

ASK. LISTEN. TALK.

Safer Healthcare Now! teams improving quality and patient safety

safer healthcare
now!

Safer healthcare for all Canadians! *Ask.Listen.Talk*

The Canadian Patient Safety Institute interventions and programs help facilitate awareness, implementation, spread and sustainability of clinical quality improvement activities across all healthcare settings. These resources translate evidence-informed clinical care practice and quality improvement methodologies for frontline providers, and help leaders to understand the organizational and systems level requirements needed to sustain change.

The Canadian Patient Safety Institute acts as a catalyst, integrator and broker in providing national leadership to coordinate and support interventions that help reduce the gap between evidence and practice. An overarching strategy is being developed to create the synergy and coordination required to accelerate improvement in patient safety in Canada. The National Integrated Patient Safety Strategy will provide the framework for identifying priorities and aligning our work with the various players who are currently working separately to achieve patient safety gains.

Our successes are greatest when our partners make care safer. The Canadian Patient Safety Institute is committed to working with you, our stakeholders, to realize our vision of safer healthcare for all Canadians. We seize every opportunity to work with you to catalyze change and improve safety and quality practices, experiences and outcomes.

The system's priorities are our priorities. Continuous improvement takes real discipline and is something that can be difficult to master, yet can yield tremendous results. Minor changes can have just as big an impact on quality as major system interventions.

Our drivers are knowledge, evidence and analysis. Along with our partners and participating healthcare organizations, we are inspired by the meaningful impact on patient outcomes achieved through the evidence-based *Safer Healthcare Now!* interventions. This nation-wide collaboration among healthcare organizations is building capacity, raising awareness and improving patient care.

Safer Healthcare Now! has developed 11 proven and tested clinical patient safety protocols. Through *Safer Healthcare Now!* the Canadian Patient Safety Institute has gained a wealth of experience and has built an expansive network of hundreds of organizations who inspire and demonstrate extraordinary improvement in patient safety and quality. *Safer Healthcare Now!* will continue to inform the development, spread and sustainability of targeted improvement initiatives.

Faculty play a key role in the success of the *Safer Healthcare Now!* interventions. These experts dedicate their time and clinical expertise to develop guidelines that help healthcare professionals adopt innovative approaches to deliver safe care and avoid preventable harm. We applaud the *Safer Healthcare Now!* teams who are inspiring extraordinary improvement in patient safety and quality care. The profiles highlighted throughout these pages illustrate some true leaders who are spreading optimal safety practices throughout the healthcare system. We also thank you for your efforts to advance patient safety and quality improvement.

At the Canadian Patient Safety Institute, **ASK.LISTEN.TALK.** underpins everything that we do. Good healthcare starts with a question: **ASK;** good healthcare requires an open mind: **LISTEN;** and good healthcare requires a responsive heart: **TALK.** The Canadian Patient Safety Institute supports a shared vision of safe care and demonstrates how together we can improve patient safety in Canada.

Hugh MacLeod, CEO
Canadian Patient Safety Institute

Improving the quality of care and patient safety

safer healthcare
now!

Safer Healthcare Now! is a program of the Canadian Patient Safety Institute that provides evidence-based interventions to reduce preventable harm and improve patient safety and care in hospitals and healthcare facilities throughout Canada. Over 700 organizations have enrolled in *Safer Healthcare Now!* since its launch in 2005.

Safer Healthcare Now! strives to:

- Reduce harm
- Improve healthcare
- Protect Canadians

The *Safer Healthcare Now!* interventions combine clinical and patient safety improvement expertise. They are designed to engage and empower both frontline staff and managers by providing them with the resources to implement, measure and evaluate their patient safety initiatives.

The interventions span across the acute care, long-term care and homecare sectors. Each intervention comes with a Getting Started Kit – a comprehensive, practical resource to help healthcare teams and clinicians in a dynamic approach to quality improvement, giving organizations a solid foundation and starting point. Teams are also supported by communities of practice, national calls, learning programs and in-depth breakthrough learning collaboratives to promote and support patient safety quality improvements. Patient Safety Metrics is a web-based measurement system to help organizations measure and monitor their quality improvement process and outcome measures.

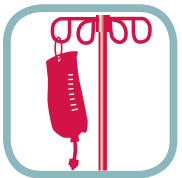
By visiting www.saferhealthcarenow.ca you can learn more about how to effectively implement the interventions. We encourage you to get involved in *Safer Healthcare Now!*



AMI – Acute Myocardial Infarction: Prevent deaths among patients hospitalized for acute myocardial infarction by ensuring the reliable delivery of evidence-based care



MedRec - Medication Reconciliation (Acute, Long-Term and Home Care): Prevent adverse drug events by implementing Medication Reconciliation across the continuum of care



CLA-BSI – Central Line-Associated Bloodstream Infection: Prevent central line-associated bloodstream infection and death by implementing a set of evidence-based interventions in all patients requiring a central line



SSI – Surgical Site Infection: Prevent surgical site infections by implementing a set of evidence-based interventions for all surgical patients



Delirium: Implement universal precautions in delirium prevention and reduction strategies for critically ill patients in ICU settings



Checklist – Safe Surgical Checklist: Improve surgical safety with valuable resources and leading information such as the Surgical Safety Checklist



Falls – Reducing Falls and Injury from Falls (Acute, Long-term Care, and Community Settings): Prevent falls and reduce harm resulting from falls in various settings



VAP – Ventilator-Associated Pneumonia: Prevent VAP and other complications in patients on ventilators by implementing a set of interventions known as the “VAP bundle”



IPAC – Infection Prevention and Control: Prevent healthcare-associated infections through hand hygiene, traditional infection-control strategies, and additional techniques, such as positive deviance and liberating structures



VTE – Venous Thromboembolism: Implement a series of protocols to ensure patients undergoing surgery receive the appropriate thromboprophylaxis to prevent complications such as deep vein thrombosis and pulmonary embolus



Home Care: Resources on medication reconciliation, infection control, effective hand hygiene, and preventing falls and reducing injuries from falls that can be applied to home care and community care settings



Patient Safety Metrics: A measurement platform for data collection that provides real-time reporting of results

Timely care for heart attack patients:

Establishing benchmarks helps St. Martha's to advance safe care

When St. Martha's Regional Hospital of the Guysborough Antigonish Strait Health Authority (GASHA) established base measures for acute myocardial infarction (AMI) care, they found significant room for improvement in their 'door to electrocardiogram (ECG)' and 'door to needle' times. *The Safer Healthcare Now!* AMI bundle has been adopted provincially by Cardiovascular Health Nova Scotia (CVHNS) to help GASHA collect data and inform practice changes that can be implemented to advance safe AMI care.

St. Martha's started with some basic changes, synchronizing their clocks to record when a patient exhibiting the symptoms of an AMI walked through their doors. Algorithms were put in place to ensure that a standardized process was followed for patients complaining of chest pain or shortness of breath on arrival in emergency, to ensure that an ECG is done within 10 minutes of arrival and the results are handed off to the right person to read.

Each morning, the CVHNS Coordinator receives an email from a health records abstractor to signal any AMI admissions within the last 24-hours, along with the diagnosis at admission. The Cardiac Health Coordinator at St. Martha's then audits those charts to determine if the best care was provided and if benchmarks have been met – if the patient received the medication they needed on admission and discharge and their associated 'door to ECG' and 'door to needle' times. An Excel spreadsheet is used to track each AMI patient, their diagnosis, and compliance with benchmarks. A monthly report is posted to illustrate progress and to provide an overview of areas for improvement. ST elevated myocardial infarction cases are presented at a monthly Emergency in-service meeting for discussion.

"It can be difficult for people to accept that what they are doing is not working," says Matthew Murphy, Risk Management and Decision Support. "When you establish benchmarks based on best-practice guidelines and have factual information to monitor your results, you can change behaviour. Get frontline staff involved in designing interventions and measurement from the start and you will get much better buy-in to the changes you need to make."

St. Martha's Regional Hospital is a regional healthcare facility located in Antigonish, Nova Scotia. Cardiovascular Health Nova Scotia (CVHNS) is a provincial program to improve the cardiovascular health and care of Nova Scotians.
www.gasha.novascotiahealth.ca

A traumatic event can have significant negative outcomes if not treated properly. If you are not measuring, you need to start. You will find that there is always room for improvement and when you measure you can better determine where your efforts are best directed to improve care.

MATTHEW MURPHY, RISK MANAGEMENT AND DECISION SUPPORT (GUYSBOROUGH ANTIGONISH STRAIT HEALTH AUTHORITY)



Improving care for heart attack patients

Every year, several million people in North America are diagnosed with an acute myocardial infarction and approximately one-third will die during the acute phase. Acute Myocardial Infarction (AMI) is a sudden loss of blood supply to an area of the heart, causing permanent heart damage or death.

The key evidence-based care components of the AMI intervention include:

- Early administration of aspirin (24 hours before hospital arrival, or within three hours after hospital arrival)
- ECG obtained within 10 minutes of hospital arrival
- Timely reperfusion therapy; fibrinolytic therapy within 30 minutes or percutaneous coronary intervention (PCI) within 90 minutes of hospital arrival
- Aspirin at discharge
- Beta Blocker prescribed at discharge
- Statins at discharge
- ACE-inhibitor or angiotensin receptor blockers (ARB) at discharge
- Tobacco cessation counselling and/or tobacco dependence medications (nicotine replacement therapy, bupropion, varenicline, etc.)
- Referral to cardiac rehabilitation before or at discharge from hospital

For more strategies to prevent acute myocardial infarction, download the AMI Getting Started Kit or visit www.saferhealthcarenow.ca

Safer Healthcare Now! some interesting facts

- 719 organizations (1,683 distinct teams) enrolled in *Safer Healthcare Now!*
- Over 100 process and outcome measures across 11 interventions tracked by Patient Safety Metrics
- Over 80 per cent of the 719 organizations enrolled in *Safer Healthcare Now!* have reported data to Patient Safety Metrics at least once
- 2,460 participants in *Safer Healthcare Now!* National Calls
- 10 to 13 per cent of home care clients experience an adverse event each year, and more than 50 per cent of those are preventable¹
- 91 per cent of patients receive the appropriate thromboprophylaxis when preprinted order sets are used, compared to only 71 per cent when the orders are handwritten²

¹ Safety at Home: The Pan-Canadian Home Care Study (www.patientsafetyinstitute.ca)

² National VTE Audit Day (www.patientsafetyinstitute.ca)

Commitment, monitoring and communication key to reducing central line infections

Hotel-Dieu de Quebec implements quality monitoring program

L' Hôpital-Dieu de Quebec has been participating in the central line-associated infection (CLA-BSI) component of a provincial hospital-acquired infection monitoring program, Programme de surveillance provinciale des infections nosocomiales (SPIN) for several years. In the past 10 years, the CLA-BSIs went from 2.23/1000 catheter days in 2004, to the current rate of 1.02/1000 catheter days. Rates varied over the period with the most success after implementation of both the insertion and maintenance bundle.

In 2008, a quality monitoring program for central line insertion and care in the ICU was established using the *Safer Healthcare Now!* central line bundles. An internal committee was formed to promote the monitoring program that included a nurse-educator, an assistant head nurse, a unit agent, an anesthetist-intensivist, infection prevention and control (IPC) advisor and an infectious disease specialist. The Committee members developed a data collection sheet, discussed the results and implemented actions from the established facts. The contents of the catheter insertion tray were improved; the lay-out of the items on the catheter tray was reworked to optimize the catheter insertion procedure; and the catheter insertion technique was adapted to allow the antiseptic solution to dry completely before performing the skin puncture.

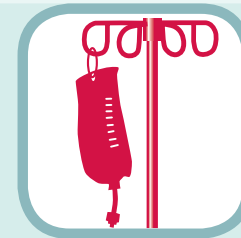
In 2009, the insertion bundle was implemented, the team worked on monitoring catheter care. The Committee involved the patient care team in developing a plan of action to come up with solutions to improve and align their procedures with best practices.

"Monitoring of processes ensures that best practices are followed in delivering safe care," says Louise Turmel, IPC Advisor. "It helps to identify variations in practice that could be contributing to an increased number of bloodstream infections amongst our patients. Sharing data with the care teams helps to maintain best practices when bloodstream infection rates are low, and helps to reinforce best practices when rates increase."

L'Hôtel-Dieu de Québec serves the residents of greater Québec City and eastern Québec. It is one of three major hospitals that form the Centre Hospitalier Universitaire de Québec.

www.chuq.qc.ca

Preventing catheter-related bloodstream infections



Central venous catheters (CVCs) disrupt the integrity of the skin, making infection with bacteria or fungi possible. Central Line-Associated Bloodstream Infections (CLA-BSI) may spread to the bloodstream, possibly leading to death.

Follow these evidence-based steps of a Central Line Insertion and Care bundle:

Central Line Insertion bundle:

- Hand hygiene
- Maximal barrier precautions
- Chlorhexidine skin antisepsis
- Optimal catheter type and site selection
 - Avoid the femoral vein in adults; subclavian preferred to minimize infection
 - Optimal catheter type and site selection in children is more complex with the internal jugular vein or femoral vein most commonly used. Site preference in children needs to be individualized

Central Line Care bundle:

- Daily review of line necessity, with prompt removal of unnecessary lines
- Aseptic lumen access
- Catheter site and tubing care

Visit www.saferhealthcarenow.ca to download the Preventing Central Line Infections Getting Started Kit and to learn how to implement Central Line bundles.

“Our patient’s health was being seriously comprised. We had to improve communication with the patient care team and physicians involved in inserting central lines to reduce central line-associated bloodstream infections.”

**LOUISE TURMEL,
INFECTION PREVENTION AND CONTROL ADVISOR
(HÔTEL-DIEU DE QUÉBEC)**

Safer Healthcare Now! some interesting facts

- National VTE audit day shows that 81 per cent of patients received the appropriate thromboprophylaxis³
- Covenant Health now screening 100 per cent of intensive care unit (ICU) patients for delirium
- Vancouver Coastal Health and Providence Health Care program achieves 85 per cent reduction in unintentional medication discrepancies within four months of implementing MedRec
- Central Health total hip replacement surgical site infection rate reduced from 25 per cent to three per cent over five years, with 21 months at zero per cent
- Brandon Regional Health Centre reduces ventilator-associated pneumonia (VAP) in the ICU with rates down to four VAP cases per 1,000 ventilator days

³ National VTE Audit Day (www.saferhealthcarenow.ca)

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Part of our delirium management strategy was the implementation of an early mobilization protocol. Our patients used to be sedated, restrained and in bed. Now they are awake, alert and engaging in mobilization activities.

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KIM SCHERR,
NURSE PRACTITIONER (COVENANT HEALTH)

[Motivated to mobilize:]

Covenant Health keeps delirium patients active!

Covenant Health has implemented a data collection tool and processes to ensure 100 per cent of intensive care unit (ICU) patients are screened for delirium. Delirium can have a significant impact on a patient's life, and their ability to function and participate in their own healing. Delirium is very difficult to recognize in a critical care setting and very often goes undiagnosed. The most important step in delirium management is early recognition.

The team at Covenant Health's Misericordia Hospital site, along with other teams within the Alberta Health Services Edmonton zone, looked for help from the *Safer Healthcare Now!* Delirium and Medication Reconciliation Collaborative to standardize and implement delirium screening that would improve care for critically ill patients.

To increase delirium awareness for staff on the unit, Covenant Health created and put into practice a comprehensive education program. From this program came strategies to arm families of delirium patients with support and information. The team has also developed noise reduction strategies to minimize sleep disturbance for patients in the ICU and a mobilization protocol to ensure that patients are out of bed when appropriate. A new pain assessment tool is under development for intubated patients who cannot express their pain level.

The Covenant Health team included the nurse practitioner, educator, supervisor, manager, pharmacist, respiratory therapist and two physiotherapists – all instrumental in the development of delirium reduction strategies and making the mobilization protocol a reality. A physician group provided support in the ongoing management of appropriate medications.

“The Covenant Health team has made huge strides in implementing a significant change in practice and improved care,” says Kim Scherr, Nurse Practitioner. “Our efforts to manage and prevent delirium have had a positive impact on the health and quality of life for countless ICU patients.”

Covenant Health is a major provider in Alberta's integrated health system. Covenant Health works with Alberta Health Services and community partners to provide a broad range of programs and services in 18 hospitals, health centres and continuing care facilities located throughout Alberta.

www.albertahealthservices.ca or www.covenanthealth.ca



Delirium management and prevention

Delirium is a syndrome characterized by a disturbance of consciousness and a change in cognition that develop over a short period of time.⁴ Delirium is an under-recognized, but surprisingly common problem in hospitalized ICU patients. Delirium is associated with worse outcomes such as increased length of stay, ventilator-days, self-removal of important devices (endotracheal tubes, central venous catheters) and mortality.

Up to 80 per cent of critically ill patients from various ICU populations can be identified according to validated screening criteria. Managing and preventing delirium for a critically ill patient can be addressed through implementing the elements of the *Safer Healthcare Now!* Delirium change package that include:

1. Recognize/manage/mitigate risk factors for every patient (“universal precautions”)
2. Assess for delirium every shift and as required
3. Develop standardized protocol for management of delirium. Initial strategies to support the implementation and documentation of the protocol, including:
 - a. Identifying and treating underlying causes of delirium
 - b. Use of non-pharmacological strategies (early mobility, optimize sleep routines, daily reassessment of sedation needs, paired with readiness to wean, provide need for communication adjuncts and reassess restraints daily)
 - c. Use of environmental strategies (i.e. visible daylight, allow visitors, display calendar and clocks in the room, avoid restraints, etc.)
 - d. Use of pharmacological strategies appropriately and only after underlying causes addressed
 - e. A plan for withdrawal of anti-psychotics (before transfer to ward and/or other location)
4. Support patients and families of patients with delirium and integrate them in the management of delirium
5. Include a multidisciplinary team in planning and managing care (i.e. physician, nurse, psychiatry, pharmacy, RT/OT and social worker)
6. Create a unit culture that is sensitive to delirium by raising awareness and improving knowledge and skill to identify and manage delirium
7. Manage hand-offs (communication, documentation, information within ICU, pre and post ICU stay)

To access more information on delirium and session recordings and documents from the Delirium and Medication Reconciliation Collaborative, visit www.saferhealthcarenow.ca

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⁴ Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision, <http://www.psychiatryonline.com/>

[Breaking the fall:]

Sunrise Health Region reduces injury from falls

In the Sunrise Health Region's 13 long-term care (LTC) facilities in Saskatchewan, it is not unusual to experience 1,500 falls per year. "Our organization recognized that falls were an issue where we had a lot of work to do," says Jason Parkvold, Clinical Improvement Facilitator. "We wanted to try to reduce the number of falls, as well as the injury rate from those falls."

One of the initial steps for healthcare providers focusing on falls in their individual facilities was to identify residents who are at a high risk of falling. They then pulled together a number of known fall best-practice interventions to stop residents from falling and injuring themselves. For example, someone who is at risk of falling that often gets up in the middle of the night to use the washroom. "By moving the resident closer to the nursing desk or having staff do rounds more often, staff were able to intervene *before* the resident fell," says Jason Parkvold. "Also, when staff analyzed why one resident continuously fell while going for meals in the dining room, they discovered he had to walk a long way to get to his seat. He was placed in a different spot in the dining room and is no longer falling."

Some of the major changes implemented in the LTC facilities include using a new fall risk assessment tool to identify factors that place residents at risk for falls, and a set of criteria to identify and target interventions for resident-specific risk factors. Parkvold says this has led to increased awareness among staff of the risk potential for residents to fall. The new risk assessment tool resulted in overall greater planning to prevent a fall.

While the total number of falls is static, Sunrise Health Region has realized a decrease in the number of injuries from a fall. The falls program is now being implemented in home care settings and at six acute care hospitals across the region.

Sunrise Health Region is one of 13 health regions in the province, providing healthcare services to a population of 58,000 in urban, rural and first nation's communities throughout eastern Saskatchewan. www.sunrisehealthregion.sk.ca



Reducing falls and injuries from falls

A critical issue in healthcare safety is reducing injury from accidental falls. Close to 50 per cent of elderly residents in long-term care facilities fall every year;⁵ and 40 per cent of admissions to long-term care facilities are the direct result of a fall.⁶ One-third of those residents who fall sustain serious injuries, and those individuals who suffer from a fall are at a higher risk for future falls and injury.⁷

There are five main components to fall prevention/injury reduction intervention strategies where staff in acute care, long-term care, and home health care can make a difference towards fall prevention and injury reduction. The components include:

1. Prevention: Universal Fall Precautions (SAFE)
2. Multifactorial Risk Assessment
3. Communication and education about fall risk
4. Implementation of interventions for those at risk of falling
5. Individualize interventions for those at high risk of fall-related injury

The Preventing Falls and Injuries from Falls Getting Started Kit and other tools and resources are available at www.saferhealthcarenow.ca

When looking at the interventions, people will look for something miraculous, when a lot of the time it is some very simple intervention that is most effective. Our greatest learning has been to listen to what residents have to say. Even someone with dementia will know what contributed to their falling.

**JASON PARKVOLD,
CLINICAL IMPROVEMENT FACILITATOR
(SUNRISE HEALTH REGION)**

⁵ Kiely, D. K. et al. "Identifying nursing home residents at risk of falling." Journal of the American geriatrics society, Vol. 46, No. 5, 1998, pp. 551-55

⁶ Canadian Institute for Health Information (2009), Health Indicators, [Online]. http://www.cihi.ca/cihiweb/products/Healthindicators2009_en.pdf

⁷ Canadian Institute for Health Information (2006). National Trauma Registry, 2005 Injury Hospitalizations Highlights Report, [Online]. http://secure.cihi.ca/cihiweb/products/ntr_highlights_2005_en.pdf

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In providing home care, you must be respectful of your client’s ability to choose how they want to live. It is therefore important to be creative and thoughtful in how we work with and empower clients to make their environments safer.

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HELENE LACROIX,
CORPORATE OUTCOMES OFFICER
(SAINT ELIZABETH)

[Safer care at home:]

Saint Elizabeth provides effective programs in a home care setting

Saint Elizabeth, a healthcare company with a focus on home and community care, bases its services on a safety guarantee to ensure its clients receive high quality and safe care. Saint Elizabeth conducts over five million home care visits annually and provides a wide array of home care services in Ontario, Quebec and British Columbia. It also collaborates with First Nations, Inuit and Métis communities to provide healthcare education and training through a web-based program.

In customizing its programs, Saint Elizabeth uses the interventions and Getting Started Kits developed by *Safer Healthcare Now!* to support implementation of programs such as medication reconciliation, falls prevention and hand hygiene. They also review recommendations from the other *Safer Healthcare Now!* interventions to determine which care elements can be applied in a home care setting.

Implementing Medication Reconciliation in home care is a continuous process that involves the client, home care provider, physician and pharmacist. Saint Elizabeth has a focus on measurement and continuous improvement. Within Medication Reconciliation, staff are streamlining the documentation tools used to improve interdisciplinary communication and reduce the time for full completion of a best possible medication history. The falls program begins with a comprehensive assessment, followed by the creation of a care plan that includes a focus on strengthening muscles, improving balance, and ensuring a safe home environment. Staff adherence to hand hygiene practices is measured by asking clients how satisfied they are with their care provider’s hand hygiene practices. To help promote optimal hand hygiene practices, home care staff will soon leave a bottle of hand sanitizer with their clients to reinforce the importance of clean hands.

“Never be satisfied with the status quo,” says Helen Lacroix, Corporate Outcomes Officer. “Question everything and don’t make assumptions. If you are always questioning, you will uncover deeper understandings that will lead the continuous improvement needed for safer home care environments.”

Saint Elizabeth provides a full range of integrated care solutions to respond to client, community and health system needs across Canada. www.saintelizabeth.com



Safety in home care

As Canada’s population ages, home care has become a necessary part of living through one’s senior years. It is estimated that 1.4 million Canadians receive publicly funded home care annually. The **Safety at Home: Pan Canadian Home Care Study** found that approximately 10 to 13 per cent of home care clients experienced an adverse event each year, and more than 50 per cent of those were preventable. The Safety at Home: Pan Canadian Home Care Study is available at www.patientsafetyinstitute.ca

A *Safer Healthcare Now!* Getting Started Kit on Medication Reconciliation in Home Care is available for download. Additional resources and information on infection control, effective hand hygiene, and preventing falls that can be applied to home care and community settings is contained within several of the *Safer Healthcare Now!* Getting Started Kits, available at www.saferhealthcarenow.ca

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Our goal is to build capacity within the unit so that when a new piece of equipment arrives, or processes change, our staff can identify and address infection control issues.

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TRACY WRONG,
DIRECTOR OF QUALITY MANAGEMENT
(CHILDREN'S HOSPITAL OF EASTERN ONTARIO)

Spreading effective change, NOT infection!

CHEO tackles healthcare-associated infections spread by equipment

A team of infection prevention and control champions at the Children's Hospital of Eastern Ontario (CHEO) have galvanized staff to successfully implement a new approach to control the occurrence and spread of infection in their hospital. Tracy Wrong, Director of Quality Management and Ariyan Marvizi, Improvement Support Coordinator led the charge.

After establishing key objectives, CHEO focused on one in-patient unit to begin implementing improvements. Objectives included identifying a comprehensive list of equipment; understanding the appropriate techniques to clean the equipment; identifying who was responsible for cleaning what; and the frequency. A measurement process was also developed to ensure their strategy was working.

Initially, only 10 per cent of frontline staff were aware of what equipment needed cleaning. By joining the *Safer Healthcare Now!* Stop Infections Now Collaborative (SINC) and working with its improvement advisors and behavioural change consultants from the University Health Network, staff were engaged in such an effective manner that they not only knew the problem inside-out, they now owned the solution!

The CHEO team is now taking the strategy developed for one unit and effectively using the methodologies to come up with solutions for other units. "The methods and structures we learned during the SINC Collaborative are being used to engage staff in quality improvement initiatives throughout the hospital," says Ariyan Marvizi.

As CHEO has proven, frontline staff are the key to effecting change in their own work environments.

***Safer Healthcare Now!* has a variety of resources, programs and strategies to combat the spread of healthcare-associated infections. In addition to clean equipment, effective hand hygiene is paramount in controlling infections. www.handhygiene.ca**

The Children's Hospital of Eastern Ontario is a pediatric health and research centre providing family-centred patient care. CHEO's large service area includes Ottawa, Eastern Ontario, Western Quebec, Nunavut and parts of Northern Ontario. www.cheo.on.ca

Infection prevention and control



Annually, 8,000 Canadians die from hospital-acquired infections.⁸ An additional 220,000 get infected.⁸ Infection control and prevention strategies greatly lessen the chance of spreading hospital superbugs and decrease the risk of becoming infected.

Healthcare workers are finding success in preventing and controlling infections by the following the seven step approach outlined in the *Safer Healthcare Now!* Getting Started Kit:

Step 1: Understand the Challenge. What are antibiotic resistant organisms and why are the infections they cause such a concern?

Step 2: Understand how to control Superbugs.

- Hand hygiene
- Environmental Cleaning
- Antimicrobial stewardship
- Contact precautions
- Screening and surveillance
- Leadership
- Organizational culture

Step 3: Understand the complexity: Understand why are infections so difficult to manage and become familiar with some different approaches and strategies for tackling them.

Step 4: Learn from the Real Experts – People who work with patients.

Introduce a "Front Line Ownership" (FLO) approach to your infection control strategy. This new evidence-based approach is grounded in the phenomenon that complex problems are best solved by those deeply immersed in the problem rather than outsiders. The strategies used to control the spread of superbugs are well known—the far greater challenge is achieving and maintaining high compliance with these strategies. This is where complexity science-based approaches like FLO can help.

Step 5: Get started on your improvement project and begin to make changes. Secure senior leadership support, form a team and get others involved. Use the Model for Improvement in conjunction with FLO approaches to discover solutions and begin to make changes to your practices.

Step 6: Spread the Word. Apply principles from spread methodologies and learn how to use social marketing to help you get your message to the people you want to influence. There are many different ways to spread improvement work. The top down approach is usually less successful.

Step 7: Measure your progress. Select some measures from our "measurement buffet" that help you determine if the changes you are making are leading to an improvement.

For more information on infection control and hand hygiene, visit www.saferhealthcarenow.ca and www.handhygiene.ca

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Communication makes the difference:

Vancouver Coastal and Providence Health implement medication reconciliation

Since 2010, Vancouver Coastal Health (VCH) and Providence Health Care (PHC) have dedicated strong leadership and the right resources to implement Medication Reconciliation (MedRec) on admission at its 14 acute care hospitals and 21 residential care homes across the region. They are now implementing Medication Reconciliation in the community care sector, including home care, mental health and palliative care.

Studies show that approximately 53 per cent of patients experience one unintended medication discrepancy at the time of hospital admission. Approximately 38 per cent of those discrepancies have the potential to cause harm.⁹ Medication Reconciliation is a formal process in which healthcare providers work together with patients, families and care providers to ensure accurate and complete medication information is communicated consistently across transitions of care.

The key to success at VCH and PHC: Leaders believing in the process; a formal project structure; identifying team leads; developing methods for accountability; measurements of success; and communication – between patients and frontline workers, and between teams working toward the same goal.

Karin Trapnell, Regional Project Manager, Medication Reconciliation says that although they have a regional process in place, they have to be nimble and flexible, so that MedRec programs can be adapted at local sites. That has made a difference in successful implementation of the regional program.

Despite its challenges, VCH and PHC have made great strides. One program achieved an 85 per cent reduction in unintentional medication discrepancies within four months of implementing MedRec.

“Medication Reconciliation is a very complex issue in terms of change management in an organization,” says Karin Trapnell. “Our biggest challenge is requiring a shift in culture. The interventions we have put in place need to become part of our everyday work flow. This isn’t “extra work” anymore, *it is the work*. MedRec is the right thing to do.”

Vancouver Coastal Health (VCH) is one of six health authorities in British Columbia. VCH provides healthcare services to approximately 25 per cent of B.C.’s population. www.vch.ca

Medication Reconciliation



Medication safety incidents occur with disturbing frequency in acute care, long-term care and home care settings. Many of these incidents can be prevented through Medication Reconciliation. Errors that can be prevented include inadvertent omission of needed home medications, failure to restart home medications following transfer and discharge, duplicate therapy at discharge resulting from brand/generic combinations or formulary substitutions, and errors associated with incorrect doses or dosage forms.

Harmful events can be reduced by following the three step Medication Reconciliation process:

1. **Create a complete and accurate Best Possible Medication History (BPMH)** of the patient’s medications including name, dosage, route and frequency. This includes:
 - a systematic process of interviewing the patient/family and
 - a review of at least one other reliable source of information;
2. **Reconcile Medications:** Use the BPMH to create admission orders or compare the BPMH against admission, transfer or discharge medication orders; identify and resolve all differences or discrepancies; and
3. **Document and communicate** any resulting changes in medication orders to the patient, family/caregiver and to the next provider of care.

Access the Canadian Patient Safety Institute Medication Safety Getting Started Kits for Acute Care, Long-Term Care and Home Care at www.saferhealthcarenow.ca

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It’s all about the conversation. You have to talk with the patient/resident to ascertain a true picture of how and when they take their medications.

**KARIN TRAPNELL,
REGIONAL PROJECT MANAGER,
MEDICATION RECONCILIATION
(VANCOUVER COASTAL HEALTH)**

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⁹ Cornish, P., et al. (2005). Unintended medication discrepancies at the time of hospital admission. Arch Internal Med, 165: 424-429

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Making surgeries safer:

Central Health implements key elements to improve Surgical Care

The surgical teams at Central Health's James Paton Memorial Regional Health Centre in Gander, Newfoundland and Labrador are implementing a change in practice and in process to reduce surgical site infections. The *Safer Healthcare Now!* Surgical Site Infection bundle elements have been implemented in both of Central Health's secondary facilities.

Data is being collected on colon surgeries, caesarean sections, inguinal hernia repairs, abdominal hysterectomies, and total hip and knee replacements. Central Health has celebrated great success as infection rates have slowly decreased for these procedures. For example, the total hip replacement surgical site infection rate was reduced from 25 per cent to three per cent over five years (2007-2012) including a period of 21 months with a rate of zero per cent.

The two secondary sites, Central Newfoundland Regional Health Centre and James Paton Memorial Regional Health Centre have also implemented the Safe Surgery Checklist. This tool promotes open communication with all staff working in the operating rooms and enhances the safety of patients undergoing surgical intervention. Venous thromboembolism (VTE) prophylaxis is also a key element on the Safe Surgery Checklist.

"Patients undergoing surgery should feel safe to ask questions like, *what are you doing to ensure I don't get a blood clot?*" says Kathy Winsor, Patient Safety Officer, James Paton Memorial Regional Health Centre. "If patients ask those kinds of questions, we can work together to improve patient safety."

A Physician's Order Sheet is a tool developed for surgeons to ensure their patients have a VTE risk assessment completed and are given the appropriate medication before and after surgery to prevent blood clots. "We had engagement from the physician group to implement the VTE initiative from the get go," says Melanie Hewlett, *Safer Healthcare Now!* Coordinator, Central Health. "Implementing the VTE initiative on such a large scale all at once goes against the usual 'start small' approach for improvement processes, but we had a foundation to build on to make the VTE initiative more robust."

Central Health is the second largest health region in Newfoundland and Labrador, serving a population of approximately 95,000 and offering a full continuum of healthcare services.

www.centralhealth.nl.ca

Preventing blood clots after surgery:

Halton Healthcare engages physicians to help reduce hospital-acquired venous thromboembolism

Halton Healthcare established an interdisciplinary Working Group to update and implement a standardized protocol for administration of appropriate thromboprophylaxis to prevent venous thromboembolism (VTE). Even though best practices in VTE prevention had been in place for many years, the group decided to refresh the tools and education needed to improve practice. After creating a project charter, collecting baseline data and determining the additional work that was needed, the group worked intensively for about a year to get their new initiatives underway.

"Engaging physicians and leadership in the process was recognized as a critical component to successful implementation of an updated VTE prophylaxis protocol," says Lynn Budgell, Patient Safety Coordinator. "Physician representatives took the lead in the development of updated order sets. There was much discussion about the use of a risk scoring tool and the consensus was that this would be useful as a reminder to physicians. Physicians in the

Patient safety needs to start from both ends, top-down and bottom-up. We need to work together to move forward and make care safer.

MELANIE HEWETT,
SAFER HEALTHCARE NOW! COORDINATOR
(CENTRAL HEALTH)

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Reducing surgical site infection and complications

A surgical site infection is the most common infection among surgical patients. Despite advances in aseptic technique, antibiotic prophylaxis, and less invasive surgical techniques, healthcare-associated infections (HAI) continue to complicate patient recovery.

The Surgical Checklist is a series of questions that the surgical team will go through at three distinct times: before anesthesia, before incision and before the patient leaves the operating room to ensure the team has communicated clearly to one other and that all standard steps have been followed. Communication between the surgical team members improves patient safety.

Key elements of safe surgical care:

- Perioperative antimicrobial coverage
 - Appropriate use of prophylactic antibiotics
 - Antiseptic prophylaxis
- Appropriate hair removal
- Maintenance of perioperative glucose control
- Perioperative normothermia
- Implement all three phases of the surgical checklist:
 - a. Briefing
 - b. Time-out
 - c. Debriefing

To learn more about preventing surgical site infections and the safe surgery checklist, visit www.saferhealthcarenow.ca

Working Group are now fielding questions and feedback from their peers. Including physicians in the Working Group has been an excellent way to involve physicians at large in this initiative."

Other initiatives for successful implementation included colourful signage - both for healthcare providers and for patients. A 'Dear Doctor' letter was created and sent by pharmacy staff to physicians when prophylaxis was not ordered on admission for appropriate patients. Working Group physicians were consulted as to the appropriate formats for education of the physician groups.

"The senior leadership team was very clear that this was a priority and asked for frequent updates," says Grace White, Pharmacy Clinical Manager. "They helped to remove barriers where they existed."

The Working Group is now refining the process for auditing and submitting data so that ongoing measurement of progress is an organizational priority.

Halton Healthcare is comprised of the Oakville-Trafalgar Memorial Hospital, Milton District Hospital, and the Georgetown Hospital providing community hospital care in Ontario's Halton and Peel regions. www.haltonhealthcare.on.ca

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[Breathe easy:]

Brandon Regional Health Centre uses checklists to monitor ventilated patients

The Brandon Regional Health Centre is taking a team approach to reducing ventilator-associated pneumonia amongst their ICU patients. Their multi-disciplinary team includes doctors, nurses, physiotherapists, pharmacists, respiratory therapists, and healthcare aids.

Ventilator-associated pneumonia (VAP) can be prevented by implementing five components of care called the “VAP bundle”. The key components of the VAP bundle that have made the biggest difference at Brandon Regional Health Centre are early mobility, limited use of sedation, and an oral care regime. The VAP protocol is posted at the bedside to help patients and families understand the measures that are being taken to improve care.

“We are very open with our patients and families and explain the why of what we are doing,” says Angie Wludyka, Intensive Care Registered Nurse. “Family members will now ask if their loved one has been up and walking; and they will let the healthcare provider know when the head of the bed is not at 45 degrees.”

The Brandon Regional Health Centre uses a checklist to monitor ventilated patients and discusses any issues during daily safety rounds. Data is collected and shared with the staff quarterly so that they can see their results. When data was first collected, there were 16 to 18 incidents of VAP in the ICU and rates are now down to approximately four VAP cases per 1,000 ventilator days.

“At first there was doubt that we could bring down the numbers because of the wide variety of patients we care for,” says Kristi Chorney, Regional Manager, Patient Safety, Quality and Risk. “The doubters have become believers and everyone is proud of our improved VAP results. Implementing the VAP bundle takes time. If you don’t have success in the first year, don’t give up. Keep at it and it can become part of your daily routine.”

The Brandon Regional Health Centre is a regional referral acute care facility. It is part of Prairie Mountain Health (Regional Health Authority), which encompasses the Manitoba communities of Assiniboine, Brandon and Parkland.

www.prairiemountainhealth.ca or www.brandonrha.mb.ca

Our goal is to get our patients off ventilation as fast as we can. It takes a team effort and a disciplined approach, but in the end it is better for the patient.

MARCIA PIZZEY
CLINICAL RESOURCE NURSE, INTENSIVE CARE UNIT
BRANDON REGIONAL HEALTH CENTRE
(PRAIRIE MOUNTAIN HEALTH)

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Preventing ventilator-associated pneumonia

Ventilator-associated pneumonia (VAP) is the leading cause of death among hospital-acquired infections. VAP prolongs time spent on the ventilator, length of ICU stay and length of hospital stay after discharge from the ICU.^{10,11}

The VAP bundle is most successful when all elements are executed together as an “all or none strategy”.¹²

1. Elevation of the head of the bed to 45 degrees when possible, otherwise attempt to maintain the head of the bed greater than 30 degrees
2. Daily evaluation of readiness for extubation
3. The utilization of endotracheal tubes with subglottic secretion drainage
4. Oral care and decontamination with Chlorhexidine
5. Initiation of safe enteral nutrition within 24 to 48 hours of ICU admission

Additional evidence-based components of care include: hand hygiene; practices that promote patient mobility and autonomy; and venous thromboembolism (VTE) prophylaxis.

The VAP and VTE Getting Started Kits are available at www.saferhealthcarenow.ca. Visit www.handhygiene.ca for tools and resources to promote optimal hand hygiene practices.

Preventing venous thromboembolism



Venous thromboembolism (VTE) comprises both deep vein thrombosis (DVT) and pulmonary embolism (PE). DVT occurs when a blood clot forms inside a vein deep in the leg, causing leg pain and swelling. Clots that travel to the lungs are called pulmonary emboli.

VTE is one of the most common and preventable complications of hospitalization. The rate of hospital-acquired VTE, if a prophylactic drug is not used, is 10 to 40 per cent after general surgery and 40 to 60 per cent after hip surgery.¹³

The prevention of VTE should be considered for every patient admitted to acute care. Appropriate VTE prophylaxis practices can be applied by using a four step process:

1. Assess if thromboprophylaxis is indicated, if yes:
2. Assess if anticoagulant thromboprophylaxis is contraindicated,
 - a. if yes, provide TED stockings and/or Sequential Compression Devices
 - b. in no,
3. Provide appropriate thromboprophylaxis
4. Reassess if significant change in patient status or at transitions of care.

A pocket card outlining the four-step VTE process and recommended dosage of anticoagulant prophylaxis, along with examples of standardized order sets that address VTE are available at www.saferhealthcarenow.ca A data collection tool to monitor VTE is available from Patient Safety Metrics.

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Physician involvement was essential to our success and included physicians from different disciplines across all three sites. Physicians provided our interdisciplinary team with the lens of the frontline provider, anticipating obstacles and acting as champions amongst their colleagues. Audit results were made available to physicians frequently as feedback and provided solutions where needed.

DR. JANE WILKINSON,
VTE WORKING GROUP MEMBER
(HALTON HEALTHCARE SERVICES)

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¹⁰ Muscedere J., Day A., Heyland D.K. Clinical Infectious Diseases. 51 Suppl 1:S120-5, 2010.

¹¹ Safdar N, Dezfulian C, Collard HR, Saint S. Crit Care Med. 2005; 33:2 184-93.

¹² Canadian Collaborative to Improve Patient Care and Safety in the ICU; January 2010.

¹³ Geerts WH, Pineo GF, Heit JA, et al. Prevention of venous thromboembolism. The Eighth ACCP Conference on Antithrombotic Therapy. Chest 2008; 133:3815-4335

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Data is essential to accelerate improvement. Patient Safety Metrics provides data that is clear, accessible and relevant.

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AMANDA MCFARLAN,
TRAUMA PROGRAM REGISTRY MANAGER
AND QUALITY ASSURANCE SPECIALIST
(ST. MICHAEL'S HOSPITAL)

Using data to drive quality:

St. Michael's transforms information into insight and change

Four intensive care units (ICUs) at St. Michael's, a Toronto inner-city hospital, are using data in real-time to transform care at the bedside and give staff a sense of how they are doing with rates of central line-associated bloodstream infections (CLA-BSI), ventilator-associated pneumonia (VAP), and rates of compliance with various components of *Safer Healthcare Now!* intervention bundles.

St. Michael's uses current data and generates graphs and charts to monitor their performance over time. "We feel staff at the bedside that are taking care of patients have some of the best ideas of how to translate the data into a change in practice," says Amanda McFarlan, Trauma Program Registry Manager & Quality Assurance Specialist.

St. Michael's is using data to drive quality through communication, unit-based engagement, planning, education and collaboration. When nurses collect the data, they have unstructured meetings at the bedside to talk about compliance with the bundle elements, such as checking to see if the bed is at least at a 30 degree angle for patients with ventilator-associated pneumonia. Data is used to support business cases for new equipment. Education and workshops are developed based on issues identified from the data collected. St. Michael's also collaborates with other areas, such as hand hygiene specialists, to support compliance with the intervention bundles.

McFarlan cautions that data collection is not an end in itself. "You have to figure out how to transform data into insight, improvement and change. You need to know what that data means for your organization, what it means for your unit and how you can best use the data to transform care and make the patient experience better, healthier and safer."

"Metrics evolve and change over time," adds Amanda McFarlan. "There is no perfect metric, or measurement; you just need to pick a place to start. *Safer Healthcare Now!* provides the structure, support and valuable resources that you can customize for your facility."

Located in downtown Toronto, St. Michael's Hospital is an adult trauma centre and one of Ontario's major sites for the care of critically ill patients. www.stmichaelshospital.com

What is Patient Safety Metrics?



Patient Safety Metrics provides a measurement platform that provides end users with an integrated, user friendly, standardized approach to collect, submit, analyse and report quality improvement data. A cloud-based data collection and reporting tool, that is available in English and French, Patient Safety Metrics currently tracks more than 100 process and outcome measures over 14 areas of care delivery.

With the support of the Central Measurement Team (CMT) new measures can be easily and quickly be added to the system for data collection and reporting. It is free, easily accessible and provides real-time reporting of data. Reports can be customized and data segmented to provide information on specific areas in need of process improvement.

Patient Safety Metrics now offers customizable Data Collection Forms, a data collection tool using paper, pen and fax, or tablet, or direct data entry that is designed to capture de-identified patient-level data for multiple indicators for reporting and analysis.

To learn more visit www.patientsafetymetrics.ca, or email metrics@saferhealthcarenow.ca

LISTEN.
ASK.
TALK.

safer healthcare
now!

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