Provincial Review Of Infection Prevention and Control

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Alberta | Health and Wellness

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Purpose

On March 26, 2007 the Minister of Alberta Health and Wellness (AHW) asked regional health authorities, the Alberta Cancer Board, and the health professional regulatory bodies to review and advise him on their infection prevention and control (IPC) policies, programs and systems.

This request followed a situation concerning inadequate sterilization of surgical instruments at St. Joseph's Hospital in Vegreville (East Central Health Region) and an incident of improper disinfection and sterilization practices in a physician's clinic in Lloydminster. These incidents served as reminders of the critical importance of IPC in all health care settings, both from a health-care quality and from a patient safety perspective.

To conduct the review, AHW developed a set of questions in consultation with national IPC experts. Submitted responses were reviewed and analyzed by an AHW working group consisting of physicians, nurses and other health professionals with infection prevention and control expertise, as well as legislative, planning and policy experts.

All regional health authorities (RHAs), the Alberta Cancer Board and health professional regulatory bodies* (RBs) responded to the review in a forthcoming and co-operative manner. For the purposes of this report, RHAs include the Alberta Cancer Board. The work of the Health Quality Council of Alberta in its recent review of IPC and sterilization issues in the East Central Health has also provided valuable information.

The provincial review outlines the importance of IPC in the context of Alberta's health system and what was learned about the current state of IPC in Alberta. It identifies directions for moving forward, including specific actions to strengthen and enhance infection prevention and control across the health system in Alberta. Moving forward will require a shared commitment on all fronts – from policy makers, educators and employers, through to health-care professionals.

* Health professional regulatory bodies are corporate entities which have been delegated the authority to govern the professional practice of their members in the public interest. This authority is provided by statutes including the *Health Professions Act*, the *Health Disciplines Act*, and individual profession statutes such as the *Medical Profession Act*.

Background

Importance of Infection Prevention Control

The first order of business for the health care system is to provide safe, high-quality health services with a specific goal to improve health service outcomes. Prevention of health care-associated infections is one of the major safety initiatives the health system can undertake. These infections are acquired during treatment in health-care facilities and community settings for other illnesses or conditions. Health care-associated infections have a significant impact on health system costs and on health outcomes for patients. The Public Health Agency of Canada estimates the annual burden of illness from health care-associated infections is more than $453 million. No financial burden, however, is greater than the risk of death that accompanies health care-associated infections.

Changes in Alberta's health system over the last decade have placed increasing demands on the need for IPC. The continuum of care spans from acute care to rehabilitation centres, long-term care, supportive living facilities, ambulatory care settings and home care. Patient transfers between facilities are frequent, patients in acute care are older and more seriously ill, some have weak immune systems and others have several diseases or illnesses. Increasingly complex and invasive treatments and interventions are being offered across the system. There is now an ability to discharge patients earlier and together with outpatient procedures, it means that health care-associated infections may appear after a patient has left the setting where the infection occurred. This makes identification and documentation of health care-associated infections more difficult than in the past. Resistance to commonly prescribed antibiotics is increasing, there are workforce challenges, and the pool of experienced and trained infection control professionals in the province is limited. All of these factors contribute to the increasing risk of health care-associated infections for patients and health-care workers.

Effective IPC requires a system-wide, integrated, responsive process that involves the collaboration of programs, services and settings across the health-care continuum. This means developing, maintaining and nurturing a culture of patient safety where IPC is everyone's business. It means being clear about roles, responsibilities and accountability for IPC, implementing and monitoring policies and standards for effectiveness, having appropriately trained IPC professionals and health-care staff to implement high quality safe practices, ensuring co-ordination across the system and having a legislative framework to support the delivery of safe, quality health care.

Alberta's Health System

Alberta's health system operates under a number of legal authorities. In Alberta, under the *Regional Health Authorities Act*, nine RHAs are responsible to promote and protect the health of their population and work toward the prevention of disease and injury. This also applies to programs and health services provided by the Alberta Cancer Board. Health plans must be submitted to the minister which set out how these responsibilities will be carried out. RHA annual reports are public documents that report how the RHA has discharged its legislated responsibilities and highlight progress and results achieved over the year.

In addition to the oversight by RHAs, a number of facilities are accredited or licensed by the regulatory bodies of some professions. The College of Physicians and Surgeons of Alberta has a Medical Facility Assessment Committee which investigates and

inspects the ownership and operation of diagnostic and treatment facilities and reports to the college. The Health Care Protection Act requires non-hospital surgical facilities to be accredited by the College of Physicians and Surgeons of Alberta. Dental surgical facilities must be accredited by the accreditation committee established by the council of the Alberta Dental Association and College, and pharmacies are licensed by the Alberta College of Pharmacists. These programs are the responsibility of the colleges; government does not establish the criteria for approval.

The majority of approximately 80,000 health professionals in Alberta are given authority to self-regulate under the *Health Professions Act*. Under the Act, a college (regulatory body) is required to carry out its activities and govern its regulated members in a manner that protects and serves the public interest. Colleges set entry requirements as to who can be a registered member of the profession and must establish, maintain and enforce standards of practice and a code of ethics. They must also establish a continuing competence program that "must provide for regulated members to maintain competence and to enhance the provision of professional services."

Colleges interpret and fulfill these responsibilities in different ways. While the *Health Professions Act* sets out clear expectations regarding complaint and unprofessional conduct procedures, it is not prescriptive in terms of the form, content and scope for professional standards of practice. Some colleges have additional authority under the Act to regulate independent professional practices and perform site visits and inspections.

What Was Learned

Health authorities and health professional regulatory bodies were asked to review and advise the Minister of Alberta Health and Wellness on their infection prevention and control policies, programs and systems. This information, along with what was learned in the recent review of IPC and sterilization issues in East Central Health, provide a picture of the current state of IPC in Alberta - including strengths and areas for improvement.

With this perspective, the province is in an excellent position to strengthen and enhance the safety and quality of the health system. Actions to address challenges identified by the review will build on work that is already underway.

System-wide Lessons

The overall picture shows that generally, the components of an IPC system are in place in Alberta's health system. All RHAs have some regional IPC-related structure and some policies, guidelines and standards. However, there is considerable diversity in structures, policies and standards between RHAs and among health-care sites within regions. Monitoring for standards compliance is variable across RHAs. Surveillance of health care-associated infections and use of surveillance information is inconsistent across the system.

Most RBs made reference to some IPC training requirements or standards. However, there appears to be little cross-linkage, communication or reporting between RBs and RHAs regarding IPC. Regulatory bodies generally rely on complaint-based processes to deal with IPC issues, with few proactive approaches to identify and address concerns.

All RHAs have some designated IPC staff. However, IPC staffing levels generally do not receive adequate priority considering the type of care, characteristics of patient populations, specific needs of facilities and geographic distances in health regions. Roles, responsibilities and accountability for IPC are not clear in RHAs and RBs do not have accountability mechanisms or a clearly defined role in IPC. There appears to be limited co-ordination and integration of IPC across the continuum of care, as well as between RHAs and RBs.

Directions For Moving Forward

Clarify Accountability

At the provincial level, accountability originates from the legislative framework to support the provision of safe and effective health services. In the health system this includes clear reporting lines, management processes and structures, leadership and co-ordination to develop and implement best practices in IPC. Because IPC is integral to the provision of safe, quality health services, it should be identified as an area of professional competence, including continuing competence, a criterion for regulatory body facility accreditation and a required component in RHA health plans, performance agreements and business plans.

What was learned

Accountability for IPC among RHAs, voluntary health-care delivery organizations and contracted service providers is unclear. Roles and responsibilities may be inconsistent between facilities within the same RHA, between RHAs and among RBs. There must be no uncertainty about accountability for health services.

Regulatory bodies appear to have varying interpretations of the importance of, and their responsibility for, IPC. While regulatory bodies are responsible for establishing, maintaining and enforcing standards of practice and continuing competence for their members, most RBs do not have requirements for IPC as an area of continuing professional competence. In independent practice settings which do not have the oversight of a RHA, professional practice standards and continuing competence are of particular importance.

Additionally, the sphere of control of regulatory bodies is limited to their regulated members.

Given that various regulated professionals increasingly work in teams with other professions and with non-regulated professions, it is important that there are consistent expectations across professions and across working environments that include non-regulated professionals.

What is already being done

- Proposed amendments to Bill 41: the *Health Professions Statutes Amendment Act, 2007* will authorize the minister to give direction to a council to make, adopt or amend bylaws, regulations, and codes of ethics or standards of practice.

What will be done

- Bring forward legislative changes to clarify governance, accountability and responsibilities to support patient safety and quality care in the health system. In addition to the legislative changes already introduced in Bill 41, amendments will be brought forward to the *Hospitals Act, Regional Health Authorities Act* and *Nursing Homes Act* that will clarify accountability for the provision of health care services in response to the problems identified in the Health Quality Council of Alberta's report.
- Directives will be issued to RHAs to clarify responsibilities and expectations for IPC - including designation of a senior executive with overall responsibility for IPC in the region.
- Directives will be issued, if appropriate, to clarify the authority of regional medical officers of health for patient and public safety in matters of IPC.
- Further build upon the existing linkages between regional medical officers of health and the province's chief medical officer of health.

- Clarify the role, responsibility and accountability of the voluntary health organizations within regionalized delivery systems as set out in the master agreement between AHW and voluntary health facilities.

- Develop a provincial template for service agreements between RHAs and voluntary health facilities.

Implement Standards and Monitoring

Policies, guidelines and standards are statements of intent concerning how systems and processes should function. They are required for a broad range of issues that contribute to and support IPC. These issues include cleaning, disinfection and sterilization of instruments and equipment, methicillin-resistant *Staphylococcus aureus* (MRSA) outbreak management and prevention, occupational health and safety, hand hygiene, building construction and maintenance, etc.

Policies, guidelines and standards should be monitored to assess adherence with organizational requirements and to ensure the policies are having the desired effect. Health care-associated infections surveillance is a crucial instrument in monitoring IPC effectiveness. This surveillance involves the measurement and evaluation of where and why there is a risk for health care-associated infection, it documents reduction of infection in response to effective IPC interventions and can aid in the detection of outbreaks.

RHAs are required to submit health plans, multi-year plans and annual business plans to AHW which outline their strategies for, and results in, delivering quality health services.

What was learned

All RHAs report having IPC policies, guidelines or standards; however, they vary in breadth, depth, currency and comprehensiveness across the continuum of care. In general, policies are most complete in acute care settings with gaps in areas such as long-term care, home care and supportive living. A number of well recognized and accepted IPC standards currently exist, for example the 1998 Health Canada recommendation for the proper cleaning, disinfection and sterilization of all critical and semi-critical equipment, and their 2004 prohibition of reuse of single use items. However, there is currently no province-wide standard or audit requirement for cleaning, disinfection and sterilization of instruments and equipment, or for MRSA screening and surveillance or other broader infection control best practices. Existing regional standards vary, as do expectations regarding compliance with those standards which has opened the door for divergent practices.

In addition to regional facilities, a great number of health services are provided in independent practice environments which operate outside of the RHA system, such as physicians' offices. In these environments, IPC measures, monitoring and compliance is the responsibility of the professional RBs. The provincial IPC review found a heavy reliance on individual professional responsibility for competency in all areas, whether or not those competencies are specifically addressed in a college's standards of practice. In many professions, in the absence of a complaint, members are expected to self-assess their competencies and identify personal areas for improvement. Using self-assessment as a primary tool for continuing competency does not lend itself to a system-wide approach to consistent implementation of clinical standards, particularly when a large

number of professionals practice independently or provide services outside of RHA-operated facilities, for example in physicians' offices or private long-term care facilities that are under contract with a RHA.

Some professions conduct practice visits as part of their continuing competence program, and some colleges accredit facilities in which their members provide professional services; however, on-site visits are infrequent and do not consistently capture all facilities. In addition, there is no requirement that IPC be included as a criterion in the practice visit.

All RHAs reported they do surveillance of health care-acquired infection; however, the scope, methodology, dissemination and use of results vary widely and cannot be easily combined to provide a coherent provincial picture. The overall magnitude of health care-acquired infections and the ultimate cost to the system, to patients and to families is unknown. Inconsistency of information systems across the province complicates efforts for comprehensive, province-wide surveillance, monitoring and reporting of infections.

The review found that IPC strategies and activities are not clearly evident in RHA three-year health plans and annual business plans, although most RHAs report intentions to undertake future IPC work. RHAs and their service provider organizations are evaluated by a variety of accrediting and review bodies. While most RHAs reported that IPC was an issue identified in their most recent accreditation surveys, they have not been required to report on the accreditation status of their programs and facilities in their health plans, nor to provide AHW with accrediting body reports or progress reports.

What is already being done

- IPC infrastructure guidelines are being developed to address IPC for health care facilities. They will be an addendum to the Technical Design Guidelines for Health Care Facilities (Alberta Infrastructure and Transportation).
- Provincial MRSA Infection Prevention and Control guidelines have been developed. The guidelines define IPC practices to reduce the transmission of MRSA and outline the management of patients infected or colonized with MRSA across health and community settings.
- An Alberta Hand Hygiene Strategy is being developed which will include initiatives to promote and monitor behaviour change in support of IPC.
- A provincial IPC surveillance and monitoring plan is being developed.
- RHAs have been requested to provide AHW with recent accreditation reports and progress reports, and to report their accreditation and patient safety activities in their 2007-08 annual reports.

What will be done

- Ensure RHA boards are responsible to the minister to implement risk management and a sustainable IPC regional system.
- Develop and implement provincial standards and measures for IPC. Initial priorities are:
  - Cleaning, disinfection and sterilization of equipment standards;
  - MRSA outbreak management and prevention standards;
  - Refinement of IPC standards for continuing care;

- IPC requirements for RHA contracted services, including service contracts with voluntary health facilities;
- Technical requirements for health facility construction, renovation and maintenance;
- Organizational IPC structures;
- Minimum IPC staffing requirements.

- Monitor and report on compliance with the provincial standards.
- Implement the provincial IPC surveillance and monitoring plan that is being developed.
- Develop IPC reporting requirements for RHAs to include in their three-year health plans and in annual reports to AHW and the public

Strengthen Health System IPC Capacity

Health-care workers are an essential component of health systems. Sufficient numbers of IPC professionals, including infection control practitioners (ICPs*), and health-care staff in general are necessary to implement high quality health-care practices. Infection prevention and control is a basic health system function and underlies Albertans' expectation for safe health-care services. Infection prevention is the ideal but critical incidents such as outbreaks do occur and the system must be able respond efficiently and effectively.

What was learned

The number of full-time equivalents defined by RHAs as ICPs and their uneven distribution, suggests a limited capacity to support: IPC across health-care programs and services; and surge capacity for outbreaks. In particular, limited capacity to implement IPC policies, guidelines and standards was noted in long-term care, home care and supportive living areas. Recognizing the variance between and within regions, access to supportive IPC expertise-including epidemiologists and infectious disease physicians - is needed. Leadership and support is needed for regions that require specialized expertise in dealing with critical incidents, such as outbreaks of infectious disease. A provincial mechanism that builds on existing processes is needed to maximize limited IPC resources and expertise across the health system.

What is already being done

- AHW is collaborating with Alberta Education and Alberta Advanced Education and Technology on the development of IPC resources including educational materials related to issues such as community acquired MRSA and pandemic influenza.

What will be done

- Partner with RHAs to develop a strategy to create surge capacity for regions requiring additional expertise necessary to resolve critical incidents.
- Facilitate the availability of IPC support as needed and consultation services to ICPs on an ongoing basis.

* ICPs are professionals trained and certified with specialization in identification of disease, surveillance and epidemiologic investigation, prevention and control of infection.

- Work with RHAs to ensure decisions and processes maximize IPC resources and expertise for safe health-care delivery (e.g. consolidation of equipment sterilization operations).

Ensure Education and Training

Orientation and ongoing education are the foundation of essential knowledge to prevent the transmission of infections. IPC education and training for health-care workers, volunteers and patients is a critical component of effective IPC programs. Health-care workers must develop and maintain competencies in current infection prevention and control practices. Decision-makers in the health system must understand the importance of identifying and managing the risks of health care-associated infection.

What was learned

Albertans rely on the expertise, education, training and commitment of the health professionals and support staff who provide health services. The provincial review showed that the extent, content and quality of training in the safe and effective cleaning, disinfection and sterilization of critical and semi-critical instruments and equipment varies in central processing departments and professional practice settings. In addition, the central sterilization processor role is an unregulated discipline in Alberta and there is no standardized Canadian-accredited training program.

Adequacy of training in the cleaning of non-critical devices, e.g. wheelchairs, IV poles, commodes, handrails and blood pressure cuffs, was also variable. Since evidence suggests improper cleaning of non-critical devices is often responsible for the transmission of *C. difficile* and MRSA, training in the appropriate cleaning of this equipment is required.

Ongoing IPC education to a variety of audiences is needed, but it is not clear that there is consistency between materials and approaches across the province. As a result, possible duplication and gaps are created. There is a need for a province-wide plan for IPC education and training for RHA boards, all health care professionals, patients and visitors in order to reduce the duplication of planning efforts. There is also a need for infection control practitioner recruitment, education, training and certification/recertification.

Regulated members of health professions are responsible to practice competently, in good faith and within the constraints of their profession. Beyond this general expectation however, it may not always be clear what should be specifically expected of regulated members. The development of a patient safety culture requires the commitment and effort of both employers and health professional staff. RHAs and RBs both have a role to play.

What is already being done

- An MRSA community information pamphlet, available on the AHW website, provides information for the public on decreasing the risk of community-associated MRSA. Similar information was provided to Alberta Education for schools.
- The "Do Bugs Need Drugs?" community education program and the "Bugs and Drugs Handbook", which is distributed to all Alberta physicians and pharmacists, are both resources intended to address the issue of antibiotic resistance.

What will be done

- Determine the best means of supporting ongoing work by the Community and Hospital Infection Control Association Canada* to ensure adequate education and training options for novice and experienced infection control practitioners as well as requirements for certification.

- Facilitate the adoption of suitable training materials on the safe and effective cleaning, disinfection and sterilization of critical and semi-critical equipment. These materials should be standardized, province-wide, up-to-date, and accessible.

- Direct RHAs and RBs to ensure that health-care workers develop and maintain competence in IPC practices (e.g. the Community and Hospital Infection Control Association Canada's Infection Prevention and Control Core Competencies for Health-care Workers: A Consensus Document; and the College of Nurses of Ontario Practice Standard for Infection Prevention and Control). Initial priorities include:
  - Cleaning, disinfection and sterilization of critical and semi-critical instruments and equipment;
  - Cleaning and disinfection of non-critical equipment and devices.

- Facilitate the development of education and orientation processes regarding individual and organizational roles and responsibilities with respect to IPC and occupational health and safety practices and relevant legislation including the *Occupational Health and Safety Act, Health Professions Act, Public Health Act, Medical Profession Act, Regional Health Authorities Act*, etc.

Enhance Provincial Co-ordination

A central aim of IPC is to protect patients and health-care workers from infection. Infectious agents are considered a biological hazard to workers. All employers in Alberta must meet minimum standards under occupational health and safety legislation. Occupational health and safety programs protect the health of workers through a series of measures that identify and minimize workplace infection hazards. Examples include workplace policies, screening and immunization of health-care workers, product selection of equipment and personal protective devices such as masks and staff education. Legislation and other ministries' policies impact safe patient and worker environments, training and education of workers, and IPC in settings outside the health system.

A system-wide, co-ordinated approach facilitates the development and implementation of policies for patient and worker safety, education and training of workers. It also supports infection prevention and control in health care and community settings.

* Community and Hospital Infection Control Association Canada promotes excellence in infection prevention and control through education, communication, standards and research and endorses the Certification in Infection Control (CIC) certification of the Certification Board of Infection Control.

What was learned

IPC and occupational health and safety activities are not optimally aligned across the health system among RHAs, regulatory bodies and health-care professionals. It was observed that occupational health and safety is often not a component of regional IPC structures, despite overlapping areas of responsibility. The review also found that IPC policies for routine infectious disease screening and immunization of health-care workers and volunteers vary between health authorities.

Additionally, RBs have a number of different perspectives regarding their role in the context of occupational health and safety for their members who may be employers or employees. A system-wide, co-ordinated approach to patient and worker safety across the continuum of care would avoid fragmentation of responsibilities, inefficient use of resources, and increased IPC-related risks.

RHAs reported that IPC is often viewed as the "job" of IPC professionals. Everyone has a role in effective IPC. To improve patient and worker safety, the health system must develop, maintain and nurture a culture of safety.

What is already being done

- A comprehensive provincial IPC strategy is under development. An Infection Control Advisory Committee, which includes RHAs, the Health Boards of Alberta, the Community and Hospital Infection Control Association, laboratories, and the Council of Medical Officers of Health, is guiding the development of the strategy.
- Work is underway in collaboration with Alberta Employment, Immigration and Industry to develop best practices for pandemic influenza.

What will be done

- Work with relevant ministries and academic and training institutions to develop strategies for a cohesive approach to enhancing patient and worker safety. Specifically:
  - Work with Alberta Employment, Immigration and Industry to improve compliance with occupational health and safety legislation;
  - Work with Alberta Advanced Education and Technology, academic and training institutions for training and education;
  - Work with Alberta Infrastructure and Transportation for infrastructure IPC requirements;
  - Work with Alberta Seniors and Community Supports for co-ordination related to continuing care standards; and
  - Work with other ministries that provide care in group settings including Alberta Solicitor General and Public Safety and Alberta Children's Services.
- Work with relevant partners to advance patient safety in a culture of patient and health-care worker safety. These partners include RHAs, RBs, the Health Quality Council of Alberta, the Health Boards of Alberta, the Canadian Patient Safety Institute, the Canadian Council on Health Services Accreditation, the Public Health Agency of Canada, the Community and Hospital Infection Control Association, the Canadian Standards Association, and others as appropriate.

Conclusion

Alberta's health system is a made up of many components that act together to provide safe, high-quality health services. Infection prevention and control is the responsibility of all components of the health system.

The provincial IPC review provides direction for actions that will further develop a culture of excellence in patient safety, quality assurance and IPC. Establishing and acting in accordance with clear standards and expectations will foster a culture of service and safety, and will also integrate IPC across not only the health care continuum but across community settings. Awareness of the importance of solid IPC practices is the first step and the provincial review serves to increase this awareness.

By assessing how IPC is being managed in the province, areas of strength and areas which need to be improved have been identified. Implementing the actions contained in this report will make the health system stronger and will ensure that Albertans receive consistent care of the highest quality standards wherever they access health services.

Appendix

IPC Review Respondents

1.1 Health Authority Respondents

1. Chinook Regional Health Authority
2. Palliser Health Region
3. Calgary Health Region
4. David Thompson Regional Health Authority
5. East Central Health
6. Capital Health
7. Aspen Regional Health Authority
8. Peace Country Health
9. Northern Lights Health Region
10. Alberta Cancer Board

1.2 Regulatory Body Survey Respondents

1. Alberta Association of Midwives
2. Alberta Association of Naturopathic Practitioners
3. Alberta College and Association of Acupuncturists
4. Alberta College and Association of Chiropractors
5. Alberta College of Combined Laboratory and X-Ray Technologists
6. Alberta College of Medical Diagnostics and Therapeutic Technologists
7. Alberta College of Medical Laboratory Technologists
8. Alberta College of Occupational Therapists
9. Alberta College of Optometrists
10. Alberta College of Paramedics
11. Alberta College of Pharmacists
12. Alberta College of Social Workers
13. Alberta College of Speech-Language Pathologists and Audiologists
14. Alberta Dental Association and College
15. Alberta Opticians Association / College of Opticians of Alberta
16. Alberta Podiatry Association
17. College and Association of Registered Nurses of Alberta
18. College and Association of Respiratory Therapists of Alberta
19. College of Alberta Dental Assistants
20. College of Alberta Denturists
21. College of Alberta Psychologists
22. College of Dental Technologists of Alberta
23. College of Dietitians of Alberta
24. College of Hearing Aid Practitioners
25. College of Licensed Practical Nurses of Alberta
26. College of Physical Therapists of Alberta
27. College of Physicians and Surgeons of Alberta
28. College of Registered Dental Hygienists of Alberta
29. College of Registered Psychiatric Nurses of Alberta

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