates an in-depth analysis of all such procedures in patient-care areas and establishment of a training and certification process for all personnel. This is the only means of assuring consistent and approved CD&S procedures at all times.

MP11**SIGN, SIGN, EVERYWHERE A SIGN: A COLLABORATIVE PROJECT WITH LONG TERM CARE**

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Issue: Since 1999, Public Health has held quarterly meetings with Infection Control Professionals (ICPs) from regional nursing homes, retirement homes and hospitals. These meetings provide opportunities for education; networking; collaboration; discussion and identification of needs related to infection prevention and control (IPAC) in long term care (LTC). The group identified a need for consistent IPAC signage. The facilities had a wide variety of signage with simple to complex messages. The issue was to develop consistent signage for IPAC and outbreak management based on best practice guidelines.

Project: In October 2004, the facilities brought samples of their existing signage to a meeting for review. Criteria for new signage were: simple language, accurate content, clear messages, eye-catching design, use of bright colors and graphics. A sub-committee comprised of LTC nursing and retirement home representatives, Public Health Infection Control Specialists and Public Health Nurses (PHNs) developed new additional precautions signage as the first task. Airborne, droplet and contact precautions drafts were developed by the small committee and presented to the larger group for feedback and revisions. The final signage was distributed to the LTC homes for use and posted on the health unit's website in a downloadable format.

Results: A collaborative effort resulted in standardized additional precautions signage for LTC homes in the region. The signage is easily recognizable, durable and provides simple messages for a multidisciplinary audience and general public. It promotes consistent messages about proper use of additional precautions, hand hygiene and cleaning.

Lessons learned: The distribution of the additional precautions signage to the LTC homes provided an opportunity to review routine practices and additional precautions with LTC staff. Questions that arose from the signage provided "teachable moments" for the ICPs and PHNs. The collaborative project set in place a process to develop further IPAC signage.

MP13**EVALUATION OF AUTOMATED DECONTAMINATION PROCESSES FOR SURFACE-ADHERENT PRIONS USING A CELL BASED INFECTIVITY ASSAY**

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Background: Prions are resistant to conventional chemical and thermal decontamination and therefore pose a significant risk of transmission using non-disposable surgical instruments. In recent studies these observations have been reproduced in animal experiments and in cultured cells.

Methods: We evaluated two automated decontamination processes in washer/ disinfectors that were specially designed to inactivate PrP^{Sc} (*Oxivarior*+ und *CJD-Dekontamination*), by comparing them with a standard disinfection program (*VarioTD*). The main chemical compounds used in this study are active oxygen generated from hydrogen peroxide by alkalization and sodium hypochlorite at process temperatures of 55 or 60°C. To test for remaining PrP^{Sc} we used a test based on chemiluminescence. As a bioassay we used murine neuroblastoma cells (N2a-cells) which had been selected for prion sensitivity for metal-bound PrP^{Sc} and could determine a reduction of prion infectivity by more than 4 log. The *Oxivarior*+ -program differs from the *VarioTD*-program by an added decontamination-step with H₂O₂ in combination with an alkaline cleaner. In this step, the materials are washed with the H₂O₂ / alkaline cleaner mixture for 10 min at 55°C.

In contrast, the "CJD"-program is more complex: After extensive precleaning follows a step of washing at pH 12 to 13 for 10 min at 90°C. In the next step, the materials are washed for 10 min at 60°C with a solution containing a high concentration of sodium hypochlorite (NaOCl). These decontamination stages are followed by normal rinsing steps.

Results: After processing the prioncontaminated test objects there was no remaining PrP^{Sc} detectable by our cell assay neither after using the new programs *Oxivarior*+ und *CJD-Dekontamination*, nor using the reference program *VarioTD*. Solely in one of our preliminary tests we detected a borderline low PrP^{Sc} -signal with our cells for *VarioTD*. We were able to confirm the insufficient cleaning of the *VarioTD* regarding the prion decontamination by the chemiluminescence test. With aid of this test it was possible to detect a remaining PrP^{Sc}-signal on the decontaminated surfaces only after treatment with the reference program *VarioTD*, but not with the new programs *Oxivarior*+ und *CJD-Dekontamination*.

Conclusion: Only the two new programs *Oxivarior*+ und *CJD-Dekontamination* seem to be sufficient to decontaminate PrP^{Sc} from heavily soiled surfaces. In contrast to the *CJD-Dekontamination*-Program and to conventional methods for prion inactivation (e.g. sodium hydroxide or sodium hypochlorite), the *Oxivarior*+ -process employing active oxygen might be even applicable for sensitive instruments such as minimally invasive surgical instruments inclusively the optics.

MP15**NEEDLE STICK INJURIES, ACCESS TO CONTINUING EDUCATION AND SAFE MEDICAL INJECTION PRACTICES IN FOUR HEALTH ZONES IN THE EASTERN KASAI PROVINCE, DEMOCRATIC REPUBLIC OF THE CONGO CCCONGO2005**

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Background: Various international health organizations, national regulatory agencies and professional bodies have issued preventative rules and guidelines to protect health care professionals as well as their clients. These measures are of utmost importance particularly within African health care systems where patients allegedly prefer injections to other treatment modalities. It remains unclear how well health care professionals working in HIV stricken health care systems have access to continuing education (CE) know and adopt these safety measures. Also unknown is the pattern of compliance with safe medical injections and the frequency of needle stick injuries they sustain as they perform their day-to-day professional duties.

Objective: We assess the frequency of needle stick injuries and participation in nosocomial infection control CE programs (NICCEPs) among health care workers in four health zones (HZs) in the Eastern Kasai province (DRC). We also investigate the association between access to NICCEPs, knowledge of and compliance with safety measures, and occurrence of needle stick injury.

Methods: Under a capacity development project funded by the US Agency for International Development through the Association Liaison Office for University Cooperation in Development and aimed at assessing and improving nosocomial HIV infection control related knowledge, attitudes, and practices, we conducted a baseline survey of health care workers in four HZs in March 2005, using self-administered questionnaires. Among other things, the subjects provided personal data on demography; participation in NICCEPs; knowledge and compliance with safe medical injection practices; and frequency of use of and of injury with needles. We used SPSS to describe our sample and explore the patterns of needle stick injuries, participation in NICCEPs, and association among relevant study variables.

Results: About 42% of the 218 respondents had not participated in any NICCEPs in the last three years. The average number of NICCEPs attended during the three previous years was 1.6 (N = 193; Median = 1; Mode = 0; Range = 18; S.D. = 2.66). About half (51.3%) experienced at least one needle stick injury and about 25% saw or heard about a co-worker who had experienced a needle stick. Forty-five percent reported an ongoing practice of reusing needles instead of discarding them after a single usage. There was a positive (Pearson's correlation = 0.025), yet non-significant correlation (n = 191, p = 0.76) between access to NICCEPs and experience of needle stick injury.

Conclusion: NICCEPs are a very rare commodity for the majority of health care professionals. Empirical evidence suggests that even when they are provided, NICCEPs are of questionable quality as means of enabling health care professionals to achieve safer medical injection practices. Needle stick injuries are very common in the Eastern Kasai province, exposing health care workers and patients to the risk of contracting infectious disease such as HIV/AIDS. There is a crucial need to improve the quality and quantity of NICCEPs and to promote effective infection control practices among health care professionals in resource-constrained countries.

MP17**SURVEILLANCE FOR SURGICAL SITE INFECTIONS IN B. C.**

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Background: Post-operative surgical site infections (SSI) account for up to 40% of nosocomial infections and are a major source of morbidity in surgical patients. As part of an initiative to provide the first provincial data on infection control practices in British Columbia (BC), a survey was conducted by the Provincial Infection Control Network (PICNet) to determine the scope of SSI surveillance activities, the methodologies and definitions used for data collection and a description of how results are shared and disseminated.

Methods: Questionnaires were sent to infection control practitioners at provincial acute care facilities and provincially-funded long-term care facilities. Data collected included type of SSI surveillance conducted, definitions used, the patient population under surveillance, risk stratification and classification methods, and other surveillance methodologies.

Results: A total of 64 responses (98.5%) were received. Data to be presented will include a descriptive analysis of the procedures performed, SSI surveillance programs in place, and data collection methods for SSIs resulting from orthopedic, breast, neuro, cardiovascular, obstetric, renal and gastrointestinal surgeries.

Conclusions: SSI surveillance is an important tool for SSI prevention and as a benchmarking measure to ensure health care quality service. This is the first report of the status of SSI surveillance in BC. The results of PICNet's survey show that limited surveillance of SSI occurs across the province of B.C. and in those areas where it is performed the methodology and reporting is varied.

MP19**SOME OF THE ONE HUNDRED THOUSAND LIVES SAVED**

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Background/Objectives: This initiative takes place in a 430 bed community teaching hospital with a 19 bed Critical Care Unit (CrCu).

In August of 2004, as part of their commitment to providing optimal care to their patients, members of the CrCu interdisciplinary team joined the Institute for Health Care Improvement (IHI) Collaborative. This endeavour was initiated and strongly supported by the hospital administration. A CrCu-dedicated Infection Control Practitioner (ICP) acts a resource for the team. Members of the interdisciplinary CrCu team attended IHI training sessions in the United States addressing best practices related to the management of intubated and mechanically ventilated patients. They adopted and implemented the IHI 'ventilator bundle' that reflects evidence-based best practice in ventilator associated pneumonia (VAP) prevention.

The objective of the project was to reduce VAP's and to initiate VAP surveillance.

Methods: All six components of the IHI 'ventilator bundle' were adopted. The introduction of this program centred around the introduction of a "Daily Goals Sheet" for each patient. Numerous versions were trialled and significant efforts were made to ensure the nurses were comfortable using the form. This is reviewed daily at multidisciplinary rounds and stimulates an assessment of compliance with the ventilator bundle. The front-line nurse is central to ensuring the implementation of the VAP bundle. If the patient has signs or symptoms suggestive of a VAP, the ICP is notified and the patient is assessed to determine whether they meet the National Nosocomial Infection Surveillance System (NNIS) criteria for VAP.

The number of ventilator-days is recorded daily by the night nurse. The data is compiled on a regular basis. The VAP rate is benchmarked to the NNIS pooled mean for a Medical-Surgical ICU under the heading of "All Others".

Results: VAP data was collected prospectively from December 12, 2004. The VAP incidence rate is at 4.7 per 1000 ventilator-days, which compares favourably to the NNIS pooled mean of 5.1/1000 ventilator-days.

Conclusions: The successful implementation of a bundle of best practice interventions to minimize VAP rates in a large community teaching hospital CrCu can be accomplished using a multi-disciplinary approach. The IHI initiative is useful in that it encourages using consistent methods to ensure compliance with interventions and reporting of suspected VAP. After implementation, our CrCu's VAP rate compares favourably with the NNIS benchmark.

MP21**THE EPIDEMIOLOGY OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS IN SOUTHERN ALBERTA**

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Background/Objectives: To determine the incidence of MRSA (methicillin-resistant *Staphylococcus aureus*) infection in each year between 1998 and 2002 in three southern Alberta Regional Health Authorities (RHAs) and describe the demographic characteristics of these individuals.

Methods: This was an exploratory, descriptive, population based study in which all laboratory identified cases of MRSA were used to estimate the incidence of MRSA, in each year between 1998 and 2002, in three southern Alberta RHAs. All of the samples that were analyzed were assumed to be causing an infection. Each isolate was counted by year of first isolation unless the isolate was from a re-infection, in which case the isolate was attributed to the year of re-infection. Individuals were grouped in two ways: first into hospital or community acquisition of MRSA and secondly as having an urban or rural place of residence. The demographic characteristics used to describe infected individuals included age, gender, health region of lab sample acquisition, community (CA) or hospital acquisition (HA) of MRSA and rural or urban residence. Where possible, these characteristics were compared to those of the general population using Census Canada data.

Results: An overall incidence of MRSA infection in southern Alberta, between 1998 and 2002, of 7.96/100,000 population (Range 1.75/100,000 – 17.3/100,000). The incidence varied in the three RHAs and once MRSA infections was identified in the region, the incidence increased in each year of the study period. CA-MRSA was first identified in 1999, in the Calgary Health Region (CHR). The median age of people infected with MRSA was 63 (IQR 45-76) and MRSA infections were more predominant in males (59%) than females (p<0.001), although females infected with MRSA were significantly older than males (p<0.01). Skin and soft tissue infections predominated, but there were significantly more of these infections in people with CA-MRSA (p<0.0001). Other factors associated with CA-MRSA included a younger age and a residence outside of the CHR.

Conclusions: This study has shown that MRSA infections were present in southern Alberta and that the incidence of new cases increased every year during the study period. In two of the three regions, MRSA infections were detected only recently. Further

research is needed to determine if the number of identified MRSA infection cases is still rising and if more community acquired cases are being identified. Results of this study confirm other published reports, with infections occurring more often in older age groups and in males more than females. In addition, the CA-MRSA infections occurred more often as a skin and soft tissue infection in the younger age groups.

MP23

HANDWASHING: THE KEY TO INFECTION PREVENTION AND CONTROL AND PATIENT SAFETY

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Issue: Handwashing compliance by health care workers (HCW) is not adequate. Observations by internal staff and external observers in our facility have indicated that HCW do not wash their hands on a regular basis either before, during or after patient related care. We determined that increasing patient knowledge was an excellent way to approach this issue.

Project: A handwashing pamphlet was developed for patient distribution outlining the importance of handwashing and giving samples of statements that a patient could use to approach the issue of handwashing with their HCW. The draft pamphlet was discussed with key stakeholders of the facility and revisions were made following these discussions. A graphic designer was involved to add appropriate pictures and the facility logo. Patient care managers were asked to volunteer two wards for the pilot, one medical and one surgical, and the pamphlet was distributed to selected patients on the wards. The purpose of the pamphlet was explained to the patients, and the day following distribution, they were asked to fill out a questionnaire to determine its impact. A meeting with the communication department was scheduled to discuss costing and distribution of a full-scale project.

Results: The results indicated that comprehension and readability were not an issue for the patients and that they felt all the necessary information was included. Patients welcomed additional information about handwashing and prevention of nosocomial infections but some patients indicated they felt intimidated by the HCW and would not be comfortable confronting them about handwashing.

Lessons learned: Our facility must address the importance of handwashing with all HCW and we must strive to make our patients more comfortable in their interactions with HCW.

MP25

USEFULNESS OF POST-ANTIBIOTIC TREATMENT SCREENING FOR METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) IN A COMPLEX CONTINUING CARE FACILITY.

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Objectives: (1) To find out the compliance of MRSA swabbing after antibiotic treatment; (2) To determine the rate of patients who develop MRSA; (3) To establish if multiple (prolonged) antibiotic treatment put the patient at a greater probability for MRSA colonization; (4) To ascertain whether the presence of multiple wounds predisposes the patient for MRSA colonization.

Methods: Bridgepoint Health is Canada's largest and most extensive integrated health care organization for specialized complex care services – complex rehabilitation, complex care, long-term care, and community-based care. The study was conducted from January 01, 2005 until June 30, 2005. The pharmacy department provided lists of patients receiving antibiotics. Swabs were collected from the nares, peri-rectal area, open wounds, and insertion sites forty-eight hours (48 hrs) following antibiotic treatment. The data gathered were entered in a Microsoft access database.

Results: All 198 patients were known to be MRSA negative and out of these, there were 15 former carriers. A total of 123/198 (62%) were screened for MRSA following antibiotic treatment. 17/123 (13.8%) were found to have MRSA, this included 4 recolonized former carriers. Positive patients were more likely those who received multiple antibiotics, had G-tubes and had multiple wounds.

Conclusion: The occurrence of MRSA following antibiotic treatment in a complex continuing care is not uncommon. Post-antibiotic screening is a useful way of detecting MRSA colonization that may otherwise be missed.

MP27

MINIMIZING POTENTIAL INFECTIOUS RISKS RELATED TO MULTIPLE USE OF MEDICATION VIALS

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Issue: Healthcare acquired infections due to viruses, bacteria and fungi have been attributed to improper use of multiple-dose vials (MDV). Outbreaks of these infections have been reported. MDV are used widely within our facility. The purpose of this patient safety project focused on identifying strategies to minimize infectious complications related to the use of medication vials.

Project: This project involved collaboration between Infection Control and Pharmacy Staff. Infection Control work focused on practices related to use of MDV in patient care areas, preventing contamination and subsequent transmission of infection. A literature search was completed, current site policies and procedures related to use

of MDV were reviewed and observations of use of medication vials in patient care areas were conducted. Pharmacy efforts concentrated on providing a safer medication system, such as supplying medications in ready to use formats and smaller dose vials. This process was initiated by completing an inventory of all injectable medications being supplied in MDV. A list of medications was identified as targets for switching to single-dose or smaller unit formats.

Results: It was observed that improper use of MDV was occurring in several areas of our site. Some examples include: using vials labelled as single-use only for more than one patient; inconsistent disinfection of vial diaphragm prior to accessing vial; and storage of medications at room temperature when refrigeration was required. An education poster developed to provide information about proper MDV use. Amendments to policies and procedures were recommended. A list of medications was identified by pharmacy with targets for switching to single-dose or smaller unit formats. A key objective of reviewing this list was to remove MDV where possible.

Lessons learned: The primary strategies to minimize potential infectious risks related to use of medication vials at our site:

Pharmacy should provide medication vials in unit dose sizes whenever possible so that multiple-use of medication vials is limited.

Healthcare workers must be aware of and follow recommended practices related to: proper aseptic technique when accessing a medication vial; correct storage of the vial; and when a vial should be discarded.

Administrative support is required for revisions to policies and for funding conversion to smaller unit dosing.

MP29

HOME CARE SURGICAL SITE INFECTION SURVEILLANCE PROGRAM

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Background: Surgical site infections (SSIs) are a potentially preventable source of patient morbidity and mortality. The current Calgary Health Region SSI Surveillance Program aims to improve the quality of care through prevention, early detection, and aggressive management of infections; yet, its efforts are concentrated in hospitals. Some post-discharge SSIs are detected through emergency visits or hospital readmission by the In-Hospital SSI Surveillance Program. The literature reports that the majority of these infections develop after discharge from hospital. Home care clients with surgical site infections (SSIs) suffer considerable morbidity and increase medical costs.

Purpose: The objectives were: (1) to determine SSI rates and predictors in home care, (2) to examine the feasibility of integrating SSI surveillance done in home care into current hospital-based surveillance programs, and (3) to develop a surveillance model for home care system that can be used to collect and disseminate real-time surveillance information on infections.

Methods: Prospective SSI surveillance was undertaken on a cohort of patients aged 18 or older who underwent cardiac or orthopedic implant surgery and were admitted to home care between January and June 2004. CDC definitions were used. The data collected from home care was linked with the in-hospital surveillance data. SSI incidence rates were calculated for SSIs first detected in Home Care and in-hospital and for all SSIs detected. Factors that predict post-surgical admission to home care and that predict detection of an SSI in home care were examined.

Results: Of the 1542 patients who underwent surgery, 272 (17.6%) were admitted to home care. The in-hospital and home care aggregate SSI rate was 3.5%. Active home care SSI surveillance increased detection of SSI by 100% from that found by in-hospital surveillance alone. Significant predictors for admission to home care following orthopaedic or cardiac implant surgery were: age > 70 years; female; the presence of > 5 comorbidities, tobacco use, more than 1 implant surgery and total, pre and post surgical LOS of > 7; > 0 and > 6 days, respectively. Significant predictors of SSI included excessive bleeding during surgery; diabetes mellitus; tobacco use; the presence of more than five comorbidities; total LOS > 7 days; pre-surgical LOS > 0 days; and post-surgical LOS > 6 days.

Discussion: The addition of home care SSI surveillance significantly improved our ability to detect surgical site infections. While < 20% of the patients who had cardiac or orthopedic implant surgery were admitted to home care, these individuals have characteristics that indicate that they are at increased risk for developing SSI than those discharge into the community. The next step is to fully integrate the home care and in-hospital SSI surveillance programs.

MP31

STAFF CONCERNS WITH NORWEGIAN SCABIES: THE OUTBREAK MANAGEMENT TEAM SHOULD DO MORE THAN "SCRATCH THE SURFACE".

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Issue: Norwegian scabies (NS) is a hyper infestation variant of scabies, highly contagious, often undiagnosed due to a lack of the characteristic sign of itchiness. The focus of this report is the staff frustration with the management of contacts (N=90) especially those who developed an itchy rash following the care of a patient with undiagnosed NS.

Project: As soon as the case of NS in the Intensive Care Unit was identified an outbreak Infection Control(IC) called an outbreak management meeting. The team

included representatives from IC, Occupational Health (OH), Administration, Respiratory Therapy, Housekeeping, Pharmacy & the Intensivist. The contacts, both patients and staff, were identified and treated in a timely fashion. All seemed well until staff who had been treated continued to have an itchy rash or had reoccurrence of the itchy rash. What went wrong?

Results: Feedback was obtained from staff via a debriefing meeting and follow-up phone calls. Issues included: i) inconsistent messages about the rash/treatment protocols ii) difficulty in getting a consistent clinician knowledgeable about scabies to diagnose and treat the rash iii) significant cost; financial and emotional iv) lack of support from management, IC, & OH.

Lessons learned: Norwegian scabies can cause an itchy rash as early as two days following contact. The initial outbreak management meeting should clearly delineate the roles and responsibilities of each team member. The distribution of a scabicide must be accompanied by oral and written instructions on its use. A consistent knowledgeable clinician is required to follow staff who present with an itchy rash following appropriate treatments. Collaboration between team members is critical!

MP33

QUICK GUIDES: PROVIDE ESSENTIAL INFECTION PREVENTION AND CONTROL INFORMATION WHEN THE MANUAL IS NOT ACCESSIBLE

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Issue: Policies, protocols, standards, guidelines and infection control procedures used to prevent health-care acquired infections and ensure the safety of patients/clients and staff are recorded in an Infection Control Manual. Acute hospital infection control manuals often fail to address issues related to transmission-based precautions required in private homes or supported care settings. In 2004, the Calgary Health Region manual for acute care moved to an on-line format to increase accessibility and to facilitate distribution throughout the region. However, for 300 Community Care Coordinators (CCC) in Home Care, access to a computer for timely information when providing care in a private home is not possible. A hard copy manual modified to address Continuing Care issues is available but carrying a large hard-copy manual is not an attractive option.

Project: A Home Care Quick Guide to Infection Prevention and Control was developed to complement the regional manuals. It is printed on both sides of a single, legal-sized paper and presented as a laminated tri-fold brochure. It contains: Standard Practice, Hand Hygiene, Care of Equipment and Supplies, Disease/Condition Table, Transmission-based precautions for Home Care including information for the client, How to Put on and Take off Personal Protective Equipment, and contact numbers for Infection Prevention and Control. CCCs from each of the home care teams reviewed the initial draft. All responded positively to the usefulness of the guide and their formatting suggestions were incorporated in the final product.

Results: Quick guides were distributed to all Home Care CCCs and are now included in the home care bags of all new CCCs. It provides timely information when CCCs are confronted with infection control issues in the provision of home care.

The quick guide concept has been adapted by the Department of Internal Medicine and the Department of Paediatric Medicine. Pocket Quick Guides were created as reference material for medical residents and paediatric residents and house staff. These guides contain a decision algorithm for multi-drug resistant organisms and transmission-based precautions for diseases/conditions for adult or paediatric acute-care. Community clinics have also requested the guide for their community workers. (The poster will contain samples of all three quick guides).

Lessons learned: An infection prevention and control quick guide effectively provides essential information and supports safe practice at times when regional manuals are not easily accessible. The template is easily adaptable for different care settings and disciplines.

MP35

THE DIALYSIS UNIT: THE ICP "ENFORCER" ROLE

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Issue: Infection prevention and control practices are often challenging in a Dialysis setting due to design flaws, high numbers of dialysis procedures, high nurse/patient ratios, and a high risk patient population. This report will focus on the initiatives of a novice ICP in increasing awareness of infection prevention practices.

Project: Quality assurance data identified a significant problem with catheter related bacteremias in 1999/2000. Subsequently a quality assurance team focused on improving practices related to catheter care. However, over time lapses in practices were noted.

The ICP's audit of the Dialysis Unit identified the following deficiencies: i) design flaws: drains not properly constructed absence of sinks in key areas, dialysis machine device problems; ii) dressing change protocols: inconsistent practices at the two sites; iii) isolation practices variances; iv) neglected Hepatitis B immunization and v) lack of involvement of patients and families in infection control issues. The ICP spent a major amount of time on the Units and organizing meetings with the Dialysis team in an effort to change the milieu which may have contributed to infection control hazards.

Results: The ICP became a member of the Dialysis Team Committee responsible for quality assurance practices within the Unit. Design flaws were addressed with the Facilities Management department. A video was developed through collaboration with staff on the Unit to enforce the protocols for setting up the lines and dressing changes. Education sessions were held formally and informally with staff to review the infection

control practices for Hemodialysis Units. A review of the Hepatitis B, pneumococcal and influenza vaccination program is underway. Patients and families are taught the importance of good handwashing and hygienic practices.

Lessons Learned: The ICP must gain acceptance and respect of the Dialysis Unit staff in order to implement and maintain changes in infection control practices. This acceptance can be gained by being present on the Unit, being knowledgeable about these practices, and having good communication skills. The role of "ICP Enforcer" becomes "ICP Partner".

MP37

IMPLEMENTATION OF STANDARD PRACTICE ON TWO SENIORS HEALTH ACUTE CARE UNITS FOR THE MANAGEMENT OF MRSA AND VRE

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Issue: The management of antibiotic-resistant organisms (AROs) in seniors' health acute care settings presents a dilemma to infection prevention and control programs. Group-based activities are central to seniors' health program rehabilitation aims, but are discouraged under Contact Transmission Precautions as described in national infection control guidelines.

Project: To assess the impact of switching from Contact Precautions to Standard Practice on the transmission of methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococcus (VRE) on two seniors health acute care units. New admissions were screened for MRSA and VRE at baseline and 21 days later, and ARO incidence rates were trended. Clinical and housekeeping practices were evaluated, and an educational program was provided to staff. Patient assessment tools were developed to stratify patients into high versus low transmission risk. Patients whose mental status precluded fecal continence or adherence to hand hygiene were placed on Contact Precautions. Otherwise, all ARO-positive patients were managed with Standard Practice.

Results: Staff knowledge of Standard Practice was deficient at baseline and remained so in the early phase of the intervention despite education, but improved subsequently with repeated education and the development of a practice audit tool. Staff awareness of the importance of equipment cleaning was also deficient and addressed through education and an audit tool. Housekeeping intensity was suboptimal, but only partially rectified due to logistic constraints. A liberalization of Unit admission criteria resulted in the admission of patients with longer stays, and longer stay was associated with ARO acquisition. ARO incidence was relatively stable during the intervention period, but there was a subsequent outbreak necessitating temporary reinstitution of Contact Precautions. Surveillance is ongoing, but will be scaled back in intensity to include only low risk patients.

Lessons learned: Standard Practice can be safely used for the management of ARO-positive patients in a seniors' health acute care program, but implementation of such an approach is extremely resource-intensive and depends on strong support from all unit staff including physicians, nurses, and therapists. Excellent documentation and communication of patient transmission risk status is essential. The benefit of a Standard Practice approach is facilitation of patient rehabilitation goals and improvement in patient flow. Patients at very high-risk of ARO transmission were excluded from this approach.

MP 39

DEVELOPING CONTENT FOR THE INFECTION PREVENTION AND CONTROL CORE COMPETENCIES ACROSS THE CONTINUUM OF CARE – THE ONTARIO EXPERIENCE

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Issue: The Ontario Ministry of Health and Long Term Care (MOHLTC), has developed a process for addressing the Walker Report recommendation that health care providers (HCP) across the continuum are to receive education and demonstrate knowledge of infection prevention and control.

Project: To address this, a Steering Committee, a content expert subcommittee along with sector specific subcommittees were formed. The Steering Committee has representatives from a variety of professional associations and sectors and is focused on recommending methods of facilitating the rollout of the program. The content expert subcommittee is comprised of CHICA-Canada members from Ontario who were selected based on expertise across the continuum of care and geographic location. The content developed is validated by the Provincial Infectious Disease Advisory Committee (PIDAC) subcommittee and a stakeholder group.

Steps taken:

1. Selection of content experts- CHICA-Canada members; Ontario representatives from across the continuum and by geography.
2. Development of guiding principles for content

3. Content development; defining essential core elements to improve patient and health care worker safety related to infections. Validated by stakeholder groups.
4. Web-based learning and evaluation is being done by a team of educational experts who will also evaluate the process
5. Pilot content in acute care setting and make changes from evaluation process.
6. Based on evaluation and stakeholders input, role out education for other sectors and target audiences.

Results: A key content of this project is how to sustain cultural change in infection prevention practices. By using CHICA-Canada experts, guiding principles, experts across the continuum of care combined with validation by stakeholders across the continuum of care and input from professional groups on how to sustain change, created a process to ensure maximum collaboration on this learning program. Samples of the content plus web-based learning and evaluation of the pilot project will be shared. **Lessons learned:** Creating sustained cultural change on infection prevention practices requires much collaboration from experts and stakeholders across the continuum of care and a unique approach to learning for health care providers.

MP41 DEVELOPING BC'S PROVINCIAL INFECTION CONTROL NETWORK (PICNET)

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Issue: In January 2005, the British Columbia Ministry of Health Services authorized the development of a provincial infection control network whose members will have expertise in infection control, laboratory medicine and public health and will 'provide advice and strategic intervention on relevant policy, procedures, and issues across the continuum of care including hospitals, residential facilities, and the community for the entire province and all health authorities'.

Project: In May 2005, the Steering Committee for the Provincial Infection Control Network was formed (see members listed under authors above). This was followed by a provincial conference of key stakeholders in late May 2005 and again in December of 2005. The focus for the first year of the network was the development of a governance model and also addressing key priority areas within the field of health care associated infections.

Results: In its first year of operation, PICNet adopted the Network model for day to day operations and long-term governance. The Steering Committee consists of representatives from across the continuum of care and reports externally to the Provincial Medical Services Committee. The project management office has a dedicated coordinator and support staff. The Network's practice is horizontal not hierarchical and participation is principally voluntary by professionals with a strong tradition of autonomy. PICNet has many roles which include: providing advice on relevant policy and issues related to health care associated infections across the continuum of care; providing knowledge to guide investigation or practice (e.g. evidence-based practice guidelines); supporting and coordinating communication and research by pulling common interests together; sharing information, and advocating on behalf of the community of practice. In 2005, numerous ad hoc working groups were formed including: communications, CDAD surveillance, urgent/emergent issues and needs assessment. Their deliverables included the development of the PICNet website, marketing materials, a glossary of terms, evidence-based practice guidelines for surveillance for *Clostridium difficile* associated disease in acute care facilities, a needs assessment plan and implementation, and criteria for evaluating network priorities, to name a few.

Lessons learned: One of the biggest challenges facing PICNet is prioritizing from the exhaustive list of requests tabled to it given the volunteer nature and the newness of the organization. For instance, when initially created, PICNet was asked to look at the surveillance of surgical site infections, but the working group was only able to meet for the first time in February 2006 because of overwhelming demands in other areas. In the months ahead, PICNet will be focusing on further defining its operational procedures which includes the development of a Priority and Planning Committee to review and prioritize all requests made to PICNet. As well, PICNet will continue to complete its work relating to *C. difficile* surveillance in acute care settings and complete its needs assessment for infection control resources.

MP43 PEDIATRIC PLAYROOMS AND INFECTION CONTROL IN A POST-SARS ENVIRONMENT: LESSONS LEARNED

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Issue: Pediatric playrooms within children's hospitals serve to promote the developmental needs of young patients. Research has shown that children's ability to play while in hospital is integral to their physical recovery and overall adjustment to hospitalization. However, pediatric playrooms are complex environments which require rigorous and consistent maintenance in order to control infection. These issues have

become particularly salient in a post-SARS environment.

Project: In order to adequately address these issues, a multidisciplinary team was formed to discuss strategies and propose policy changes. In particular, the child life department and infection control worked diligently to enhance safety and infection control precautions. In so doing, the psychosocial benefits associated with playroom use were secured.

Results: New strategies and policy changes were initiated.

Lessons learned: A discussion of the processes and tasks associated with this project will reflect lessons learned. Interdisciplinary collaboration is essential for the successful implementation of infection control precautions and the promotion of psychosocial care.

MP45 PARAMEDIC SERVICES WORKPLACE PROGRAM IMPROVES INFLUENZA IMMUNIZATION RATES AMONG PARAMEDICS

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Issue: The National Advisory Committee on Immunization (NACI) states health care workers (HCW) are capable of transmitting influenza to those at high risk of developing severe complications from influenza. Studies have also shown HCWs continue to work while they are ill and some may have subclinical infections. As a result they are potentially capable of transmitting influenza to patients who are at high risk for complications. The NACI not only recommends HCWs receive annual influenza vaccination, but also states that vaccination of HCWs is an "essential component of the standard of care for influenza prevention for the protection of patients". While providing prehospital care Paramedics often care for patients who are at risk for developing severe complications from influenza. These include the elderly, residents of long term care facilities and chronically ill. Paramedics also attend to patients who may be in a facility experiencing an influenza outbreak. This highlights the need for Paramedics to receive annual influenza vaccination. In the Province of Ontario influenza vaccine is provided without cost to all residents. It is not mandatory for HCWs. In 2005 it was identified that improvement on the 63% vaccination rate of County of Simcoe Paramedics in 2004 was required.

Project: An education program about influenza and influenza vaccination was implemented as part of a continuing medical education (CME). The program included information about influenza and influenza vaccination and focused on the importance of receiving the vaccine as a standard of patient care. A workplace immunization clinic was delivered in conjunction with the CME.

Results: 87.5% of Paramedic staff received influenza vaccination in 2005.

Lesson learned: The availability of the vaccine at the time the educational session was delivered was a major factor in the success of the program. Additionally, it was clear the presentation of factual information about influenza vaccination and the importance to the standard of care delivered to prehospital patients resulted in the large majority of Paramedics in the County of Simcoe receiving annual influenza immunization.

MP47 BROAD-SPECTRUM MICROBICIDAL ACTIVITY, TOXICOLOGICAL ASSESSMENT AND MATERIALS COMPATIBILITY OF A NEW GENERATION OF ACCELERATED HYDROGEN PEROXIDE (AHP)-BASED ENVIRONMENTAL SURFACE DISINFECTANT

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Background: Concerns on human and environmental safety and label claims of many microbicides point to the need for safer, faster-acting and broad-spectrum substitutes. ACCEL TB, 0.5% accelerated H₂O₂ (AHP)-based disinfectant described here is a potential candidate.

Objective: To test the formulation for its broad-spectrum microbicidal activity, safety and materials compatibility using internationally-accepted protocols.

Materials and Methods: Activity against bacteria (*Staphylococcus aureus*, *Escherichia coli*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Vancomycin-resistant Enterococcus faecalis*, *Methicillin-resistant Staphylococcus aureus* and *Salmonella choleraesuis*) was tested with the AOAC use-dilution method and the first tier of a quantitative carrier test (QCT-1). Mycobactericidal activity was tested against *Mycobacterium bovis* and *M. terrae* using a quantitative suspension test (QST) and QCT-1, respectively. Fungicidal activity (*Trichophyton mentagrophytes*) was determined with the AOAC test and QCT-1. Activity against several enveloped and non-enveloped viruses was evaluated using ASTM method #E-1053. Sanitizing action was tested against seven types of vegetative bacteria with AOAC method #961.02. All microbicidal tests contained an added soil load; in all AOAC tests, it was 5% fetal bovine serum and in QCT-1, a mixture of three types of proteins in phosphate buffer was used instead.

The methods to test for acute oral, dermal, inhalation toxicities, and dermal and eye irritation as well as skin sensitization complied with the requirements of the Organization for Economic Cooperation & Development, and U.S. EPA (OPPTS 870). Standard methods were also used to test compatibility with metals and plastics

Results At 20°C, the full-strength product was bactericidal and virucidal in 1 min and mycobactericidal and fungicidal in 5 min. It was non-irritating to skin and eyes. The acute oral LD50 was >5000 mg/kg. It was compatible with 12 types of plastic and three out of four metals.

Conclusions: The tested formulation showed a high safety and materials compatibility profile in addition to being a fast-acting, intermediate-level disinfectant.

TP2

DEVELOPING A CONSENSUS GUIDELINE FOR ASEPSIS AND HYGIENE FOR LONG TERM CARE AND COMMUNITY

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Background: The National Action Plan on Antibiotic Resistance (2004) calls for updated guidelines on hygiene and asepsis for long term care and community care including health care offices. The aim is to strengthen the infection prevention aspect in long term care and community care through clear, easy to use consensus guidelines and reduce the spread of antibiotic resistant organisms in those settings. There are some recent well researched guidelines but they are not easy to read and apply in clinical settings. The goal is to produce a 7-10 page consensus guideline including references plus an audit tool to use for self assessment.

Methods: 10 expert Infection Control Professionals plus a facilitator were chosen for their background in the community or long term care using core competencies and producing guidelines from different regions across Canada. Using part of CHICA's core competencies as an outline, an evidence based guideline was developed. In addition, an audit tool to evaluate application of the guideline was developed and a number of fact sheets to provide simple direction to the clinical areas on particular subjects

Results: The document: Consensus Guidelines for Asepsis and Hygiene in Long Term Care and Community will be released at the conference.

Conclusions: Updating existing guidelines using expert opinion and consensus built upon the CHICA core competencies to make the information more accessible to people in the field is worthwhile and important to ensure safer patient care.

Sponsored by Canadian Committee on Antibiotic Resistance

TP4

INFECTION CONTROL PRACTITIONER AS A SOCIAL MARKETER--IT'S A GOOD FIT.

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Issue: Using the principles of social marketing, Infection Prevention and Control (IP&C) developed a program to change hand hygiene behaviour in the Calgary Health Region.

Project: The following steps were taken to develop a regional hand hygiene campaign: (1) Identify the change objectives; (2) Determine the target audience; (3) Perform formative research to identify benefits, costs, sources of social pressure, and self-efficacy factors related to the target behaviour; (4) Assess competing behaviours; (5) Determine what needs to be done to facilitate target behaviours; (6) Set communication objectives; (7) Develop and implement the plan; (8) Periodically evaluate the program's progress.

Results: Formative research (focus groups and surveys) revealed that physicians and nurses viewed the need for hand hygiene differently: nurses perceived that physician didn't wash their hands as much because they had less patient contact, while physicians perceived hand washing as "nursing-type" behaviour. Physicians viewed hospitals as "dirty" while community physician offices were considered less so. The cultural norm for nurses was handwashing, while the accepted hand hygiene norm for physicians was poor handwashing. Physicians are independent rational thinkers and would decide when hand hygiene was necessary. Hand hygiene questionnaire completed by 309 participants (44% nurses, 3% physicians) revealed the following results. Twenty-eight (28%) had seen the travelling kit and 24% agreed that they were then more aware of hand hygiene; 94% had seen the hand hygiene posters and 69% were more aware of hand hygiene, 57% had seen the hand hygiene articles in regional newsletter and magazines and 44% were then more aware of hand hygiene. Baseline surveys performed early in the promotional campaign indicated that 97% of participants reported they practiced hand hygiene between all patient contacts, while they believed that only 67% of other healthcare workers did so. 96% agreed that the wall mounted dispensers of AHR made it easier to do hand hygiene. As well, 84% of respondents agreed that patients' observation of staff using hand rub helped to build patient confidence in the healthcare worker. However, only 63% of respondents indicated that they washed their hands more often than they used AHR.

Lessons learned: (1) An increased use of AHR has not yet been achieved early in the campaign. More emphasis on the relative superiority of hand rub over hand wash is required; (2) Social marketing principles are a useful tool for IP&C to develop a behaviour change program; (3) Behaviour change occurs over an extended period of time, and this campaign has a four-year timeline. (4) Social marketing programs can be modified based on the ongoing target audience research.

TP6

EXAMINATION OF THE CHANGES OF OROPHARYNX FLORA RELATED TO HOSPITALIZATION

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According to changes in the surface of respiratory epithelial cells & host immunity as well as virulence of hospital acquired pathogens , oropharyngeal colonization enhance in hospital admitted patients. Patient admission in hospital, due to changes of oropharyngeal flora and colonization of virulent germs such *Staphylococcus aureus* & gram negative bacilli can be a serious problem for developing respiratory infections and nosocomial septicemia. This investigation has on effects of residency of patients in the hospital by oropharyngeal flora.

This was a Quasi-clinical trial and assembled data is based on observation and interview. Oropharyngeal germ samples of 30 admitted patients in dermatology ward of Lohman hospital were cultivated at the first and fifth day of admission. All the colonies were distinguished by microbiologists.

Thirty patients at the range of 44 ± 20 years of age were studied. There have been history of corticosteroid usage in 16 persons (53%) and usage of a cytotoxic drug in 8 persons (27%). There has been α hemolytic Streptococci in 100% of patients, *Neisseria* in 87% , coagulase positive *Staphylococci* in 3%, yeast in 3% and gram negative bacilli in 13% of the patients at the beginning of admission. At the fifth day of admission, α hemolytic *Streptococci* & *Neisseria* had the same values as they were at the first, but colonization of coagulase positive *Staphylococci* increased by 30% , the increase of the yeast was 23%.

According to this study changes of oropharyngeal flora in a 5 days admission were statistically significant for coagulase positive *Staphylococci* and yeast but these changes are not significant for other investigated germs.

TP6 Table 1 : The distribution of the patients hospitalized in the dermatology ward based on oropharyngeal flora before and five days after hospitalization in Lohman Hakim hospital , 2000.

Organism	The first day of hospitalization	The 5 th day of hospitalization
<i>Neisseriaceae</i>	26 (87%)	26(87%)
<i>Alfa hemolytic Strep.</i>	30(100%)	30(100%)
<i>beta hemolytic Strep.</i>	2(7%)	2(7%)
<i>coagulase positive Staph.</i>	1(3%)	9(30%)
<i>coagulase negative Staph.</i>	19(63%)	16(53%)
<i>E.coli</i>	3(10%)	6(20%)
<i>Klebsiella</i>	0(0%)	3(10%)
<i>Pseudomonas</i>	1(3%)	1(3%)
<i>Diphtheroids</i>	18(60%)	15(50%)
<i>Fungus</i>	1(3%)	7(23%)
<i>Pneumococcus</i>	5(17%)	4(13%)

TP8

MANAGING A VRE OUTBREAK AND IDENTIFYING RISK FACTORS IN AN ACUTE CARE PAEDIATRIC SETTING

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Background/Objectives: We identified our first case of VRE through a VRE screening protocol of stools sent for *C. difficile* testing, prompting an outbreak investigation in spring 2005. It was hypothesized that a patient with unrecognized VRE colonization was admitted to one of the general medicine or haematology/oncology/BMT units, resulting in transmission to other patients. To identify risk factors for VRE colonization/infection in hospitalized children, a case-control study was also performed.

Methods: Extensive screening protocols were established, using culture and/or PCR as appropriate. Strict transmission-based precautions were implemented and patient, staff, visitor, and equipment movement were restricted. Enhanced housekeeping protocols were implemented and environmental screening was performed on the affected units, focusing on shared patient-related equipment. For the purpose of the case-control study, the case definition was defined as any patient with culture verified VRE colonization of the rectum or stool during the defined outbreak period. Control patients were defined as the two subsequent patients admitted after a case patient with the closest matching length of stay. Risk factors screened for included age, previous hospitalization, immunosuppression, antibiotic use, use of specific therapeutic agents, invasive devices and specific procedures.

Results: Seventeen hundred and forty-five patients were identified as contacts. An estimated 60% of these patients were screened with rectal swabs. This revealed a total of 37 (2%) cases of VRE colonization. All but two of the cases had strains that were proven to be closely related. Two thirds of the cases were identified as inpatients and one third through follow-up ambulatory screening. Patients from general medicine and haematology/oncology/BMT units comprised the majority of cases. VRE was cultured from a shared recreational item. No other environmental reservoirs were identified. The case-control study identified three factors associated with this outbreak: 1) ICU stay, 2) antibiotic use, and 3) environmental colonization. The financial impact of the outbreak was conservatively estimated at more than \$200,000.

Conclusions: Increased screening requirements for all patients may be justified to identify VRE cases earlier. Judicious use of antibiotics should be encouraged and protocols established. Shared recreational items can be point sources for VRE colonization and warrant particular attention in housekeeping protocols in paediatric hospitals.

TP10

RECENT HOSPITALIZATION OUTSIDE CANADA AS RISK FACTOR WORTHY OF CONSIDERATION FOR STRATEGIES TO REDUCE NOSOCOMIAL TRANSMISSION OF ANITBIOTIC RESISTANT ORGANISMS.

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Issue: Antibiotic-resistant organisms are more prevalent in hospitals in the US and some other countries than in hospitals in Canada. We asked whether identifying patients with recent foreign hospital admission is a valuable component of our hospital control program for methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE).

Project: Data from 2003-2004 for patients with a history of recent foreign hospital admission (>24h stay within previous 6 months) and risk of MRSA or VRE colonization were included. Our methods of obtaining this history and policy of isolating patients with such a history pending negative screening results (repeat specimens, with at least one being collected 7 or more days following foreign discharge) were evaluated.

Results: Approximately 50, 758 patients were admitted in the 2 year period. Overall, 41 (0.08%) were identified as having a history of foreign hospitalization. 59.5% of foreign admissions had been in US hospitals, with Florida being the most common location. 19.5% (8/41) of these patients were direct transfers. 75.6% (31/41) were identified from screening questions in admitting; remain patients by other methods, including: communication between health care worker and infection control team, chart review or patient interview following positive microbiological findings for either MRSA or VRE. None of the 41 patients with foreign admission were known to be colonized with MRSA or VRE prior to admission to our hospital; however 29.4% (10/34) of these patients were either colonized or infected with one of these organisms. None of the 4 MRSA patients and 33.3% (2/6) of the VRE patients identified transmitted the organism to one or more patients. The MRSA or VRE was detected on first set of screening specimens 50% (5/10) of the time, in others, a second test was required to isolate the organism. 15.7% (6/38) of VRE patients, and 2.1% (4/188) MRSA patients had an identified foreign admission. The odds ratio (OR) of being positive for MRSA or VRE for patients with a recent foreign admission history is OR= 24.27 (p 0.00036) when history was collected screening questionnaire alone; when all methods of collecting such a history were included, OR= 75.42 (p <.00001, 95% CL, 34.16, 162.60).

Lessons learned: Recent admission to a hospital outside Canada is a risk factor for carriage of MRSA and VRE. A program with multiple strategies to identify patients with a history of foreign hospitalization is important in our population. These patients present a risk for nosocomial transmission, particularly for VRE. One set of screening specimens is not sufficient in the detection of MRSA and VRE following admission to foreign hospital. This evaluation supported our program of asking patients about recent hospital admissions and isolating patients microbiological results for antibiotic resistant organisms.

TP14

PROMOTING EVIDENCE BASED PRACTICES IN THE OPERATING ROOM

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Issue: Observational audits done in the operating room (OR) in response to questions about surgical site infection rates led to further questions about inconsistency of practices across sites.

Project: A team was assembled to review evidence in the literature and practice guidelines, consult others across Canada, develop consensus on best practices and recommend changes as necessary. Team members included OR educators, OR and Day Surgery Unit nurses, Infection Prevention & Control (IP&C) practitioners, a researcher and a representative from Housekeeping. Subgroups worked on topics related to preop preparation (including preop baths and skin preparation), surgical attire, traffic patterns and housekeeping.

Results: Evidence based decision-making was difficult because results of research studies, where they existed, were often conflicting or inconclusive. Some studies had a small sample size, many dated from more than 10 years ago, and some used microbial count rather than infection as an endpoint. This lack of strong evidence has led to recommendations from the Centers for Disease Control and OR professional associations that are broad enough to identify the variety of practices in our ORs as acceptable, but too broad to be helpful for choosing one specific practice over another. If there was no convincing evidence for a specific practice, we focused on the rationale for the practice. When necessary, we took a conservative approach and made a decision based on theoretical risk of microbial transmission. Some practices, such as wearing a lab coat over surgical attire outside the OR Suite, were adopted to promote a professional image, rather than for IP&C reasons. Policies have been revised on the basis of this project, and strategies are in progress to promote adoption by all OR workers, including nurses, surgeons and anesthesiologists. The project results were shared at a provincial OR Nurses Conference.

Lessons learned: When evidence is weak, it is helpful to articulate the rationale for practice decisions. OR nurses have said that doing so enables them to defend policies when questioned by others. The process increased the profile of IP&C in the OR, with administration and provincially, and key people in policy making gained some experience with critical appraisal of the literature and evidence based decision-making.

TP16

LESSONS LEARNED IN INTRODUCING AND MAINTAINING ALCOHOL HAND SANITIZERS

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Issue: Alcohol Hand Sanitizers (AHS) are an essential hand hygiene product in health care today. We would like to share four years of experience and insight in introducing, sustaining and increasing use of AHS in our health care organization.

Project: The initiative to install AHS throughout our six-site 1300-bed organization progressed through three phases: (1) Obtain funding and administrative support to purchase and install AHS; (2) Develop an AHS implementation strategy that maximized acceptance of AHS by all stakeholders; (3) Modify and improve on our strategy based on lessons learned.

Results: The Infection Prevention and Control Team received funding after presenting a business plan with costs, benefits, and deliverables to the administration. The introduction of alcohol hand sanitizers began with the development of a pilot project on a surgical unit. After the pilot project phase ended, AHS were introduced throughout our largest acute care hospital, and then to our other sites. Today, there are approximately 0.7 dispensers per patient/resident—an average increase of 130 per year. Feedback from staff, visitors and patients indicate that AHS are now accepted as the standard hand hygiene product.

Lessons learned: Over the last four years we have developed methods to manage theft, abuse, floor staining, empty dispensers, and fire concerns of AHS products. We have also found that custom signage for all staff, visitors and patients aid in promoting usage of AHS. Future initiatives include tracking usage patterns of AHS to demonstrate to staff, leaders and the administration of the continuing need for AHS. We encourage ICPs who are introducing AHS products to their facilities to consult and ask for lessons learned from peers who have already instituted AHS.

TP18

PARTNERSHIP AND PREPARATION: BUILDING A REGIONAL LONG-TERM CARE INFECTION PREVENTION AND CONTROL (IPAC) PROGRAM

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Issue: The Region of Peel has a population of 1 million living in urban and rural settings. Currently, Peel has five regional long-term care (LTC) facilities providing care for 750 residents. Identification of requirements for an IPAC program prompted a collaborative relationship between Peel Public Health and the Peel LTC Regional homes. Two infection control specialists (ICs) were hired by Peel Public Health to evaluate the IPAC programs in the regional homes and to develop and build a standardized, evidence-based IPAC program.

Project: A needs assessment was conducted over a period of two months. The ICs functioned as Infection Control Practitioners (ICPs) in the homes during this time. The regional homes were compared by size, facility, program components, services and location. A Strength/Weakness/Opportunity/Threat (SWOT) analysis was completed for each home resulting in issues identified and prioritized for each home. Consistent, evidence-based policies and procedures, education and surveillance, were identified as the priorities. Programs were implemented to address each of these issues.

Results: A standardized IPAC program is now in place within the regional homes with a raised awareness for the importance of IPAC being integral to facility functioning. Surveillance benchmarking is proceeding. Challenges were four fold: 1. Standardizing policies and procedures, 2. Educating staff, 3. Establishing the importance of surveillance in providing a safe environment for staff and residents and 4. Promoting change in housekeeping practices. In addition, new ICPs were hired, and oriented to the new IPAC program.

Lessons learned: The original intent of this plan was to have Public Health provide resource support to the LTC facilities on a permanent basis, however, the reporting structure and individual philosophies of each facility proved challenging. It became clear that the regional homes required their own in-house staff dedicated to IPAC. The LTC ICPs continue to be mentored by the Peel Public Health ICs as they evolve the IPAC program within their facilities.

TP20

QUALITY INDICATOR MEASUREMENT OF THE EFFECTS OF AN ENGINEERING CHANGE FOR SAFER PRACTICES IN AN EMERGENCY RESPONSE SETTING

B Goulet, M McKenzie

Emergency Medical & Fire Rescue Services, City of Edmonton, Edmonton, Alberta, Canada

Objective: Using our quality measure for safe practice in an emergency response setting, a six year review of blood and/or body fluid exposures demonstrates the effects of introducing safety-engineered sharp devices.

Setting: The City of Edmonton Emergency Medical and Fire Rescue Services provide coverage to 712,391 citizens of Edmonton. Emergency Medical Services (EMS), with a complement of 257 front line workers, provides pre hospital care and transport in emergency events and, until January, 2004, inter-hospital transfers. Fire/Rescue (F/R), with approximately 801 front line staff, are first responder medical aid providers at medical events.

Investigation: From January 2000 to December 2005, 107 blood and/or body fluid exposures were reported to the Infection Control Officer - 18 in 2000, 24 in 2001, 15 in 2002, 16 in 2003, 23 in 2004, and 11 in 2005. EMS exposures were analysed by using number of exposure hours (hours of work) as an overall denominator. Number of IV starts or attempts was used for IV related exposures. In the fall of 2003 safety-engineered sharp devices were introduced into EMS.

Results: EMS had 11 exposures in 2000, 20 in 2001, 13 in 2002, 14 in 2003, 18 in 2004, and 8 in 2005. F/R had 7 exposures in 2000, 4 in 2001, 2 in 2002, 2 in 2003, 5 in 2004 and 3 in 2005. Annual EMS incidence event rates were calculated as 2.88/100,000 exposure hours in 2000 (11/381391), 4.87/100,000 in 2001 (20/410535), 2.98/100,000 in 2002 (13/435866), 3.11/100,000 in 2003 (14/449723), 4.65/100,000 in 2004 (18/387017), 2.01/100,000 in 2005 (8/398038). Incidence rates of IV catheter exposures in EMS were calculated as 0.25/1000 IV starts in 2000 (3/11,967), 0.22/1000 in 2001 (3/13,801) and 0.28/1000 in 2002 (4/14,380), 0.15/1000 in 2003 (3/19,753), 0.21 in 2004 (4/18,969), 0.15 in 2005 (2/13023).

TP 24

THE "OTHER" COST OF HAI

P Webber

Webber Training Inc.

Issue: The costs to the health system of hospital-acquired infection (HAI) are well researched and documented. There is another cost of HAI that is not researched, not documented, and goes almost entirely unreported – the cost to families and friends of those infected patients whose hospital stay is extended beyond original expectation.

Project: All expenses for family, friends and employers were tracked that applied to the extended hospitalization of a heart surgery patient who acquired an HAI during care. The expenses only applied to the period of hospitalization beyond what would normally have been expected for the procedure. The starting date is the originally anticipated date of discharge, and the ending date is the date of the patient's death as a direct result of HAI. This poster will itemize each expense type and value. Expenses that would have been incurred regardless were discounted. No allowance was made for the emotional impact of stress and strain caused by HAI, and how this might directly or indirectly add to the total financial burden.

Results: In this situation, the cost to family, visiting friends, and employers totaled \$15,925 for the 24 additional days of hospitalization necessitated by the HAI.

Lessons learned: The non-hospital cost of HAI will be different for each patient and therefore it is impossible to extrapolate from these numbers an average cost for every situation. This is, however, an indication of the substantial financial impact of HAI that never appears on a balance sheet or budget, and that is only considered during discussions of the larger result of infection control failure.

TP26

DEVELOPING A FUNCTIONAL EXPOSURE MANAGEMENT PROGRAM FOR AN URBAN EMERGENCY RESPONSE SETTING

M McKenzie, B Goulet

Fire Rescue and Emergency Medical Services, City of Edmonton, Edmonton, Alberta, Canada.

Issue: The need for review of an already developed protocol for managing blood and/or body fluid exposures became apparent following two severe and complicated exposures at one event in fall, 2004.

Project: Review of all aspects of the protocol was undertaken particularly immediate response, assessment by Emergency physicians and source patient screening when issues around legalities, a homicide and lack of communication complicate the follow-up process. Support for the exposed workers by their superior officers was also reviewed. Feedback from frontline workers, Fire Captains and Emergency Medical Services (EMS) Superintendents was sought and the need for more readily available information was identified. Working through the Fire Rescue (FR) OH&S Committee and the EMS Health and Support Services Committee (HSSC) changes were made and an algorithm developed which clarifies the process. Understanding of the word "immediate" was key in all education sessions as this was differently interpreted from service to service. EMS exposed workers had always been accompanied to the Emergency Department (ED) by a Superintendent; however the same did not apply for FR workers. Expectations of the "assessment and counseling" responsibility of the Emergency physicians were not clearly outlined. Discussions with Infectious Disease (ID) specialists reinforced that the process initially established continues to work well.

Results: The algorithm outlines expectations and this has been valued by the workers, senior officers and the Emergency physicians. Exposure follow-up information was removed from incident reporting packages and exposure packages were created: different colors, more widely distributed, includes algorithms, responsibilities and follow-up information for exposed workers. We instituted that a senior officer would attend ED with the exposed Fire Rescue worker. The algorithm was also made into posters which were distributed to all stations and posted in easily viewed areas.

Lessons learned: Since instituting the new protocol and following an extensive education campaign the protocol has been tested on several occasions and has been well received by all parties. The need to have a knowledgeable designated officer shepherd workers through the follow-up process was amplified and continues to be the major focus of the exposure protocol. Cooperation of emergency departments, laboratories, ID physicians and others is key to getting the appropriate attention for our exposed employees.

TP 28

THE IMPLEMENTATION OF THE NASOPHARYNGEAL SWAB TEST IN THE EMERGENCY DEPARTMENT

E Churchill, Infection Control Team of Mount Sinai Hospital
Department of Microbiology, Infection Control, Toronto

Issue: Nasopharyngeal (NP) swab testing for respiratory viruses in the acute care hospital setting has been scarce and intermittent at best. We hypothesized that the use of the NP swab done in the Emergency Department (ED) to detect respiratory viruses (influenza A, B, RSV, parainfluenza viruses 1, 2, and 3 and the adenovirus), would be helpful in the diagnosis of and precautions for admitted patients.

Intervention: Nasopharyngeal "kits" including: nasal swab, viral transport medium, information sheet on how to perform an NP swab and laboratory requisition were made up by an infection control practitioner (ICP) and put into the ED for easy access. In-services were done by both an ICP and the ED's clinical nurse educator on how to identify patients needing testing and proper technique for an NP swab.

Results: Fifty-four NP swabs were done from Jan 1, 2005 to Dec 31, 2005 versus 11 from Jan 1, 2004 to Dec 31, 2004. Of the 54 swabbed patients, 17 (31%) had positive results (11 Influenza A, 3 Influenza B, 2 RSV and 1 unknown respiratory virus), ten (59%) of them being detected by direct test (<24 hrs). Thirty-two of the 54 (59%) patients swabbed were admitted to the hospital, of those 9 (28%) had positive rapid tests. Twenty two (67%) admitted were from a long term care facility.

Lessons learned: The NP swab kits were widely favoured by the emergency room staff. The kits were both easy to obtain and use. For the admitted patient, knowing the result of NP swab aided in both the proper diagnosis as well as the appropriate use of precautions and bed assignment. A high percentage of patients who were swabbed presented from a long term care facility. As Mount Sinai Hospital admits over 450 patients annually with a diagnosis of pneumonia or respiratory infection, our aim would be for all patients presenting to the ED with any febrile respiratory illness to have an NP swab done to assist in diagnosis and not just those coming from long term care facilities.

TP30

SELECTING GLOVES FOR YOUR PRACTICE

L Ouellet

Ansell Canada

Issue: Infection control and prevention in healthcare is a topic that is gaining interest. Healthcare professionals are raising the bar in reducing infection risks and increasing patient safety. It is the responsibility of each healthcare professional to ensure a safe environment.

Infection control in practice starts with complying with proper hand-washing. Can gloves prevent nosocomial transmission?

Project: The use of gloves can reduce the risk of cross-infection for patients and healthcare professionals. A.F. Pabela demonstrated that 200 deaths and 9 000 infections would be prevented annually with proper glove use.⁽³⁾ This is dependent, however on the correct type of glove being selected for the task at hand. To healthcare professionals, the true relevance is whether a glove will provide adequate protection in practice. Studies are lacking identifying glove performance under daily stress such as turning a lure lock from an IV line to a needle stick.

Results: This article revises existing scientific data in helping healthcare professionals to set criteria's in selecting gloves for their practice. It will describe recommendations from Health Canada, FDA and WHO. It will clarify glove selection for their daily practice keeping in mind patient and staff safety.

TP32

THE CHANGING FACE OF HEALTH CARE FACILITIES

W Lee for the Infection Control Team

Mount Sinai Hospital, Toronto

Issue: Most hospitals in Ontario were built prior to 1970 and are currently in need of modernization and renovation. In the last several years the adequacy of isolation facilities in health care institutions has been severely challenged by the emergence of new and novel pathogens eg. severe acute respiratory syndrome (SARS), the increased incidence of antibiotic resistant organisms (ARO's) such as methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE), extended spectrum beta lactamase resistant organisms (ESBL's) and the continued presence of tuberculosis and viral childhood illnesses in the population. The increase in conditions requiring spatial separation to enhance infection control measures has put unprecedented demands on aging buildings with already inadequate numbers of single rooms, and even fewer rooms with appropriate ventilation.

Project: To review currently available standards and recommendations to identify design principles that must be considered in the renovation and updating of health care facilities. A number of Canadian and American infection control publications include recommendations for when and where single rooms or negative pressure isolation are required to minimize transmission of specific pathogens. However, the documents included in this review focus on structural and mechanical standards and applications required to achieve these goals.

Results: In Canada, the Guidelines for Preventing the Transmission of Tuberculosis (Health Canada) outlines ventilation requirements stipulating specific air flow patterns (negative pressure) and the number of air exchanges required to effectively control transmission. The Canadian Standards Association (CSA) Ventilation Standards outline ventilation requirements for airborne isolation rooms but lack room design specifications. The U.S. Center for Disease Control has published two evidence based guidelines outlining ventilation strategies and control measures. The American Institute

of Architects (AIA) standard for the Design and Construction of Health Care Facilities outlines the significant infection control considerations for all areas of a health care facility from the general layout to and including the details of room finishings.

Lessons learned: Principles of design, construction and the integration of available technologies must be considered in any renovation or construction project in order to limit risk of disease transmission. Each building is different and no one document addresses all design issues. It is necessary to compile recommended practices from a number of credible sources. This project summarizes the key issues addressed in each document and their potential application in planning and preparing an institution to meet the current and future infection control needs.

C. Infection Prevention and Control

D. Other

E. Poster

TP 34

METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS OUTBREAK IN A CHIROPODY CLINIC.

V Nankooosingh, H Dedier, K Manning-Atwell, S Kenny, P Nielsen, K Iverson, MA Gardam

Infection Prevention and Control (IPAC), and Chiropody Clinic University Health Network, Toronto, Ontario

Background: The University Health Network (UHN) is a 3-site university affiliated teaching hospital with a variety of priority programs, such as cardiology, transplantation, oncology and neurology. The chiropody clinic, located at the Toronto General Hospital site, primarily treats patients with diabetic and vascular wounds of the lower leg and foot and is a referral centre for UHN patients with over 2000 outpatient visits a year.

Objective: In the fall of 2005, eleven patients with a chiropody outpatient appointment were identified with methicillin resistant *Staphylococcus aureus* (MRSA). All of these patients had MRSA isolated from wounds in areas consistent with treatment by the chiropody clinic. The hypothesis of healthcare associated transmission was investigated to determine if the patients had acquired MRSA in the chiropody clinic.

Methods: An audit of the chiropody clinic was completed by IPAC. This included observations of patient flow and patient care practices, a sterilization audit in conjunction with the Central Processing Department (CPD), and an audit of medications, patient care items and other products used in the clinic. A microbiological investigation of the MRSA isolates was conducted using Pulsed-field Gel Electrophoresis (PFGE). In addition staff from the chiropody clinic were screened for MRSA through the Employee Communicable Disease Surveillance Unit, a division of the Occupational Health Department.

Results: Of the 11 cases of MRSA, 6 patients had risk factors for acquiring MRSA (5 of these patients had been inpatients in other hospitals within the past year and 1 patient had a history of MRSA prior to visiting the clinic). PFGE revealed 2 separate clusters of patients, within which the strains of MRSA were determined to be genetically related. No additional MRSA was identified through the staff screening. The clinic audit revealed several areas for improvement including deficiencies in sterilization practices, unlabelled and expired patient care and cleaning products, and a mixing of clean and dirty utility areas due to space constraints. Recommendations were made from IPAC and CPD including a cost analysis for internal or external equipment reprocessing, patient flow changes and separation of clean and dirty utility areas. IPAC provided extensive staff education on routine practices and additional precautions. In addition, the chiropody clinic now requires referring physicians to culture patient wounds for MRSA prior to all chiropody clinic appointment.

Conclusions: Two strains of MRSA were transmitted among patients in the chiropody clinic. Implementation of the recommended changes has improved patient care and no additional MRSA cases have been linked to the clinic. Although this outbreak was focused in an outpatient care setting, it highlights the need to re-examination our traditional definitions of nosocomial and community acquired.

References: John A Molinari Ph D, Emerging infection control challenges, Ontario dental meeting, May 2004

- 1) Michael Glick, DMD, Medically and Complex dental patients: Identification, assessment & treatment protocols, Ontario dental meeting, May 2004.
- 2) Pacela, A.F., OSHA bloodborne pathogens standard includes 'medical equipment repair' workers, Journal of clinical engineering, 1992, 17: 1, 3
- 3) Health Canada, Therapeutic program, <http://laws.justice.gc.ca/en/F-27/SOR-98-282/128343.html>
- 4) Ansell guide on handling hazardous material, 2004
- 5) Gawkrödger, S.A. et al, Adverse reactions to protective gloves used in the dental profession : experience of the UK, British dental journal, 2003, 195 (12): 686-90
- 6) Tomazic-Jezic VJ et al. Protein and allergen assays for natural rubber latex products, J Allergy Clin Immunol. 2002; 110: 2: S40-46
- 7) Beezhold D et al, Surgical gloves powders bind latex antigens, Arch Surg. 1992; 127: 1354-57
- 8) Tomazic VJ et al. Cornstarch powder on latex products is an allergen carrier, J Allergy Clin Immunol. 1994; 93: 751-8
- 9) Sussman GL et al, Incidence of latex sensitization among latex glove users, J Clin Immunol. 1998; 101; 2: 172-8
- 10) Swanson MC et al, Quantification of occupational latex aeroallergens in a medical center, J Clin Immunol. 1994; 94; 3: 445-51
- 11) Baur X et al, Can a threshold limit value for natural airborne allergens be defined? J Clin Immunol. 1998; 101; 1: 24-7
- 12) Quirce et al, Quantified environmental challenge with absorbable dusting powder

aerosol from natural rubber latex gloves, Journal: J allergy clin immunol, April 2003 vol 111, number 4: 788-93

- 13) Allmers H et al, Reduction of latex allergens and latex specific IgE antibodies in sensitized workers after removal of powdered natural rubber latex gloves in a hospital, J Clin Immunol. 1998; 102; 5: 842-6
- 14) Tarlo S et al, Outcomes of natural rubber latex control program in an Ontario teaching hospital, J Clin Immunol. 2001; 108; 4: 628-33
- 15) Bernstein DI, Management of natural rubber latex allergy, J clin Immunol, 2002 ; 110; 2: S111-116
- 16) Elliott BA, Latex Allergy :The perspective from the surgical suite, J Clin Immunol., 2002; 110; 2: S117-120
- 17) Yip ES, Accommodating latex allergy concerns in surgical settings, AORN journal, 2003; 78; 4: 595-603
- 18) NIOSH, US Department of health and human services, Guidelines for protecting the safety and health of health care workers, September 1988
- 19) Ebo D et al, IgE-mediated natural rubber latex allergy: practical considerations for health care workers, annals of allergy, asthma and immunology, 2002, Vol 88; 568-75
- 20) Ansell F 1671 studies
- 21) Korniewicz D et al, Health care worker: Risks factors for nonlatex and latex gloves during surgery, AIHA Journal, 2003; 64: 851-55
- 22) Morgan DJ et al, Permeability studies on protective gloves used in dental practice. Br Dent J 1989; 166: 11-13
- 23) Merchant et al, Microbial penetration of gloves following usage in routine dental procedures, AmJ dent 1992; 5: 95-96
- 24) Pitten FA et al, The integrity of latex gloves in clinical dental practice, Infection, 2000; 28: 388-92
- 25) Hayakawa R et al, Health Hazards due to polyvinyl-chloride, Environ dermatol. 2000; 7: 48-51
- 26) Zibtnew A et al, Vinyl versus latex gloves as barriers to transmission of viruses in the health care setting, Journal of AIDS, 1989, Vol 2; 2: 201-4
- 27) Korniewicz D et al, Integrity of vinyl and latex procedure gloves, Nursing research, 1989, Vol 33, no 3: 144-6
- 28) Ozanne G, Latex, vinyl or nitrile? Characteristics of certain gloves used in the laboratory or in the field to reduce the risk of skin exposure to biological agents, Can. J. Med. Lab.Sc.64 (3): 29-35
- 29) Korniewicz D et al, The risks and challenges of surgical glove failure, AORN Journal, 1997, vol 66, no 5: 867-81
- 30) Korniewicz D et al, Health care worker: Risks factors for non latex and latex gloves during surgery, AIHA Journal, 2003; 64: 851-55
- 31) Korniewicz D et al, Failure rates in nonlatex surgical gloves, AJIC, august 2004, Vol.32; 4: 268-73
- 32) CDC MMWR Guidelines for infection control in dental health-care setting-2003/ vol.52/no.RR-17
- 33) Infection control nurses association, Glove usage guidelines, London, 1999

TP 38

CLUSTER OF VRE ASSOCIATED WITH AN INPATIENT ROOM

M McNaughton, G Shimokura

Providence Health Care, Vancouver, British Columbia

Issue: Patients who have Vancomycin-resistant enterococci (VRE) or Methicillin-resistant *Staphylococcus aureus* (MRSA) have longer lengths of stay and higher medical costs. The active surveillance protocol for VRE and MRSA at our 500-bed acute care hospital identifies patients who have a VRE or MRSA colonization or infection that may be associated with their current or previous hospital admission(s), and where they may have acquired it. The purpose of this project was to investigate clusters of healthcare-associated VRE or MRSA identified through review of patient and laboratory records.

Project: We reviewed new cases of VRE and MRSA from August 6 to October 14, 2005, and selected VRE or MRSA-positive specimens collected at least 72 hours after admission; these were presumed to be healthcare-associated. The source room of each case of healthcare-associated VRE or MRSA was identified by reviewing the hospital admissions of cases and selecting the room where transmission most likely occurred using standardized criteria (i.e., the room where the patient had been greater than 72 hours prior to specimen collection). Source rooms with more cases of healthcare-associated VRE or MRSA than expected were identified by visual review and confirmed through a modified box-plot analysis, where rooms with 1.5 times more VRE or MRSA than its interquartile range (IQR) were considered to be outliers. Cases of MRSA were analyzed separately from VRE.

Results: We identified one room with a cluster of patients who may have acquired VRE in that room. No rooms had a greater number of MRSA than expected. Investigation of this room found that access to its patient hand washing sink was blocked by the door, a TV stand and a chair. Rooms with the same configuration were not used for patient care or had a different sink arrangement. These findings were discussed with the Clinical Nurse Leader, who then informed staff of the findings, removed the obstacles, and requested that housekeeping staff conduct enhanced cleaning. A follow-up review of VRE transmission in the subsequent two months showed a reduction in VRE associated with that room.

Lessons learned: Patient handwashing in the era of waterless hand hygiene products is still important, as waterless hand hygiene products are often located only in hallways and nursing stations. Patient handwashing sinks that are difficult to access with IV poles or wheelchairs may have an impact on hand hygiene compliance among patients and this may result in increased transmission of healthcare-associated infections

and colonizations. While routine patient handwashing sink audits are the ideal solution, reviewing VRE and MRSA trends by source rooms may be a feasible alternative.

TP 42

WHAT NOT TO WEAR

M Alkaabi, S Wilson, M Cordoviz, S Lafferty, S Woolsey, AM Joffe, Royal Alexandra Hospital, Capital Health. Edmonton, Alberta

Issue: Infection Prevention Services (IPS) implemented the use of Routine Practices/Additional Precautions and new precaution signage in 2003. In 2005, during an ongoing hospital-associated outbreak of Methicillin-Resistant *Staphylococcus aureus* (MRSA), an audit of the compliance with the recommended practices was undertaken. The purpose of the audit was to explore possible mechanisms for an ongoing outbreak and to provide baseline data for educational initiatives.

Project: An observational study was conducted between May 2, 2005 and June 5, 2005. The observer maintained an unobtrusive presence on patient care units while collecting data. A simple tool was developed and utilized to delineate staff categories, use of barriers, cleaning of equipment and appropriate hand hygiene (soap and water or hand sanitizer). Ten units having patients colonized or infected with MRSA and on isolation precautions for MRSA were included in the audit. Each patient room was equipped with sink, soap, hand sanitizer and disinfectant. A cart outside the door contained barriers, hand sanitizer, and disinfectant. Signage was posted on the door detailing expected routine practices and additional precautions for MRSA. Senior Nursing Management was informed of the activity.

Results: The overall compliance with practices of hand hygiene, use of barriers and equipment cleaning was 67% (n=455). Staff categories included nurses, physicians, medical students, and other health care workers (rehab therapists, respiratory therapists, environmental services, dietary and laboratory workers). Compliance among males was significantly less than females (p=0.05). There was no significant difference (p=0.9) in hand hygiene compliance rates between doctors (82%) and nurses (83%). 85% of health care workers preferred use of hand sanitizer to soap and water. Reusable shared medical equipment removed from a patient room was cleaned 25% of the time.

Lessons learned: Despite the use of signage, carts with appropriate barriers, cleaning supplies and access to hand hygiene, overall compliance with appropriate isolation precautions for patients with MRSA was only 67%. IPS will be formalizing an education program with management and educators to roll out to all health care workers on a yearly basis to ensure knowledge and compliance with additional precautions, use of barriers, hand hygiene and equipment cleaning.

Results: Initial buy-in of infection control information, and subsequent retention and recall are not accidental or necessarily audience-dependent. They can be created and subsequently reinforced by the inservice facilitator.

Lessons learned: Even small, purposeful improvements in presentation technique can substantially improve memory and acceptance among an inservice audience.

TP 44

COUGH IT UP-COVER IT UP

M Cordoviz, K Fluet, B McKim, R Willson, M McKenzie, J Klein, M Blackwelder, C Tovstiuk, S Gilbride, T Lepatsky

Regional Infection Prevention and Control (RIPC) Respiratory Etiquette Working Group, Edmonton, Alberta.

Issue: In an era that is post-SARS and pre-pandemic the use of Respiratory Etiquette (RE) by staff and patients is essential to minimize the spread of respiratory infections in the emergency department (ED) waiting room. Therefore, a project to implement and evaluate RE in the Capital Health Region in Edmonton, Alberta was undertaken.

Project: The project was implemented in two phases. Phase 1 consisted of a stand alone program. A poster, in the ED waiting room, would direct a patient through 3 steps of RE, covering mouth and nose when coughing or sneezing, disposing of tissues properly and handwashing. Phase 2 introduced the masking component of RE through the use of new posters, handouts, a training session and a media campaign. In the training session, ED staff were trained to provide masks to patients who presented with a new, worsening cough and fever at triage. Staff were also given education regarding the use personal protective equipment (procedure masks and eye protection) when working within 1 metre of a coughing, febrile patient. The media campaign consisted of radio spots, television news, and newspaper articles regarding RE. An evaluation of the program was conducted following the implementation of phase 2.

Results: In April 2005, RE was implemented in the Capital Health region. Several months later, a staff survey in the form of a questionnaire was given to ED staff. There were 243 surveys returned. The majority of respondents, 82% had heard of RE. Most of the staff, 72% had heard about RE through materials in the ED, 23% had heard from another staff member, 22% had onsite training, 20% heard through the media and 14% heard through other means. About half of staff, 48% had used RE with patients and 33% were comfortable implementing RE. Nearly one-third of staff (33%) indicated that RE had no impact on their daily workload, while 2% indicated that RE had a huge impact on workload. Staff use of masking is reportedly low. Twenty-two percent of staff admit to never wearing mask. Of the 243 staff respondents, only 32% had taken RE training. Those trained were more likely to use RE than untrained staff (p=0.036). Trained staff were also more likely to mask than untrained staff. A survey of the public was done in September 2005. Over 500 surveys were distributed to patients and those accompanying patients. The majority of respondents had heard of one of three RE messages: cover your cough, clean your hands after coughing/sneezing and wear a mask to protect others. The masking component was the least heard message. The most common way patients have heard of RE is through the media followed by the posters in the ED waiting room. Over half of the respondents (59%) reported that they were very likely to mask if asked by an ED staff member. The majority of respondents (91%) indicated that they were comfortable sitting next to someone wearing a mask in the waiting room.

Lessons learned: Respiratory etiquette, which is basic infection control practice, is not commonly utilized in the ED. The implementation of a RE program requires visual aides such as posters and handouts. Having training in the basics of RE is the best predictor that a staff member will implement RE in daily practice. Media campaigns are imperative to heighten awareness of RE programs. Patients with prior knowledge of RE before coming to the ED will be more compliant when asked to follow the simple steps in preventing the spread of respiratory illness.

TP 48

A NEW PEROXIDE-BASED FLEXIBLE ENDOSCOPE-COMPATIBLE HIGH-LEVEL DISINFECTANT

N Omidbakhsh

Virox Technologies, Oakville, Canada

Semi-critical medical devices such as flexible endoscopes require high-level disinfection between each use, and glutaraldehyde is often used for this purpose due to its favorable materials compatibility. However, workplace safety and the relatively slow microbicidal activity of such formulations remain a concern. While recently introduced substitutes based on 0.55% ortho-phthalaldehyde (OPA), 7-14% hydrogen peroxide and 0.1-0.3% peracids are considered less toxic than glutaraldehyde, OPA can be a potential respiratory sensitizer and the materials compatibility profile of peroxide/peracids at effective concentrations remains an issue.

This study describes a high-level disinfectant/sterilant based on 2% accelerated hydrogen peroxide (AHP). It is a blend of stabilized hydrogen peroxide with safe inerts, which act in synergy, and has a 14-day reuse, 5-min high-level disinfection and 6-hour sterilization claim at room temperature. Extensive testing of this formulation using nationally- and internationally-accepted protocols has found it to be a fast-acting and broad-spectrum microbicide in addition to being biodegradable, virtually non-toxic and free from volatile organic compounds, and alkyl phenol ethoxylates. Also, comprehensive materials compatibility testing has proven it to be compatible with flexible endoscopes. Therefore, this new chemistry represents a significant advancement in the design of safer and faster-acting high-level disinfectants.

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Map of booths and tables on page 45



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NOTICE IS HEREBY SERVED
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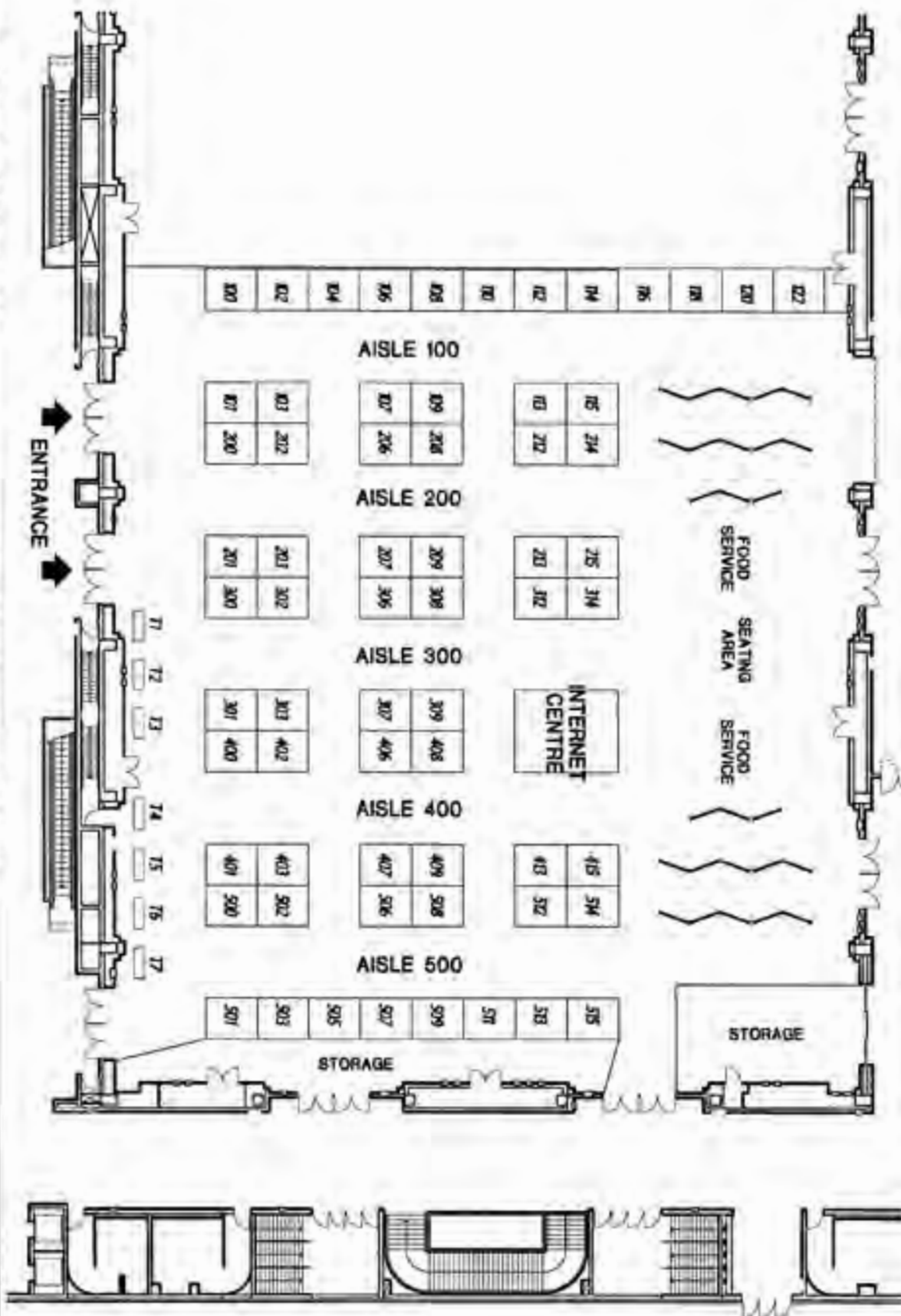
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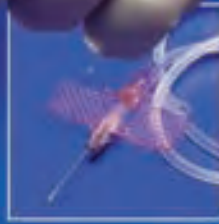
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International Infection Control Council
C Friedman, S Callery, A Jeanes, P Piaskowski, L Scott, and members of the Best Practices Expert Panel and Reviewer*

* S Harbarth, Chef de Clinique Scientifique, Hôpitaux Universitaires de Genève; S Kelenic, University of Zagreb Medical School, Clinical Hospital Centre Zagreb; E Bryce, Medical Microbiologist, Vancouver Hospital; G French, St. Thomas Hospital, London, ; C Squier, Infection Control Nurse, VA Pittsburgh Healthcare System; O Shams El-Din Rasslan, Professor and Head of Medical Microbiology Dept., Ain Shams Faculty of Medicine, Cairo

The International Infection Control Council has developed a toolkit for *Best infection control practices for patients with extended spectrum beta-lactamase enterobacteriaceae*. This toolkit is the third infection prevention and control resource developed by this group. The first was the *Global consensus conference on infection control issues related to antimicrobial resistance* (1999) with internationally published recommendations and the second was the *Infection control toolkit for pandemics and disasters* (2002).

The ESBL toolkit will be available for sale in the spring/summer of 2006 through CHICA-Canada, APIC and the ICNA- UK and Ireland. The article was previously listed on the websites of all three organizations.

Best infection control practices for patients with extended spectrum beta-lactamase enterobacteriaceae

PURPOSE

To achieve consensus on infection control practice across healthcare settings when caring for patients with extended-spectrum β -lactamase Gram-negative microorganisms. The recommendations arising from the consensus process focus on those aspects within the realm of infection control measures and scope of practice of infection control professionals.

INTRODUCTION

β lactam antibiotics are commonly used to treat bacterial infections. The groups of antibiotics in this category include penicillins, cephalosporins, carbapenems and monobactams. Increased use of antibiotics, particularly the third-generation cephalosporins, has been associated with the emergence of β lactamases – a common mechanism of bacterial resistance. These enzymes that cause resistance lead to the development of extended spectrum β lactamase (ESBL) producing bacteria.

The first report of ESBL *Klebsiella pneumoniae* appeared in Germany in 1983. [1] ESBLs have been reported from all parts of the world; however, prevalence varies widely, even in closely related regions. The true incidence is difficult to determine because of the difficulty in detecting ESBL production and due to inconsistencies in testing and reporting. [2] ESBLs have been found in a wide range of Gram-negative bacteria; however the majority of the strains belong to the family Enterobacteriaceae. The most common ESBL producer is *K. pneumoniae*. [5] Klebsiellae are spread easily, pathogenic and efficient at acquiring and disseminating resistance plasmids.

Infections with ESBLs are a concern for the following reasons: [3, 4, 6]

They are difficult to treat because they carry plasmids that confer resistance to many antibiotics. β lactam resistance is usually encoded on transmissible plasmids that can transfer to other strains and other species.

Patients may experience a delay in appropriate treatment because the microbe is not identified correctly due to the difficulty in detection by routine antimicrobial susceptibility tests. [7]

Patients may experience significantly longer hospital stays with increased costs.

Patients with infections have an increased risk of death.

The colonization rate for *K. pneumoniae* is low in healthy individuals in the general population; however it is increased in hospitalized patients, especially during prolonged hospitalization or antibiotic therapy. [8] ESBLs are primarily identified in hospitals and long-term care facilities. [2, 9] The length of stay in an intensive care unit (with exposure to endemic strains) and healthcare manipulations, e.g., use of catheters, are associated with acquisition of ESBLs. [6]

The most successful pathogens causing healthcare-associated infections (HAI) develop antibiotic resistance, have the ability to spread (transmissibility), and cause disease (virulence). HAI caused by ESBLs are most often associated with intensive care units, oncology, burn and neonatal units, as well as receiving previous antibiotic therapy. [10] ESBLs may more readily colonize premature neonates and young infants [11-12]. Most colonized patients are asymptomatic and may be a source of transmission to others. [8]

The molecular epidemiology of ESBL outbreaks indicates that the mechanism of spread may be clonal strain dissemination, clonal plasmid dissemination and selection among poly-clonal strains or both. [13] The typical method of transmission includes clonal dissemination of an ESBL producer strain or the dissemination of a plasmid carrying an ESBL gene. [2] Selective antibiotic pressure then leads to colonization of patient's bowel and skin with a risk of subsequent infection. Thus, fecal colonization may play a critical role in facilitating spread. [2-3, 6, 14] Outbreaks associated with procedures, e.g., catheterization, and contamination of medical devices has been reported [7, 15-22]; however the environment is probably not a major source [23-24]. Spread then appears to occur mainly through healthcare personnel hands. Endemic strains may persist in healthcare settings for years because of patient colonization, environmental contamination, and hand transmission. [1, 6]

Proper infection prevention and control practices are essential to pre-

venting spread and outbreaks of ESBL-producing microorganisms. There are few expert recommendations to direct management of these microbes in healthcare facilities. [25-26] ESBL epidemiology is dynamic and additional information will be needed to carefully evaluate these practices.

AmpC vs other ESBLs

β lactamases are defined through a classification system based on molecular characteristics of the gene and enzyme. AmpC type β lactamases are another group of enzymes commonly isolated from extended-spectrum cephalosporin-resistant Gram-negative bacteria. [1] Because AmpCs and ESBLs are the same microorganisms only with different resistance mechanisms, the infection prevention and control practices should be the same with no difference in practice.

Intended users

The primary audience for this document includes clinicians and infection prevention and control professionals in

all practice settings. In addition, public health professionals must remain alert to the advancing issues associated with ESBLs to assist in potential healthcare-associated and community outbreak management activities.

METHODOLOGY

Definitions

The authors established an initial definition for the categorization of ESBLs for the purposes of a toolkit (see resources at the end of this document). This definition categorized extended spectrum β -lactamase (ESBL) resistant microorganisms; in particular *E. coli* and *Klebsiella* species. This definition also provided the framework for the identification of terminology to perform an extensive review of the literature. As noted below, an epidemiology student performed an extensive literature search using the following terms:

- beta-lactamase AND infection control
- Klebsiella AND outbreak AND beta-lactamases
- *E. coli* AND outbreak control AND beta-lactamases

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- beta-lactamases AND outbreak
- beta-lactamases AND outbreak control
- ESBL AND infection control
- ESBL AND disease transmission

Phase 1 of the literature search encompassed the years 1995 to 2003. During the course of this project additional searches were performed up to and including August 2005.

Additional definitions are necessary for consistency in the development of the consensus document. Those of importance are as follows:

Colonization: presence of a microorganism in or on a host with growth and multiplication in the absence of symptoms or deep tissue invasion.

Contact Precautions: precautions necessary to prevent the spread of infection, which occurs from direct or indirect contact.

Direct contact involves person to person contact and requires the physical transmission of microorganisms between an infected or colonized host and another individual.

Indirect contact involves contact of a host with a contaminated intermediate object, often an inanimate object such as unchanged gloves or contaminated equipment.

Personal Protective Equipment (PPE) to be utilized should include gloves, gowns or aprons.

Either use of dedicated equipment or procedures for specific decontamination of shared equipment.

Patient placement is another component of consideration – single or private rooms or cohorting may be necessary.

Endemic: an infection that occurs repeatedly and continuously in the population.

Facility-based healthcare: healthcare delivered by providers within an institutional setting, such as a hospital and/or long-term or resident care environment.

High-risk patients: a characteristic, behavior or experience that increases the probability of developing a negative health outcome as it relates to ESBLs.

Hydrolysis: a chemical decomposition process that uses water to split chemical bonds of substances.

Infection: the entry and multiplication of an infectious agent in a host that causes tissue invasion or damage.

Outbreak: an excess over the expected level of colonisation or infection in a geographic area. Often described as two or more documented cases of acquisition of the same microorganism

Patient: for the purposes of this document, the term ‘patient’ refers to clients, patients, residents and/or inmates.

Resistance: occurs when a microbe inactivates an antibiotic or otherwise nullifies antimicrobial activity

Selective pressure: pressure placed upon microorganisms that results in a change affecting future generations.

Surveillance: systematic method of collecting, consolidating, analyzing and distributing data with critical information on the distribution and determination of a given disease or event

Analysis of the search material

It was clear to the authors that a thorough review of the international literature was necessary to capture representative information to assist in the development of this guideline. Assistance was needed to perform the crucial task of conducting an extensive literature review and developing a method to organize the data retrieved.

The University of Michigan, Masters of Public Health – Epidemiology program was contacted for identification of a student with an interest in performing the search. The student then performed a detailed review of the literature. As the focus of this guideline is on barrier precautions/patient placement/screening; skin decontamination including skin cleansing and antiseptics; and decontamination and disinfection including the role of the environment and equipment, the authors and experts excluded all articles outside this arena.

Over 200 articles were categorized by the following criteria: authors, institution, country, setting, article title, source, year, study question, study design, sample size, methods, results/

outcome, validity/reliability, statistical significance, quantitative/qualitative, host factors, subgroup, transmission, control, prevention, epidemiology, interventions, screening and outbreak management.

This information is presented in a toolkit that is noted in the Resources section of this article. This comprehensive listing will provide an additional resource for clinicians seeking more specific information.

Identification of expert panel

The selection criteria for the panel included international expertise and publications in the area of ESBLs, particularly in the specialties of infection control, infectious disease, microbiology, antiseptics and disinfection. In addition, there was an effort to ensure adequate geographic representation.

A letter of introduction was distributed to the selected experts with an outline of the expectations and potential workload. Although communication back from those identified was not robust, a diverse group of esteemed experts agreed to participate in the project.

Development of consensus

In order to create a consensus-based guideline, a method was chosen which used available technology to work on documents and share information. An Internet based “shareware” was identified and set up for this project. This system is password protected and graciously hosted by the University of Michigan Health System. This eliminated the need for face-to-face meetings of already over extended professionals.

The following process occurred

All identified references were placed in an ESBL folder on the Internet shareware system for participants.

The authors developed questions to guide discussion, which were also placed on the site.

Expert panel members were asked to respond to the questions.

Based on responses, a draft document was developed and posted to the site.

Comments from expert panel members were incorporated into a final document.

BEST PRACTICES

The following practices are organized into five categories: antibiotic stewardship, surveillance and screening, precautions, hand hygiene and antisepsis, and disinfection/ environment.

Antibiotic stewardship

Infection prevention and control professionals play a role in antibiotic stewardship programs. These may include sharing of surveillance data, contributing to antibiotic selection in formulary and restricted /off-formulary drugs, participating on related committees and antibiotic audits.

Surveillance and screening

The key to preventing and controlling the spread of ESBLs is having an effective and consistent approach to surveillance. The activity of surveillance starts with microbiology laboratory reporting and then an assessment of patient risk factors for colonization. [11, 27, 28] Once colonization or infection is identified in individuals, measures can be taken to prevent spread. Once ESBLs are identified, it is essential to have protocols for screening others in place. [6, 13]

Ongoing regular monitoring and reporting of ESBLs assists facilities in detecting trends and, when they occur, outbreaks or clusters of ESBLs. Surveillance of ESBLs should be part of quality indicator reporting and is a key component of ensuring patient safety.

Environmental cultures

Routine environmental cultures are not warranted. However, they may be considered as a component of an outbreak investigation consistent with facility outbreak management policies.

Surveillance and tracking for ESBLs

Review the clinical isolates of ESBL identified in your facility. Use gathered



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data to determine the incidence and prevalence of colonization/infection.

Screening

Once ESBLs are endemic/prevalent in a country/region/facility, consider the need to screen targeted populations at high risk.

Patients at high-risk for ESBL include:

- Neutropenic patients
- Transplant recipients
- Premature neonates
- Elderly persons
- Prolonged/extensive antibiotic use (e.g., cephalosporins)
- Post-gastrointestinal surgery

Consider screening all admissions to high-risk units. High-risk units include:

- Intensive care units
- Hematology/oncology units
- Transplantation units
- Long term/ chronic care facility

Laboratory screening procedures have been problematic as noted in the literature and may change over time. [29]

ESBL Carriage

Patients with known ESBL carriage should have their records flagged consistent with established policies. Upon readmission consider screening for ESBL. Sites most often sampled for carriage are those where the microorganisms are typically found - perianal/rectal and urine. [2-3, 6, 14]

Patients with persistent carriage (e.g., three consecutive positive samples taken at least a week apart and the continuation of ESBL-associated risk factors) do not require continued screening during an admission. Precautionary measures are required and should be maintained. It is reasonable to re-screen during the admission if there are changes in ESBL-associated risk factors.

Re-screening should be determined on an individual patient basis. Factors to consider include: continuing use of antibiotics, predicted invasive interventions, or proposed removal of precautions.

On patient transfer, the receiving healthcare facility should be informed

about a patient's ESBL-carriage as with any antimicrobial-resistant microorganism.

Screening of healthcare workers (HCW)

If there is epidemiological evidence of transmission from a suspected common source, then screening of personnel may be warranted as part of the investigation.

Decolonization

There has been no successful decolonization therapy. ESBLs have a propensity to acquire resistance. Decolonization therapy may lead to the development of further microbial resistance.

Outbreak activities

If there is an outbreak (two or more acquired cases), patient screening is then used for control. Identified cases should be placed in Contact Precautions (CP). Patients in close proximity to colonized/infected patients should be screened for asymptomatic carriage. Place any newly identified carriers in CP. Continue to screen exposed patients weekly until the outbreak ends (e.g., 2-4 weeks with no further cases or colonisations). If there is epidemiological evidence of transmission from a suspected HCW source, then screening of personnel may be warranted as part of the investigation.

Precautions

Use of barrier precautions

Contact precautions in addition to other infection prevention measures, e.g., hand hygiene, environmental cleaning, and restriction of antibiotics, have been shown to be effective in preventing transmission in outbreak situations. [30-31] Therefore, CP is recommended for colonized/infected patients in facility-based health care settings. This includes the use of gloves and aprons/gowns. No additional precautions are required in outpatient or home care settings.

Discontinuation of precautions

Negative results from all colonized/infected body sites (including those

previously sampled) may be used to discontinue CP. [6, 14] Based on past practice with other antibiotic-resistant microbes, three consecutive negative samples taken a week apart may be used in the decision-making process to remove any precautions.

Patient placement

Single (private) room is preferred. Spatial separation may be used. Cohorting of known cases, particularly in clusters/outbreaks, is acceptable.

If there are limited single room accommodations in a facility or if sharing a room with a non-ESBL patient is required (e.g., long-term care facility, nursing homes, residential home), consideration should be given to the following:

- ensure the non-ESBL patient does not have risk factors, such as indwelling devices, neutropenia, history of transplantation, etc., and
- ensure the non-ESBL patient has good hygiene practices.

Hand hygiene and antisepsis

Hand hygiene is a simple and effective infection control intervention. Dirty or contaminated hands can transmit microorganisms, which may cause infection. Cleansing the hands reduces this risk. [32-34]

Hand washing with soap and water is effective, however alcohol hand rubs are a quick and accessible alternative when hands are not visibly soiled. Improving hand hygiene compliance reduces the risk of healthcare associated infection. [35]

Some microorganisms contaminate the environment and equipment, which may then become a significant source of contamination. This is a particular risk when they are frequently touched or shared by patients or staff. [36] It is crucial that staff is scrupulous in hand hygiene to minimise the transmission of any microorganisms, including ESBLs.

Patient to patient transfer of microorganisms via the hands of healthcare workers is thought to be the main

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mode of transmission for ESBLs, although some ESBL outbreaks have been attributed to contaminated medical devices (e.g., ultrasound gel). Indirect evidence from many studies about epidemic and endemic ESBL occurrence supports the hypothesis that ESBL are mainly transmitted via the hands of healthcare workers. [37] Thus hand hygiene should be the most effective preventive measure.

Hand hygiene

Soap and water will remove most microorganisms on the hands. However, comparative studies of antiseptic hand wash products identified a greater log reduction of microorganisms with alcohol hand rub products the most efficacious overall (if hands are not visibly soiled). [38-39]

Skin preparation/antiseptics of patients

Standard antiseptic agents may be used in patient procedures.

Disinfection/environment

Published literature that demonstrates transmission of ESBL-producing microorganisms from a common source is rare. Although there is some evidence that contamination of the environment can occur, it has rarely been implicated in outbreaks. [23, 40-43]

The lack of evidence may be due, in part, to lack of viability of some Gram-negative bacteria on inanimate surfaces. Enterobacteriaceae, such as *Klebsiella* spp. and *E. coli*, have a variable survival rate of a few hours to a few days depending on the environment. [23, 40] There is no significant difference between epidemic and non-epidemic strains. [23] *Acinetobacter baumannii* has a well-documented longer viability on inanimate surfaces and is one of the few microbes to demonstrate that a reduction in environmental contamination is associated with a reduction in healthcare associated infections. [44] However, the role of environmental surface contamination as a source of hospital infection is controversial. [45]

The spread of ESBLs among patients from the hands of healthcare workers has been described. It is suspected that contamination of the environment plays a minor role in hand transmission. Therefore, it is prudent to reduce environmental contamination with resistant microorganisms where possible. ESBLs have not shown resistance to disinfectant cleaners.

General cleaning principles

Routine cleaning practices are adequate regardless of setting. The key is the meticulous nature of the cleaning and attention to frequently touched surfaces. Cleaning should be regularly scheduled.

Furniture, equipment, and horizontal surfaces in the patient's room should be routinely cleaned. During wet cleaning, cleaning solutions and the tools with which they are applied soon become contaminated. Therefore, a routine procedure should be adopted that does not redistribute microorganisms. This may be accomplished by cleaning less heavily contaminated areas first and changing cleaning solutions and cloths/mops frequently.

Privacy curtains should be changed routinely or when visibly soiled. Disposable disinfectant wipes and disposable privacy curtains are available as options. [33, 46]

Use of disinfectants

Use a facility-approved disinfectant. Follow the manufacturer's directions for diluting the product and allow adequate contact time for the disinfectant to work. [46]

Equipment

Dedicated equipment or single-use items are preferred when possible. If equipment is shared with other patients, clean and disinfect equipment between patients.

Waste and medical waste

There are no additional precautions necessary for waste management. Management should be consistent with state/province/country guidelines.

REFERENCES

- Rupp ME, Fey PD. Extended Spectrum β Lactamase (ESBL)-Producing Enterobacteriaceae. *Drugs* 2003; 63:353-365.
- Stürenburg E, Mack D. Extended-spectrum β -lactamases: implications for the clinical microbiology laboratory, therapy, and infection control. *J Infect* 2003; 47:273-295.
- Bisson G, Fishman NO, Patel JB, Edelstein PH, Lautenbach E. Extended-Spectrum β -Lactamase-Producing *Escherichia coli* and *Klebsiella* Species: Risk Factors for Colonization and Impact of Antimicrobial Formulary Interventions on Colonization Prevalence. *Infect Control Hosp Epidemiol* 2002; 23:254-260.
- Samaha-Kfoury JN, Araj GF. Recent developments in β lactamases and extended spectrum β lactamases. *Brit Med J* 2003; 327:1209-1213.
- Gniadkowski M. Evolution and epidemiology of extended-spectrum β lactamases (ESBLs) and ESBL-producing microorganisms. *Clin Micro Infect* 2001; 7:597-608.
- Lucet J-C, Chevret S, Decré D, Vanjak D, Macrez A, Dédos J-P, Wolff M, Regnier B. Outbreak of multiply Resistant Enterobacteriaceae in an Intensive Care Unit: Epidemiology and Risk Factors for Acquisition. *Clin Infect Dis* 1996; 22:430-436.
- Livermore DM, Woodford N. guidance to diagnostic laboratories: Laboratory detection and reporting of bacteria with extended-spectrum β -lactamases. Health Protection Agency, London, 2004.
- Macrae MB, Shannon KP, Rayner DM, Kaiser AM, Hoffman PN, French GL. A simultaneous outbreak on a neonatal unit of two strains of multiply antibiotic resistant *Klebsiella pneumoniae* controllable only by ward closure. *J Hosp Infect* 2001; 49:183-192.
- Wiener J, Quinn J, Bradford PA, Goering RV, Nathan C, Bush K, Weinstein RA. Multiple Antibiotic-Resistant *Klebsiella* and *Escherichia coli* in Nursing Homes. *JAMA* 1999; 281:517-523.
- Kim B-N, Woo J-H, Kim M-N, Ryu J, Kim YS. Clinical implications of extended-spectrum β -lactamase-producing *Klebsiella pneumoniae* bacteraemia. *J Hosp Infect* 2002; 52:99-106.
- Asensio A, Oliver A, Gonzalez-Diego P, Baquero F, Perez-Diaz JC, Ros P, Cobo J, Palacios M, Lasheras D, Canton R. Outbreak of a multiresistant *Klebsiella pneumoniae* strain in an intensive care unit: antibiotic use as risk factor for colonization and infection. *Clin Infect Dis* 2000; 30:55-60.
- Pessoa-Silva CL, Moreira BM, Almeida VC, Flannery B, Almeida Lins MC, Mello Sampaio JL, Teixeira LM, Vaz Miranda LE, Riley LW, Gerberding JL. Extended-spectrum β -lactamase-producing *Klebsiella pneumoniae* in a neonatal intensive care unit: risk factors for infection and colonization. *J Hosp Infect* 2003; 53:198-206.
- Patterson JE. Extended-spectrum beta-lactamases. *Semin Respir Infect* 2000; 15:299-307.

De Champs C, Sauvart MP, Chanal C, Sirot D, Gazuy N, Malhuret R, Baguet JC, Sirot J. Prospective survey of colonization and infection caused by expanded-spectrum-beta-lactamase-producing members of the family Enterobacteriaceae in an intensive care unit. *J Clin Microbiol* 1989; 27:2887-2890.

Rogues AM, Boulard G, Alley A, et al. Thermometers as a vehicle for transmission of extended-spectrum-beta-lactamase producing *Klebsiella pneumoniae*. *J Hosp Infect* 2000; 45:76-77.

Gaillot O, Maruejols C, Abachin E, et al. Nosocomial outbreak of *Klebsiella pneumoniae* producing SHV-5 extended-spectrum beta-lactamase, originating from a contaminated ultrasonography coupling gel. *J Clin Microbiol* 1998; 36:1357-1360.

Rebuck JA, Olsen KM, Fey PD, Langnas AN, Rupp ME. Characterization of an outbreak due to extended-spectrum beta-lactamase producing *Klebsiella pneumoniae* in a pediatric intensive care unit transplant population. *Clin Infect Dis* 2000; 31:1368-1372.

Paterson DL, Singh N, Rihs JD, Squier C, Rihs BL, Muder RR. Control of an outbreak of infection due to extended-spectrum beta-lactamase-producing *Escherichia coli* in a liver transplantation unit. *Clin Infect Dis* 2001; 33:126-128.

Pena C, Pujol M, Ardanuy C, Ricart A, Pallares R, Linares J, Ariza J, Gudiol F. An outbreak of hospital-acquired *Klebsiella pneumoniae* bacteraemia, including strains producing extended-spectrum beta-lactamase. *J Hosp Infect* 2001; 47:53-59.

Pagani L, Perilli M, Migliavacca R, Luzzaro F, Amicosante G. Extended-spectrum TEM- and SHV-type beta-lactamase-producing *Klebsiella pneumoniae* strains causing outbreaks in intensive care units in Italy. *European J Clin Microbiol Infect Dis* 2000; 19:765-72.

De Champs C, Rouby D, Guelon D, Sirot J, Sirot D, Beytout D, Gourgand JM. A case-control study of an outbreak of infections caused by *Klebsiella pneumoniae* strains producing CTX-1 (TEM-3) beta-lactamase. *J Hosp Infect* 1991; 18:5-13.

Arlet G, Sanson-le Pors MJ, Rouveau M, Fournier G, Marie O, Schlemmer B, Philippon A. Outbreak of nosocomial infections due to *Klebsiella pneumoniae* producing SHV-4 beta-lactamase. *European J Clin Microbiol Infect Dis* 1990; 9:797-803.

Fryklund B, Tullus K, Burman LG. Survival on skin and surfaces of epidemic and non-epidemic strains of enterobacteria from neonatal special care units. *J Hosp Infect* 1995; 29:201-208.

Lemmen SW, Hafner H, Zolldann D, Stanzel S, Lütticken R. Distribution of multi-resistant Gram-negative versus Gram-positive bacteria in the hospital inanimate environment. *J Hosp Infect* 2004; 56:191-197.

Muller M, McGeer A. Variation in approach to ESBL Enterobacteriaceae among infection control practitioners: Results of an Ontario-wide survey. *Canada Communicable Disease Report* 2002; 28 (15): 121-124.

Consensus Guidelines for the Management of Infections by ESBL-producing Bacteria. Ministry of Health Malaysia, Academy of Medicine Malaysia, Malaysian Society of Infectious Diseases and Chemotherapy, 2001. (http://www.acamed.org.my/cpg/infections_by_esbl-producing_bacteria.pdf)

Toltzis P, Hoyer C, Spinner-Block S, Salvator AE, Rice LB. Factors that predict preexisting colonization with antibiotic-resistant gram-negative bacilli in patients admitted to a pediatric intensive care unit. *Pediatrics* 1999; 103:719-723.

Cartelle M, del Mar Tomas M, Pertega S, Beceiro A, Dominguez MA, Velasco D, Molina F, Villanueva R, Bou G. Risk Factors for Colonization and Infection in a Hospital Outbreak Caused by a Strain of *Klebsiella pneumoniae* with Reduced Susceptibility to Expanded-Spectrum Cephalosporins. *J Clin Micro* 2004; 42:4242-4249.

Gruteke P, Goessens W, Van Gils J, Peerbooms P, Lemmens-Den Toom N, Van Santen-Verheul M, Van Belkum A, Verbrugh H. Patterns of resistance associated with integrons, the extended-spectrum beta-lactamase SHV-5 gene, and a multidrug efflux pump of *Klebsiella pneumoniae* causing a nosocomial outbreak. *J Clin Microbiol* 2003; 41:1161-6.

Warren DK, Fraser VJ. Infection control measures to limit antimicrobial resistance. *Crit Care Med* 2001; 29(4 Suppl):N128-34.

Eveillard M, Eb F, Tramier B, Schmit JL, Lescure FX, Biendo M, Canarelli B, Daoudi F, Laurans G, Rousseau F, Thomas D. Evaluation of the contribution of isolation precautions in prevention and control of multi-resistant bacteria in a teaching hospital. *J Hosp Infect* 2001; 47(2):116-24.

Boyce JM, Pittet D. Recommendations of the Healthcare Infection Control Practices Advisory Committee. Guideline for hand hygiene in health-care settings. *MMWR* 2002; 51(RR-16):1-45.

Health Canada, Laboratory Centre for Disease Control, Bureau of Infectious Diseases, Nosocomial and Occupational Infections. Hand Washing, Cleaning, Disinfection and Sterilization in Health Care. *Canada Communicable Disease Report* 1998; 24SB.

WHO Guidelines on Hand Hygiene in Health Care. (advanced Draft) 2005. (http://www.who.int/patientsafety/events/05/hh_guidelines_10oct2005_advdraft_final.pdf)

Pittet D, Hugonnet S, Harbath S, Mourouga P, Sauvan V, Touveneau S, Perneger TV. Effectiveness of a hospital-wide programme to improve compliance with hand hygiene. 2000; *Lancet* 356: 1307-12.

Layton MC, Perez M, Heald P, Patterson JE. An outbreak of mupirocin-resistant *Staphylococcus aureus* on a dermatology ward associated with an environmental reservoir. *Infect Control Hosp Epidemiol* 1993; 14:369-375.

Hobson RP, MacKenzie FM, Gould IM. An outbreak of multiply-resistant *Klebsiella pneumoniae* in the Grampian region of Scotland. *J Hosp Infect* 1996; 33:249-62.

Kampf G, Kramer A. Epidemiologic background of hand hygiene and evaluation of the most important agents for scrubs and rubs. *Clin Microbiol Reviews* 2004; 17(4):863-93.

Trick WE, Vernon MO, Hayes RA, Nathan C, Rice TW, Peterson BJ, Segreti J, Welbel SF, Solomon SL, Weinstein RA. Impact of ring wearing on hand contamination and comparison of hand hygiene agents in a hospital. *Clin Infect Dis* 2003; 36:1383-90.

Hart CA. Nosocomial gentamicin- and multiply-resistant enterobacteria at one hospital. 1. Description of an outbreak. *J Hosp Infect* 1982; 3: 15-28.

Hirai, Y. Survival of bacteria under dry conditions; from a view of nosocomial infection. *J Hosp Infect* 1991;19, 191-200.

Dancer, SJ. Mopping up hospital infection. *J Hosp Infect* 1999; 43, 85-100.

Talton, D. The role of the hospital environment in the epidemiology of multi-drug resistant bacteria. *J Hosp Infect* 1999;43, 13-17.

Denton M, Wilcox MH, Parnell P, Green D, Keer V, Hawkey PM, Evans I, Murphey P. Role of environmental cleaning in controlling an outbreak of *Acinetobacter baumannii* on a neurosurgical intensive care ward. *J Hosp Infect* 2004; 56: 106-110.

Maki, DG, Alvarado, CJ, Hassemer, CA, Zilz, MA (1982) Relation of the inanimate hospital environment to endemic nosocomial infection. *New Engl J Med* 1982;307:1562-1566.

Lemmen SW, Häfner H, Zolldann D, Stanzel S, Lütticken R. Distribution of multi-resistant Gram-negative versus Gram-positive bacteria in the hospital inanimate environment. *J Hosp Infect* 2004;56:191-197.

RESOURCES

The following resources developed by the International Infection Control Council are available from APIC (www.apic.org), CHICA (www.chica.org), or ICNA (<http://www.icna.co.uk/intro.htm>).

Toolkit: Extended Spectrum Beta-Lactamase Enterobacteriaceae

Toolkit: Strategies for Pandemics and Disasters

Global Consensus Conference on Infection Control Issues Related to Antimicrobial Resistance: Recommendations

Many thanks to Gwen Chalam for completing a literature review and developing a comprehensive database. ●



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Infection prevention and control core competencies for health care workers: a consensus document

ABSTRACT

Since SARS, concerns have been raised about the education of health care workers in infection control. The purpose of this project was to develop a Canada-wide consensus on a set of common core competencies in infection prevention and control that apply to all health care workers.

CHICA-Canada Chapters were asked to develop a set of competencies they felt were essential information that a health care worker involved in patient care needed to allow them to work safely and also to prevent transmission of organisms in their institution. The compiled list of competencies was made available for input by individual and groups of infection control professionals. Competencies identified by 80% of responses were included.

A list of competencies was submitted from 37% of the Chapters. The competencies were compiled and categorized into: basic microbiology, hand hygiene, routine practices and transmission-based precautions, personal protective equipment, personal safety, sterilization and disinfection and critical assessment skills. Consensus (100%) was reached for 86% categories. Critical assessment skills category was the only category not listed by all participating Chapters. Input was received from 78 individuals and groups.

There was a high degree of consensus among Canadian infection control professionals. This bodes well for our next challenge of developing a infection control training program for front-line workers that is successful in providing workers with the tools they need to protect themselves and

their patients. The infection control community has a substantial amount of work to do to accomplish this task.

INTRODUCTION

Since the SARS outbreak, significant concerns have been raised about the education of health care workers (HCWs) in infection prevention and control.¹⁻⁶ Fear of acquiring infections from patients and associated occupational related stress was found during the outbreak and has become rampant among health care workers.⁷⁻⁹ To address these problems, a comprehensive package with clear learning objectives needed to be developed for the education the health care workers in infection prevention and control. While different competencies are needed for different kinds of health care workers, the first step in developing an education package would be to develop a set of common core competencies that apply to all health care workers. The basic core competencies would then serve as a platform for adding occupation specific competencies.

The purpose of this initiative was to develop a Canada-wide consensus on a set of common core competencies in infection prevention and control that apply to all health care workers. The basic core competencies would then serve as a platform for adding occupation specific competencies. The objective was to identify the specific competencies health care workers need to be able to protect themselves in their working environment as well as protecting their patients. There was no attempt to identify who was responsible for ensuring health care workers met these competencies. Some competencies fall directly within the purview of infection control while others were outside. Once

a consensus was reached, these competencies will be used to develop training for existing health care workers and will be distributed to institutions across Canada for integration into training programs for future health care workers.

METHODS

Input was obtained in two phases of the project. In Phase 1, each CHICA-Canada Chapter was asked to identify and define a set of competencies they felt were essential information that a health care worker involved in patient care needed to allow them to work safely and also to prevent transmission of organisms in their institution. A comprehensive list of competencies from the CHICA-Canada Chapters was compiled from those submitted and the competencies were grouped into major categories.

In Phase 2, the compiled list of core competencies was made available to individual and groups of infection control professionals for input in two venues. The first venue was at the annual conference hosted by CHICA-Canada where the competencies were presented by poster and by forms distributed at the Annual General Meeting in May 2005. Following the conference, the compiled list was posted on CHICA-Canada website to allow individuals who did not attend the conference to have input. Infection control professionals were asked to comment on the content of the individual competencies as well to indicate if they felt the competency was an essential component of health care workers training in infection control. Responses were submitted anonymously. Most responses indicated if it was a group or an individual response. Those responses not identified as either was assumed to be a response from an individual.

The responses were collated and competencies that were identified by 80% of the Chapters and participating CHICA-Canada members were automatically included in the core competencies.

Figure 1 shows the process used to obtain consensus from infection con-

rol professionals across Canada.

Health care workers were defined as all persons carrying on a specific activity in a health care facility including employees, physicians, students, volunteers, and contract workers. For the purposes of this project, a competency was defined as the knowledge and expertise in Infection Control that was sufficient for a health care worker involved in patient care to protect themselves, their patients and their families from infections.

RESULTS

A list of core competencies that were considered to be essential for health care workers involved in patient care were developed by the members from individual CHICA-Canada Chapters and were submitted and compiled. Consensus documents were submitted by the members from 7 of the 19 (37%) of the regional CHICA-Canada Chapters (listed in alphabetical order).

1. British Columbia Professionals in Infection Control (BCPIC)
2. Eastern Ontario Professionals in Infection Control (EOPIC),
3. Northern Alberta Professionals in Infection Control (NAPIC),
4. Southern Alberta Professionals in Infection Control (SAPIC),
5. Southern Ontario Professionals in Infection Control (SOPIC)
6. Toronto Professionals in Infection Control (TPIC)
7. Vancouver Island Professionals in Infection Control (VIPIC)

After compiling the original list of competencies the competencies were

then placed in several major categories as follows: basic microbiology, hand hygiene, routine practices and transmission-based precautions, personal protective equipment, personal safety, sterilization and disinfection and critical assessment skills. Based on the individual lists submitted by the Chapters, total consensus was reached for 6 of 7 (86%) categories. The critical assessment skills category was the only category that was not listed by all the participating Chapters as an essential competency for health care workers. Only 2 of 7 (29%) of the participating Chapters included competencies that fell into this category.

Phase 2 of the project included input from the members from several sources. A total of 78 responses were received from both individuals and groups with infection control expertise. The majority of responses (69 of 78; 88%) were obtained from those who attended the 2005 National Education CHICA-Canada Conference held in Winnipeg in May 2005. Conference attendees had several opportunities to provide input; the information was posted on a poster with forms for input and forms for input were distributed to all attendees at the town hall meeting. After the conference, the competencies were posted on the CHICA-Canada web-page in August 2005 for input from CHICA-Canada Chapters and members. Additional responses were submitted by 9 of 78 (12%) groups of infection control professionals from across Canada. The overall response rate could not be determined because some responses were from groups while others were from individuals.

Figure 1: Process Used to Obtain Consensus on HCW Core Competencies in Infection Control

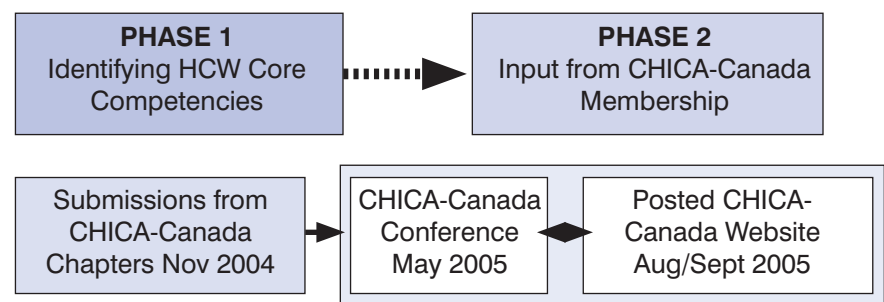


TABLE 1: Core Competencies in Infection Prevention and Control for Health Care Workers and CHICA-Canada Chapter and Membership Consensus

Area of Competency	Core Competency Category	Detailed Core Competency A health care worker competent in Infection Control can:	Consensus
Basic Microbiology	Understands basic microbiology and how infections can be transmitted in health care settings.	<ul style="list-style-type: none"> • Identify the three components required for infection transmission (presence of an organism, route of transmission of the organism from one person to another, a host that is susceptible to infection). • Recognize that microorganisms can be bacteria, viruses, etc and that they are not all the same (ie. some are normal, some pathogenic). • Describe the routes of transmission of infectious organisms (how they move from one person to another) i.e. Contact, droplet, airborne routes • Recognize a susceptible person. • Identify of reportable/notifiable diseases • Define Antibiotic Resistant Organisms including local protocols etc • Describe Respiratory Etiquette and its importance 	100%
Hand Hygiene	Understands the importance of Hand Hygiene/Hand washing	<ul style="list-style-type: none"> • Recognize that hand hygiene is the best method of preventing transmission of potentially infectious organisms. • Identify when it is necessary to perform hand hygiene. • Identify the steps to proper hand hygiene and hand hygiene product use. • Demonstrate appropriate hand hygiene with waterless hand rub product as primary method of decontaminating hands and hand washing when hands are visibly soiled. 	100%
Routine Practices and Transmission-based Precautions	Understands the activities of Routine Practices/ Standard Precautions.	<ul style="list-style-type: none"> • Assess the need for Routine Practices based on what activities are to be done with a patient. • Appreciate that Routine Practices are the minimum practice standards/activities. • Understand that routine/standard precautions are the key to preventing transmission of organisms among health care workers, physicians, patients and visitors 	100%
	Understands Transmission Based Precautions (<i>Additional Precautions</i>): why and when they are used	<ul style="list-style-type: none"> • Identify that additional precautions, as well as Routine Practices are necessary for clinical presentations or certain pathogens. • Identify that the route of transmission of the organism determines which type of precaution category is needed (i.e. Contact Precautions for organisms spread by the contact route of transmission) • Knows how to operate a negative pressure room 	100%
Personal Protective Equipment	Knows and selects appropriate Personal Protective Equipment (PPE) for their job(s).	<ul style="list-style-type: none"> • List the appropriate and required PPE items for specific activities, clinical presentations and specific diseases. 	100%
	Demonstrates appropriate use of PPE.	<ul style="list-style-type: none"> • Demonstrate how to put on and take off non-sterile, disposable gloves, protective eyeglasses, face shields, protective gowns, and regular and high filtration masks (as per job activity requirement). • Demonstrate the use of a NIOSH equivalent high filtration mask. 	100%
Personal Safety	Knows how to appropriate manage sharps and blood and body fluids and recognizes the appropriate first aid activities for exposures to blood and body fluids.	<ul style="list-style-type: none"> • Explain how to safely manage blood and body fluids • Describe how to safely manages sharps • Describe the first aid for puncture exposures. • Describe the first aid for fluid exposures to the eyes, nose or mouth. • Recognize that prompt assessment is required for any work-acquired blood or body fluid exposure. 	100%
	Understands the role of vaccines in preventing certain infections including annual influenza immunizations for health care workers.	<ul style="list-style-type: none"> • Appreciate that vaccines can prevent infection in vulnerable persons. • Explain why annual influenza immunization is recommended and important. 	100%

Area of Competency	Core Competency Category	Detailed Core Competency A health care worker competent in Infection Control can:	Consensus
Personal Safety <i>continued</i>	Knows the infectious conditions that require absence from work or work restrictions	<ul style="list-style-type: none"> Recognize that a staff member with an infectious condition can pose a risk to other health care workers, patients, and visitors Know where to access information on infectious conditions that require absence from work or work restrictions 	100%
Sterilization and Disinfection	Recognizes that reusable equipment that has been in direct contact with a patient should be cleaned and reprocessed before use in the care of another patient. Appreciates the differences between clean, disinfected (low, medium, and high-level) and sterile items.	<ul style="list-style-type: none"> Distinguish between patients care items that: <ul style="list-style-type: none"> Do not ordinarily touch the patient or touch only intact skin require cleaning with soap and water or a hospital-grade detergent disinfectant between patients. This will physically remove organic material or soil from the objects. Come into contact with intact mucous membranes require thorough cleaning to remove organic material followed by treatment with an appropriate chemical disinfectant or pasteurization to remove or destroy harmful microorganisms. Are introduced directly into the bloodstream or other normally sterile body sites must be thoroughly cleaned to remove organic material and then sterilized to destroy all forms of microbial life. Recognize that not all cleaning products or disinfectants are the same. 	100%
	Knows the difference between regular and biohazard wastes.	<ul style="list-style-type: none"> Identify where items are disposed of (regular garbage in a landfill and biohazard items are incinerated). Identify selected items as regular garbage or items for biohazard disposal. Identify which containers are used for regular and biohazard wastes. 	
Critical Assessment Skills	Critical assessment skills related to exposure to infectious agents, awareness to local outbreaks and use of infectious disease specific protocols	<ul style="list-style-type: none"> Demonstrate knowledge relating to access of infection control resources including an IPC manual. Identify locally used descriptors for high risk patients (e.g., Leaky, Drippy, Goopy) and how to manage them. Demonstrate problem solving and critical thinking ability when presented with infection control case studies and situations. Identify unusual clusters of illnesses (aware of person, time, place epidemiology principles) Demonstrate the ability to implement disease protocols and alerts as directed by IPC Provide leadership and act as role model to other health care workers, physicians, patients and visitors by adhering to Infection Prevention and Control principles Demonstrate work practices that reduce risk of infection (e.g., immunization, not coming to work sick) 	86%

Table 1 shows the area of competency, the competency category, the detailed core competencies within each category and the level of consensus reached for each competency.

DISCUSSION

This project is the first step in the process of developing a comprehensive education package in infection prevention and control that will teach health care workers how to protect themselves while also protecting their patients from acquiring infections. There was a high degree of consensus among

Canadian infection control professionals about what should be included in the competencies. This bodes well for our next challenge of developing an Infection Control training program for health care workers.

Six of the seven areas of competency identified were self evident to experts in infection control. These were basic microbiology, hand hygiene, routine practices and transmission-based precautions, personal protective equipment, personal safety, and sterilization and disinfection. Complete consensus was obtained for these, however, it is important to

understand that they do not stand-alone. Each area is inter-linked with the others. For example, an understanding of basic microbiology is the key to developing appropriate practices in the other areas of competency. Both hand hygiene and personal protective equipments are stand-alone areas of competency each requiring a unique sets of skills and knowledge. However, both are also essential components of routine practices and transmission-based precautions and personal safety.

The final area of competency, critical assessment skills, was less self-evident to infection control professionals

in Canada. Components for this area of competency were only identified by 2 of the 7 CHICA-Canada Chapters who submitted their list competencies and membership consensus was 86%. However, the need to use critical assessment skills related to exposure and management to infectious agents is essential for all health care workers. Critical assessment skills form the foundation for the application of the knowledge and skills that are developed through the other six areas of competency. The assumption is that skill in assessing a given situation is the underlying theme for teaching the applications of all other areas of competency. This assessment skill may be as simple as knowing when to ask a question about an infection control practice or as complex as assessing a patient and determining the appropriate transmission-based precautions to implement.

Studies published following the worldwide SARS outbreak show that many of the health care workers who developed SARS became infected because they failed to use routine practices such as hand hygiene and did not know how to remove personal protective equipment without contaminating themselves.¹⁻⁷ Worldwide, 1707 of the 8098 (21%) SARS cases reported during the outbreak occurred

in front-line workers who cared for SARS patients.² SARS caused a significant number of deaths in health care providers.

As a result of SARS, health care workers are developing work stress related to the fear of exposure to infectious agents and how to manage their work during an outbreak while protecting themselves. Several studies have shown that health care workers are subjected to feelings of fear and are suffering significant stress related to their potential exposure to infectious risk in the course of their routine duties.⁷⁻⁹ Providing health care workers with the tools to assess their situation and to be confident in the infection control measure they can use to protect themselves will go a long way towards relieving work related stress and fear of exposure to infectious agents. The skills needed to critically assess a situation play a vital role in the use of proper infection control practices both routinely and in an emergency and their importance must not be underestimated.

In developing a pan-Canadian consensus on the essential infection control core competencies for health care workers, we have taken the first step in developing comprehensive infection control training. While this project represents a significant step

forward in providing front-line workers with infection control training, it may well have been the easiest to accomplish. The next step will be developing training programs based on the core competencies.

Both during SARS and in the routine of delivery of care, front-line workers fail to adhere to proper infection control practices; however, it is unlikely this failure was the result of lack of training in proper infection control practices. In Canada, Infection Control Professionals generally spend between 30% and 40% of their time in-servicing health care workers on the use of proper infection control practices. The most common topics covered include hand hygiene, routine practices and transmission-based precautions, use of personal protective equipment and the other areas of competency. It is clear that, despite repeated training, front-line workers still do not understand the principles of good infection control practices or if they do understand they cannot integrate that knowledge into their practice.

The questions that arise are three-fold. Why do front-line workers lack confidence in basic infection control practices as a means to protect them from infectious risk? Why are front-line workers failing to learn the basic principles of infection control practice? How do infection control professionals overcome staff inertia that is the result of complacency (i.e. I already know this) or denial (i.e. if I ignore the problem, it will go away) about infection control practices and effectively engage front-line workers in learning what they need to know to protect themselves and can practice those skills effectively? These are the challenges we face as we move forward in developing training programs for health care workers.

Health care worker complacency about good infection control practices and their expressed fear of infectious risk are paradoxical. This paradox may well derive from their poor understanding of infectious risk and the differences between actual and perceived infectious risk. To address this

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paradox, perceived and actual infectious risks must be clearly delineated for front-line workers. Unfortunately, perception of infectious risk varies among front-line workers and must be addressed using a multi-faceted approach. Education that provides clear and accurate information on actual infectious risk will work to alleviate both fear and complacency for some individuals. Some individuals will need to take an additional step beyond education and integrate the idea of infectious risk into their personal vision of the world and their place in that world. A third type of individual who cannot be reached by either of these approaches may require an alternative; a “big stick” approach that incorporates knowledge of risk and behavioral responses that are appropriate to actual risk into work performance assessments and opportunities for promotion. The key for each of these types of individuals will be to maintain a balance between clearly defining actual risk without creating so much fear that they are unable to perform effectively in the workplace.

Innovative approaches to learning must be considered to effectively train front-line workers so that they can integrate good infection control practices into their daily routine of caring for patients. Passive learning (i.e. watching a video or listening to a lecture) has been proven to be an ineffective method for training workers.¹⁰⁻¹³ Previous education campaigns promoting behaviour change among health care professionals have been effective only for as long as the campaign lasts.^{10,13} Opportunities for learning, reflection and assessment are essential to influencing long-term behaviour change. Shift work and demanding work schedules place significant restraints on the design and delivery of a training program. There are several principles that must be incorporated in training materials for front-line workers to improve learning and change practices. Firstly, training must be time efficient, rich in content with opportunities for extended learning and readily accessible to staff. Secondly, an engaging learning environment is needed that

incorporates multiple learning modes and features both interactive and reflective activities. Thirdly, training activities must feature “just in time” learning to take advantage of that teaching moment that arises when information is needed by the worker to do their job. Finally, the training must include opportunities for the learner to practice skills and to monitor, either through self or peer-monitoring, both perceived or actual behaviours and practices.

We face significant challenges in developing an infection control training program for front-line workers that is successful in providing workers with the tools they need to protect themselves as well as their patients. The infection control community has a substantial amount of work to do to accomplish this task.

REFERENCES

1. Muller, MP; McGeer, A. Febrile respiratory illness in the intensive care unit setting: an infection control perspective. *Current Opinion in Critical Care*. 12(1):37-42, February 2006.
2. Nicas, M; Harrison, R; Charney, W; Borwegan, B. Respiratory Protection and Severe Acute Respiratory Syndrome. *Journal of Occupational & Environmental Medicine*. 46(3):195-197, March 2004.
3. Thorne, C; Khozin, S; McDiarmid, M. Using the Hierarchy of Control Technologies to Improve Healthcare Facility Infection Control: Lessons From Severe Acute Respiratory Syndrome. *Journal of Occupational & Environmental Medicine*. 46(7):613-622, July 2004.
4. Yassi, A; Moore, D; FitzGerald, JM; Bigelow, P; Hon, C-Y; Bryce, E; other members of The BC Interdisciplinary Respiratory Protection Study Group. Research Gaps in Protecting Healthcare Workers. From SARS and Other Respiratory Pathogens: An Interdisciplinary, Multi-Stakeholder, Evidence-Based Approach. *Journal of Occupational & Environmental Medicine*. 47(1):41-50, January 2005.
5. Bauch, C; Lloyd-Smith, J; Coffee, MP; Galvani, AP. Dynamically Modeling SARS and Other Newly Emerging Respiratory Illnesses: Past, Present, and Future. *Epidemiology*. 16(6):791-801, November 2005.
6. Booth, C; Stewart, TE. Severe acute respiratory syndrome and critical care medicine: The Toronto experience. *Critical Care Medicine*. 33(1) Supplement:S53-S60, January 2005.
7. Maunder, RG.; Lancee, WJ.; Rourke, S; Hunter, JJ; Goldbloom, D; Balderson, K; Petryshen, P; Steinberg, R; Wasylenki, D; Koh, D; Fones, CS. Factors Associated With the Psychological Impact of Severe Acute Respiratory Syndrome on Nurses and Other Hospital Workers in Toronto. *Psychosomatic Medicine*. 66(6):938-942, November/December 2004.
8. Chan, S; Leung, G; Tiwari, AF; Salili, F; Leung, S; Wong, D; Wong, A; Lai, A; Lam, TH. The Impact of Work-related Risk on Nurses During the SARS Outbreak in Hong Kong. *Family & Community Health. Promoting Health in the Workplace*. 28(3):274-287, July/August 2005.
9. Koh, D; Lim, MK; Chia, SE; Ko, SM; Qian, F; Ng, V; Tan, BH; Wong, KS; Chew, WM; Tang, H K; Ng, W; Muttakin, Z; Emmanuel, S; Fong, NP; Koh, G; Kwa, CT; Tan, KB-C; Fones, C. Risk Perception and Impact of Severe Acute Respiratory Syndrome (SARS) on Work and Personal Lives of Healthcare Workers in Singapore: What Can We Learn? *Medical Care*. 43(7):676-682, July 2005.
10. Centers for Disease Control and Prevention (CDC). (2002). Guideline for hand hygiene in health-care settings: Recommendations of the healthcare infection control practices advisory committee and the HICPAC/SHEA/APIC/IDSA hand hygiene task force. *Morbidity and Mortality Weekly Report*, 51(No. RR-16), 1-56
11. Lankford, M.G., Zembower, T.R., Trick, W.E., Hacek, D.M., Noskin, G.A., & Peterson, L.R. (2003). Influence of role models and hospital design on hand hygiene of health care workers. *Emerging Infectious Diseases*, 9(2), 217-223.
12. Larson, E., & Kretzer, E.K. (1995). Compliance with handwashing and barrier precautions. *Journal of Hospital Infections*, 30(Suppl), 88-106
13. Pettit, D. (2001). Improving adherence to hand hygiene practice: A multidisciplinary approach. *Emerging Infectious Diseases*, 7(2), 234 – 240.

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