The Safety Competencies

First Edition

Revised August 2009

Enhancing Patient Safety Across the Health Professions

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Canadian Patient Safety Institute

Institut canadien pour la sécurité des patients

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Enhancing Patient Safety Across the Health Professions

First Edition
(rev. August 2009)

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Patient safety is a critical aspect of high quality health care.

Domain 1
Contribute to a Culture of Patient Safety

Domain 2
Work in Teams for Patient Safety

Domain 3
Communicate Effectively for Patient Safety

Domain 4
Manage Safety Risks

Domain 5
Optimize Human and Environmental Factors

Domain 6
Recognize, Respond to and Disclose Adverse Events

Foreword

An understanding of patient safety concepts and how they are integrated into the daily work of health care is critical in providing safe patient care. We know that health care workers are committed to their patients and are continually striving to improve their practice and provide high-quality care to all their patients. However, to support and maintain ongoing improvement, education and training activities in patient safety need to be easily accessible for all health care workers.

The Canadian Patient Safety Institute, in collaboration with The Royal College of Physicians and Surgeons of Canada and a broad cadre of content experts in education, have developed a framework titled *The Safety Competencies: Enhancing Patient Safety Across the Health Professions* to provide an interprofessional, practical and useful patient safety framework that identifies the knowledge, skills, and attitudes required by all health care professionals. Given the complexity of the health system and the diversity of the health care workforce, *The Safety Competencies* framework was designed to be relevant to the many disciplines in health care.

Our goal is to build a Canadian framework of safety competencies for any health care profession. It is a significant accomplishment to have so many individuals, who are so very passionate about their perspective on patient safety, to work on this exciting project in such dedicated fashion. We trust you agree that The Safety Competencies will raise the bar for health care education in Canada, and possibly around the world.

I encourage everyone involved in the delivery of health care and training of health care professionals to review *The Safety Competencies: Enhancing Patient Safety Across the Health Professions*, and adopt the framework in education and continuing professional development activities. *The Safety Competencies* is an exciting innovation. I believe it will significantly help to promote a culture of patient safety in the Canadian health care system.

Philip Hassen
Chief Executive Officer
Canadian Patient Safety Institute

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Introduction

One of the key priorities of the Canadian Patient Safety Institute (CPSI) is to identify leading practices and effective interventions in health care education by collaborating with others to develop a Canadian interprofessional competency-based framework for patient safety. To achieve this objective, the CPSI seeks to initiate change in the education of physicians, nurses, pharmacists and other health care professionals and to provide them with the tools and knowledge to build and maintain a safe health care system.

The development and integration of a framework of interprofessional patient safety competencies is a critical achievement that will accelerate the development of local patient safety curricula. The integration of safety theories and the how-to's of system improvement at all levels of education and continuing professional development is needed across the spectrum of care.

The objectives of *The Safety Competencies* project, and of this publication, are to:
- identify the key knowledge, skills and attitudes related to patient safety competencies for all health care workers
- develop a simple, flexible framework that will act as a benchmark for training, educating and assessing health care professionals in patient safety
- help make patient safety competencies easy for everyone to understand and apply in undergraduate, postgraduate and continuing professional development settings

A survey of the faculty deans of medicine, nursing, pharmacy, physiotherapy and occupational therapy was conducted to identify the concepts of patient safety that were currently incorporated in the university undergraduate programs of all health professionals in Canada. Respondents were asked to provide information regarding the current patient safety content incorporated in their curriculum, as well as to rate their program in having incorporated these concepts to date. The survey results revealed little integration of patient safety concepts within the Canadian curriculum of health professional schools and confusion over even the definition of patient safety. This recognized need helped fuel this project both in Canada and internationally.

CPSI's Education and Professional Development Advisory Committee reviewed a list of themes and competencies from the survey and environmental scan and agreed on a methodology for the development of a competencies framework.

Using the internationally respected CanMEDS framework and the methodology utilized to create professional competencies for physicians, the interprofessional Safety Competencies were developed. Competencies are arranged in six domains and include 23 key competencies and 140 enabling competencies.

This framework is designed to be a road map for health professional educators to create contextual patient safety curricula for their jurisdictions. The competencies were designed by an interprofessional team for interprofessional teams.

To be truly effective for Canadians, patient safety needs to be incorporated into the education of health professionals across the spectrum of health care. Ideally, undergraduate, postgraduate, and continuing professional education across the country will build on the new Safety Competencies framework. This competency-based approach allows for the definition and deployment of the key aspects of practice that are fundamentally different in a health care environment that is oriented to patient safety. It is our hope that The Safety Competencies framework will accelerate this necessary educational transformation.

Methodology: Development of The Safety Competencies

Origins

Founded in 2003, the Canadian Patient Safety Institute (CPSI) is dedicated to the advancement of patient safety within the Canadian health care system and across the health professions. The CPSI acknowledges that, to be truly effective, patient safety must be incorporated into health professions education across the spectrum of health care settings. Until now, however, there has been no comprehensive, generally accepted patient safety framework that could be incorporated nation-wide into health professions education in Canada. For this reason, in 2006 the CPSI set out to develop a simple, powerful, and flexible framework that could be integrated smoothly into curricula at educational institutions, adopted by health care associations and directly applied in patient care sites across the spectrum of health care delivery.

The *Safety Competencies* project, as it is now known, was initiated by the CPSI in April 2006. Work on the project has been conducted in multiple phases over a two-year period. In fact, the September 2008 launch of this framework represents the third phase of a project that is expected to be followed by subsequent phases, including a faculty development phase.

Framework Development

Phase One: Needs Assessment
In the first phase of the framework project (conducted in June 2006), the CPSI's Education and Professional Development Advisory Committee commissioned a national survey of all Canadian university deans of medicine, nursing, pharmacy, physiotherapy and occupational therapy with the goal of identifying the concepts of patient safety that were currently incorporated into undergraduate university programs for all health professions in Canada. Respondents were asked to provide information regarding the patient safety content of their current curriculum, as well as to rate the extent to which their program had incorporated these concepts. The survey results revealed that the integration of patient safety concepts within the curricula of Canadian health professional schools was quite limited. Moreover, the survey respondents indicated that there was ongoing confusion with regard to the scope and definition of patient safety.

After an analysis of the survey results, the CPSI's Education and Professional Development Advisory Committee reviewed a list of themes and competencies derived from the survey findings, a thematic literature review, and an environmental scan. On the basis of these results, the committee identified the need to develop a national safety competencies framework. To help support the development of this framework, the Education and Professional Development Advisory Committee called for the creation of an interprofessional expert panel to act as the project's steering committee

Phase Two: Development of an Interprofessional Competency Framework
Phase two began in early 2007 as a truly interprofessional collaborative that incorporated the CPSI's Education and Professional Development Advisory Committee, the educational expertise of the *CanMEDS* team of The Royal College of Physicians and Surgeons of Canada (RCPSC), and over 100 experts in health care education and patient safety.

Using the internationally respected CanMEDS framework of physician competencies and the methodology used to create professional competencies for physicians, the interprofessional *Safety Competencies* were conceived. Over the summer of 2007, the RCPSC, as project secretariat for the CPSI, commissioned the creation of seven volunteer working groups made up of experts in the field. Their role was to identify and describe the competencies necessary for health care professionals to be able to deliver safe patient care in Canada. Each working group was assigned responsibility for developing the content for one of the seven domains of expertise that were originally identified by the Safety Competencies Steering Committee.

Working group members were recruited over a four-month period using a variety of methods, including professional referrals and self-identification. A wide call for volunteers was sent out nationally by mail and email, and a snowball technique was used to find further key individuals with relevant expertise. Each group was co-chaired by two individuals from different health professions and included an average of six other volunteer members. Group assignments were based on stated preference, experience and professional credentials. To the greatest extent possible, the project leaders coordinated assignments to ensure that the volunteers represented the breadth of perspectives on health care and safety including those from: medicine, nursing, pharmacy, and respirology, occupational and physical therapies.

The working groups collaborated frequently by teleconference, through internet-based interactions and at an in-person consensus meeting in Ottawa. Over an intensive period from October to December 2007, the working groups prepared their domain-specific chapters, which were submitted to the Steering Committee at the end of December.

In the early part of 2008, the Project Secretariat, the Steering Committee and an expert panel reviewed, consolidated and edited the content of the seven domain chapters that the working groups developed. A thorough review of the domains revealed significant commonalities between the content of Domain 4 (on using safe strategies to enhance practice) and Domain 6 (on managing high-risk situations). After much debate, the Steering Committee decided to consolidate these two domains into one; this became Domain 4, on managing safety risks.

The members of the Steering Committee and the expert panel were commissioned to capture the essence of the project findings into the chapters of this publication.

Phase Three: Implementation (2008–onwards)
This publication represents the end of phase two and the formal launch of phase three of *The Safety Competencies* project. Mindful that many well-meaning curricular change proposals are never adopted,[1] the Steering Committee's aim is for *The Safety Competencies* framework to be different: widely disseminated, adopted, adapted, improved, influential, and effective. Through a multi-year, multi-media, and multi-method strategy, *The Safety Competencies* will be shared across the health professions. All those who are committed to improving health care will be encouraged to take meaningful steps to incorporate the concepts identified in this publication. To be useful, *The Safety Competencies* framework must be dynamic. Updates, innovations, and additions will be welcomed. The ultimate test of the project's success will be innumerable small differences on the front lines of care and of health professions education. The ultimate measure of the project's success will be the differences The Safety Competencies bring about for the patients we diligently serve.

An Overview of The Safety Competencies

The overall goal of The Safety Competencies initiative is to optimize patient safety by enhancing health professions education. This section describes in detail the six domains of patient safety competencies identified by this project. For each domain a definition and brief description are given, as well as a list of key and enabling competencies. These are organized into a competency framework that is intended to be useful to educators, practitioners, researchers, and learners alike.

The Safety Competencies Concept

In the early stages of *The Safety Competencies* project, the Steering Committee chose to use a competency framework as a vehicle to translate the identified patient safety ideas, good practices, proven interventions, and behaviours into training and practice. The competency-based educational approach involves defining the key abilities expected of graduates, and then planning a program backwards. This contrasts somewhat with other curricular approaches in the health professions, which have tended to be more teacher-centred and less oriented to the specific outcomes of the program.[1-4] Ideally, the identified competencies prepare the trainee for practice and are aligned with patient needs. The competencies need to be sufficiently explicit to be teachable, observable and measurable, without overwhelming the user with overly specific detail. They are intended to be a guide.

In *The Safety Competencies* framework, each competency is a statement about an ability of health professionals that contributes to safe practice. The six domains are thematic, logical groupings made up of two or more related key competencies. Domains are synergistic and related, but are meant to be distinct enough to guide teaching, learning, research and practice. The key competencies are higher-order statements that describe a health professional's ability (e.g., "Health care professionals are able to describe the fundamental elements of patient safety"). Each key competency is made of smaller, contributory abilities, termed enabling competencies (e.g., "Health care professionals understand the use of evaluative strategies to promote patient safety"). Enabling competencies are essential to achieve a key competency. These in turn are made of constituent knowledge, skills, and attitudes.[5] The framework is therefore assembled, Russian-doll fashion, to allow flexibility between specificity and practicality. Each ingredient runs like an educational tributary into the domains, which are deep rivers of safety competence.

The Six Domains of The Safety Competencies

Domain 1: Contribute to a Culture of Patient Safety
A commitment to applying core patient safety knowledge, skills and attitudes to everyday work.

Domain 2: Work in Teams for Patient Safety
Working within interprofessional teams to optimize both patient safety and quality of care.

Domain 3: Communicate Effectively for Patient Safety
Promoting patient safety through effective health care communication.

Domain 4: Manage Safety Risks
Anticipating, recognizing and managing situations that place patients at risk.

Domain 5: Optimize Human and Environmental Factors
Managing the relationship between individual and environmental characteristics in order to optimize patient safety.

Domain 6: Recognize, Respond to and Disclose Adverse Events
Recognizing the occurrence of an adverse event or close call and responding effectively to mitigate harm to the patient, ensure disclosure, and prevent recurrence.

Domain 1: Contribute to a Culture of Patient Safety

Definition
A commitment to applying core patient safety knowledge, skills and attitudes to everyday work.

Description
A culture of patient safety arises from attitudes, activities and enduring ethical values that are conducive to the safe delivery of patient care. More specifically, it refers to the commitment of health care practitioners and their institutions and organizations to minimize patient harm, promote the well-being of patients and health care providers, reduce the likelihood of adverse events, and communicate safety concerns – while at the same time learning from close calls and other events.

A culture of patient safety is created and maintained by two interdependent factors. The first is an institutional or organizational framework that enables and sustains a culture of patient safety. The second is the appropriate expertise, attitudes, behaviours and values of those who work within that system. Both of these conditions are necessary to the safe functioning of any health care institution.

To foster patient safety in their organizations, health care professionals need specific expertise, including a knowledge of key concepts and methods in safe practice. Whether large or small, physical or virtual, all health care organizations can benefit from cultivating this expertise. As caregivers, health professionals engage in activities that contribute to the creation, application and translation of best practices in the safe delivery of health care. As learners, they recognize the need to continually update their knowledge and to foster practices that can optimize patient safety. As mentors, teachers and advisors, they model, promote and disseminate knowledge about patient safety. As peers, they actively engage in processes that empower others to become engaged in a culture of patient safety. Although it is not the only necessary ingredient, creating and sustaining a culture of patient safety is a fundamental aspect of improving the quality and reliability of health care delivery.

Elements
Knowledge
Health care professionals who contribute to a culture of patient safety understand:

- key patient safety concepts, such as adverse events, close calls, no-harm events and just culture
- key patient safety processes, including the reporting of adverse events, methods of analyzing how an adverse event occurred, system improvement processes, and the institution of structures to ensure accountability within a system
- the creation, application, dissemination and translation of patient safety principles, practices, behaviours, attitudes and knowledge
- the potential risks presented by one's own daily practice, and ways to minimize those risks
- types of organizational cultures, as well as the characteristics of high reliability organizations and how they relate to health care
- the contribution of system failures and provider performance to adverse events and close calls
- systems-based approaches to reducing system failures

Skills
Health care professionals who contribute to a culture of patient safety:

- recognize and respond appropriately to potential and actual unsafe clinical situations
- work within their own limitations

Attitudes

Health care professionals who contribute to a culture of patient safety:

- are committed to patient safety as a key professional value and an essential component of daily practice
- value professional learning as a life-long process requiring self-assessment and self-directed education
- demonstrate a questioning attitude in routine and non-routine activities

Domain 1 Key Competencies

Health care professionals are able to:

1. *Commit to patient and provider safety through safe, competent, high-quality daily practice*
2. *Describe the fundamental elements of patient safety*
3. *Maintain and enhance patient safety practices through ongoing learning*
4. *Demonstrate a questioning attitude as a fundamental aspect of professional practice and patient care*

Enabling Competencies

Each key competency is supported by the following related knowledge, skills and attitudes – the tailored enabling competencies that allow the key competency to be put into practice.

1. *Health care professionals who commit to patient and provider safety through safe, competent, high-quality daily practice:*

    1.1. Are able to articulate their role as individuals, as professionals, and as health care system employees in providing safe patient care
    1.2. Act as role models and champion patient-safety behaviours
    1.3. Recognize personal limitations and ask for assistance when required
    1.4. Demonstrate knowledge of policies and procedures as they relate to patient and provider safety, including disclosure
    1.5. Report unsafe processes within the health care system
    1.6. Participate actively in event and close call reporting, event analyses and process improvement initiatives
    1.7. Exchange feedback with colleagues on safety issues on an ongoing basis in an open manner
    1.8. Integrate safety practices into daily activities (e.g., hand hygiene)
    1.9. Recognize clinical situations that may be unsafe and support the empowerment of all staff to resolve unsafe situations
    1.10. Demonstrate a commitment to a just culture, promoting fair approaches to dealing with adverse events
    1.11. Advocate for improvements in system processes to support professional practice standards and the best patient care

2. *Health care professionals who are able to describe the fundamental elements of patient safety, understand:*

    2.1. Core theories and terminology of patient safety and the epidemiology of unsafe practices

    2.2. The characteristics and capacities of organizations with respect to patient safety, namely:

        2.2.1. A commitment to patient safety as a major organizational or institutional goal demonstrated at the most senior levels

        2.2.2. The establishment and maintainance of a just culture

        2.2.3. The implementation of patient safety best practices

        2.2.4. The conduct of adverse event and incident (e.g., close call) analysis

        2.2.5. The involvement of patients and their families as key players in patient safety

        2.2.6. The provision of an environment of support and safety for health care professionals

    2.3. The use of evaluative strategies to promote safety

    2.4. The risks posed by personal and professional limitations

    2.5. Principles, practices and processes that have been demonstrated to promote patient safety

    2.6. The nature of systems and latent failures in the trajectory of adverse events

    2.7. The emotional impact of adverse events on patients, families and health care professionals

    2.8. Methods by which health care professionals can advocate for patient and health care system safety

    2.9. The elements of a just culture for patient safety, and the role of professional and organizational accountabilities

    2.10. The concept that health care is a complex adaptive system with many vulnerabilities, (e.g., space or workplace design, staffing, technology)

3. *Health care professionals who maintain and enhance patient safety practices through ongoing learning:*

    3.1. Identify opportunities for continuous learning and improvement for patient safety

    3.2. Reflect on actions and decisions continuously, with self-awareness and using self-evaluation, to improve knowledge and skills in patient safety

    3.3. Analyze a patient safety event and give examples on how future events can be avoided

    3.4. Participate in patient and health care professional safety education

    3.5. Share information on adaptations to practices and procedures that increase safety for specific individuals or situations

    3.6. Contribute to the creation, dissemination, application, and translation of new health care system safety knowledge and practice

    3.7. Participate in self- and peer assessments reflecting on practice and patient outcomes

4. *Health care professionals who demonstrate a questioning attitude as a fundamental aspect of safe professional practice and patient care:*

    4.1. Recognize that continuous improvement in patient care may require them to challenge existing methods

    4.2. Identify existing procedures or policies that may be unsafe or are inconsistent with best practices and take action to address those concerns

    4.3. Re-examine simplistic explanations for adverse events to facilitate optimal changes to care

    4.4. Demonstrate openness to change

Key References

For further reading on contributing to a culture of patient safety, please see:

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Domain 2: Work in Teams for Patient Safety

Definition
Working within interprofessional teams to optimize patient safety.

Description
Collaborative patient-centred team practice is designed to foster safe and effective patient-, family- and community-centred health outcomes.

High-performing interprofessional health care teams demonstrate the knowledge, skills, and attitudes that are essential to efficient, effective, and safe collaborative practice. These teams define and make a commitment to shared objectives, clear roles and responsibilities, and interdependent decision-making. Patients are central to the team's work and are assisted to engage in decision-making and appropriately direct their own care. To ensure continuity of care, team members are responsible for the effective communication of pertinent patient information across teams and, when necessary, across organizations.

Elements
Knowledge
Health care professionals who work effectively in teams for patient safety understand:

- the roles and responsibilities of each team member, including decision-making, supervision and support, and the expectations and requirements for individual performance
- the skills, competencies, experience and scopes of practice of team members, including overlaps and gaps in the team's capabilities
- team dynamics and authority gradients, and the importance of relevant expertise as a basis for leadership in a given situation
- a shared vocabulary to facilitate effective communication within the team
- key safety issues and priorities inherent in team practice and pertinent to the patient population served
- protocols for the team's response to adverse events, including appropriate disclosure to patients, debriefing and team support
- the impact of technology on team dynamics
- the rationale for and implementation of team processes, policies and procedures
- the resources and administrative skills required to achieve the team's objectives for patient care
- the team's role within the health care system
- how to proactively address concerns about provider or system performance involving risk to patients and/or team members through the appropriate channels

Skills
Health care professionals who work effectively in teams for patient safety:

- manage and prevent conflict, and conduct effective negotiations
- apply standardized team processes and protocols to ensure reliability and shared understanding
- use appropriate shared clinical documentation to facilitate continuity of care
- exercise decision-making authority in a situationally appropriate manner
- set clear parameters for independent decision-making
- provide consultation, delegation and support, and delegate tasks as appropriate

- use evidence-informed team communication tools to facilitate the improvement of patient safety, including: permission and invitation to speak up, question, and challenge; conversational turn-taking; listening; checklists and briefing
- give transparent feedback that fosters team development
- provide appropriate debriefing and team support after an adverse event or close call
- monitor and evaluate team performance

Attitudes
Health care professionals who work effectively in teams for patient safety:

- demonstrate respect and professionalism
- are committed to fulfilling their individual responsibilities in the team environment
- are receptive to constructive feedback about care, and provide constructive feedback to others
- participate in shared interprofessional team learning, including setting measurable team goals and priorities, and in implementing continuous quality improvement
- accept the team as an evidence-informed community of practice for learning
- foster an environment in which the team works to provide the best possible patient outcomes
- foster an environment in which each member of the team both learns from and teaches other team members
- foster an environment in which in which responsibility for care and accountability for outcomes is appropriately shared, such that each individual in a team is held accountable for the quality of his or her work
- practise patient-centred care such that the patient and family are visibly active team participants
- facilitate continuity of care (through integrated, interprofessional, individualized care plans that extend across the organization and across all care transitions and that belong to the patient)
- advocate for individual patients and for appropriate resources to meet their needs

Domain 2 Key Competencies
Health care professionals are able to:

1. *Participate effectively and appropriately in an interprofessional health care team to optimize patient safety*
2. *Meaningfully engage patients as the central participants in their health care teams*
3. *Appropriately share authority, leadership, and decision-making*
4. *Work effectively with other health care professionals to manage interprofessional conflict*

Enabling Competencies
Each key competency is supported by the following related knowledge, skills, and attitudes – the tailored enabling competencies that allow the key competency to be put into practice.

1. *Health care professionals who participate effectively and appropriately in an interprofessional health care team to optimize patient safety are able to:*

    1.1. Describe the competencies, roles, expertise and overlapping scopes of practice of all team members and identify gaps that need to be addressed
    1.2. Describe individual and team roles and responsibilities in the context of practice and in the health care system
    1.3. Demonstrate respect for all team members, including the patient and his or her family
    1.4. Work to develop a shared set of individual and team values, rights and responsibilities

1.5. Identify and act on safety issues, priorities and adverse events in the context of team practice

1.6. Apply technology appropriately in team safety practices

1.7. Participate in the creation of a team environment where continuous learning is the norm

1.8. Contribute to a defined process for introducing new and emerging evidence into team-based care

1.9. Provide and accept feedback to improve the performance of the team and its members

1.10. Practice effective listening techniques to contribute to optimal teamwork and patient care

2. *Health care professionals who meaningfully engage patients as the central participants in their health care teams:*

2.1. Ensure that patients are at the centre of care

2.2. Engage patients in decision-making and the management of their own health

2.3. Provide appropriate, sufficient and clear information, and teaching to patients to support informed decision-making

2.4. Advocate for individual patients and for the resources to be able to provide patient-centred, high-quality care

2.5. Respond to individual patient needs and respect cultural and personal health beliefs and practices

3. *Health care professionals who appropriately share authority, leadership, and decision-making for safer care:*

3.1. Explain their role in patient care to team members and patients

3.2. Collaboratively consult with, delegate tasks to, supervise and support team members

3.3. Accept delegated tasks

3.4. Ask for support when appropriate

3.5. Encourage team members to speak up, question, challenge, advocate and be accountable to address safety issues and risks inherent in the system

3.6. Demonstrate leadership techniques appropriate to clinical situations

4. *Health care professionals who work effectively with health care team members to manage interprofessional conflict:*

4.1. Define and identify conflict in health care teams

4.2. Work with other team members to prevent conflicts

4.3. Employ collaborative negotiation to manage conflicts in the team

4.4. Respect differences, misunderstandings, and limitations that may contribute to interprofessional tensions

4.5. Demonstrate willingness to set team goals and priorities, measure progress, and learn from experience together as a team

4.6. Address all practice variations that can dilute the reliable delivery of evidence-informed care

Key References

For further reading on working in teams for patient safety, please see:

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Domain 3: Communicate Effectively for Patient Safety

Definition
Promoting patient safety through effective health care communication.

Description
Effective communication is crucial to optimal patient outcomes, and poor communication can lead to patient harm. High-quality and safe care depends on the ability of health care providers to communicate well with patients and with other professsionals. This domain centres on the processes by which health care professionals convey and receive information to foster positive interpersonal relationships within clinical situations, and within and across organizations, to ensure safe and effective patient care and to prevent adverse events. Effective communication is a dynamic, ongoing process.

One of the most important goals of effective communication is to optimize patient safety. Communication issues related to patient safety fall into two main categories: preventing adverse events and responding to adverse events. Communication designed to optimize the safety of patient care should include effective written, verbal and non-verbal formats. The appropriate use of electronic communication tools and channels is also essential.

Effective communication is beneficial to patients and health care providers, builds trust, and is a precondition of patient consent. Patients who receive information that is clear and consistent are better able to understand the risks, benefits and possible outcomes of investigations and treatments, and can thus participate as full partners in their own care.

Elements

Knowledge
Health care professionals who communicate effectively for patient safety understand:

- the roles and responsibilities of team members
- models of effective team communication
- models of effective patient-centred communication (e.g., the Calgary-Cambridge model)
- issues surrounding health literacy
- cultural diversity and cultural competency
- patient capacity to make decisions
- patient consent

Skills
Health care professionals who communicate effectively for patient safety:

- protect privacy and confidentiality
- provide the correct type and amount of information
- share understanding and decision-making with patients and family
- use jargon-free language to convey complex information clearly
- provide informed consent, including capacity assessment as required and informed discharge
- support written or oral communication, when appropriate, with patient education materials
- use appropriate communication techniques for high-risk situations
- communicate with other providers to facilitate smooth transfer of care
- use effective team communication techniques
- effectively communicate delegated tasks and provide appropriate supervision
- provide effective consultations, requests, reports and documentation

- use communication tools and technologies
- provide proper disclosure and reporting of adverse events

Attitudes
Health care professionals who communicate effectively for patient safety demonstrate:

- a patient-centred approach to communication
- respect
- empathy

Domain 3 Key Competencies
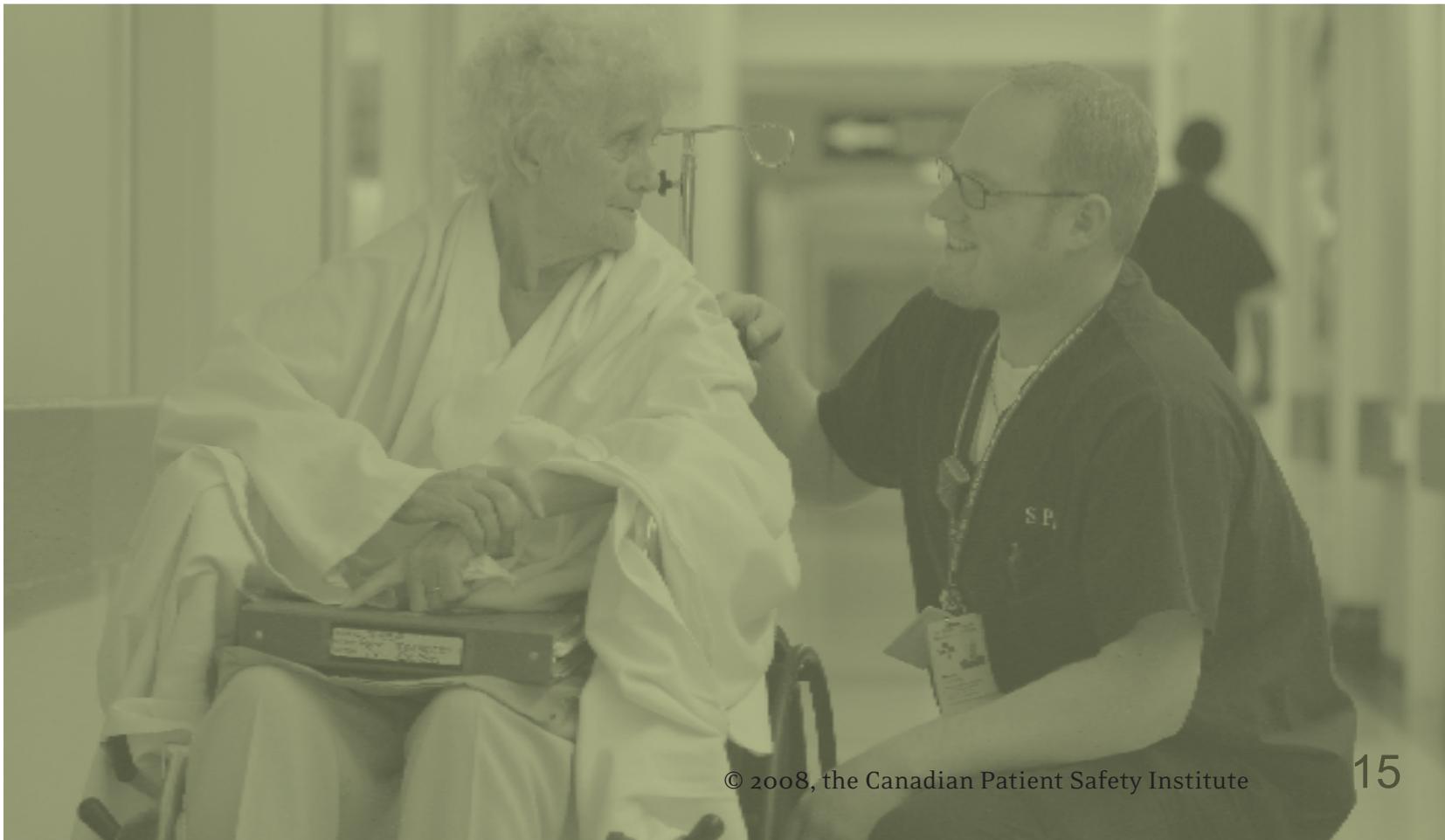Health care professionals are able to:

1. *Demonstrate effective verbal and non-verbal communication abilities to prevent adverse events*
2. *Communicate effectively in special high-risk situations to ensure the safety of patients*
3. *Use effective written communications for patient safety*
4. *Apply communication technologies appropriately and effectively to provide safe patient care*

Enabling Competencies
Each key competency is supported by the following related knowledge, skills and attitudes – the tailored enabling competencies that allow the key competency to be put into practice.

1. *Health care professionals who demonstrate effective verbal and non-verbal communication abilities to prevent adverse events:*

   1.1. Show respect and empathy in communication
   1.2. Explain investigations, treatments and protocols clearly and adequately to patients
   1.3. Convey information with clarity appropriate to each patient (e.g., by using the Calgary-Cambridge model)
   1.4. Convey information in structured communications to team members to promote understanding (e.g. ARC, CHAT, CUS, DESCscript, I'M SAFE, I PASS THE BATON, STAR)
   1.5. Communicate in a manner that is sensitive to health literacy needs
   1.6. Employ active listening techniques to understand the needs of others
   1.7. Communicate in a manner that is respectful of cultural diversity
   1.8. Respect privacy and confidentiality
   1.9. Use a variety of communication tools and techniques to enhance and assess understanding on the part of patients and their families

2. *Health care professionals who communicate effectively in special high-risk situations to ensure the safety of patients:*

   2.1. Engage patients or substitute decision-makers in a discussion of risks and benefits of investigations and treatments to obtain informed consent
   2.2. Provide informed discharge so that patients know when and where to seek care
   2.3. Communicate to others the urgency of a clinical situation
   2.4. Employ communication techniques to escalate concerns across authority gradients to match the seriousness of the clinical situation
   2.5. Employ appropriate communication approaches in high-risk situations, such as in clinical crises, emotional or distressing situations, and conflict

2.6. Use appropriate communication approaches to provide safe transfers, transitions of care and consultations among providers, including between institutions, and on discharge to community care

2.7. Demonstrate insight into their own communication styles with patients and team members in ordinary, crisis and stressful situations and adjust these styles appropriately to provide safe care

3. *Health care professionals who use effective written communications for patient safety:*

3.1. Provide appropriately detailed and clear written or electronic entries to the patient health record

3.2. Provide sufficient documentation to facilitate team members' comprehension of the patient's history, physical findings, diagnosis and rationale for the diagnosis, treatment and care plan at any time

3.3. Provide patient care orders and prescriptions using safe practices to avoid misinterpretation

3.4. Write patient care orders and prescriptions to convey the appropriate degree of urgency

3.5. Use appropriate, safe written communication approaches in consultation requests and responses, investigative, operative and other reports, and other correspondence

3.6. Identify and promote well-designed patient education material

3.7. Recognize the safety implications of using abbreviations

3.8. Document the rationale for significant deviations from established processes or guidelines

4. *Health care professionals who apply communication technologies appropriately and effectively to provide safe patient care:*

4.1. Understand the benefits, limitations and professional care responsibilities of using technologies, such as the Electronic Health Record, the Electronic Medical Record, Computerized Professional Order Entry, the telephone, the fax machine, email and other such technologies

4.2. Employ critical thinking tools and structured approaches to communications (e.g., Situation-Background-Assessment-Recommendation [SBAR] and read-back of orders on the telephone) when using technology

Key References

For further reading on communicating effectively for patient safety, please see:

1. Braddock CH 3rd, Edwards KA, Hasenberg NM, Laidley TL, Levinson W. Informed decision making in outpatient practice: time to get back to basics. JAMA 1999;282(24):2313–20.

2. Cooke L, Dojeiji S, Kurtz S, Laidlaw T, Sherbino J, Frank J. The CanMEDS train-the-trainer communicator faculty development program. Ottawa:The Royal college of Physicians and Surgeons of Canada; 2007.

3. Egan G. Essentials of skilled helping: managing problems, developing opportunities. Chicago: Thomson/Wadsworth; 2006.

4. Kurtz S, Silverman J, Draper J. Teaching and learning communication skills in medicine. Oxford: Radcliffe; 2005.

5. Patterson K, Grenny J, McMillan R, Switzler A. Crucial conversations: Tools for talking when stakes are high. New York: McGraw-Hill; 2002.

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Domain 4: Manage Safety Risks

Definition
Anticipating, recognizing, and managing situations that place patients at risk.

Description
In health care, as in as other high-risk endeavours (e.g., aviation and the nuclear industry), it is recognized that things can and will go wrong. Therefore, it is necessary to design the health care work system, and to train individual health care professionals, in a manner that anticipates and recognizes this potential and that facilitates the effective management of situations that place individuals and groups at risk.

The defining competencies that enable health care professionals to recognize and manage risk in dynamic situations include task management, team work, and clinical and systems-based decision-making informed by situational awareness. By learning and applying these non-technical skills and competencies, health care providers can help to improve outcomes for patients and their families by preventing or mitigating adverse events.

Reducing the likelihood of harm in dynamic situations requires integrating these non-technical skills with clinical knowledge and techniques. Although they have always been integral to the competencies of expert health care professionals, these non-technical skills have not always been taught explicitly in formal programs or with a view to interprofessional care delivery. They have usually been learned in an informal curriculum through the mentorship model, which is not uniform within training programs. Given the increased focus on reducing adverse events through interprofessional team training, as well as the widespread adoption of simulation-based education, these competencies can now be formally addressed.

Elements
Knowledge
Health care professionals who effectively manage safety risks have an understanding of:

- system design and its impact on event evolution
- safety practices that reduce the risk of adverse events, such as:
  - infection control, including aseptic technique, hand hygiene, screening and surveillance
  - injury prevention, including safe patient transport, handling and transfers, and the removal of physical hazards
  - the proper handling and maintenance of equipment, including considerations such as standardization (e.g., for i.v. pumps), location, and operator training and assessment
  - the safe administration of medication, including standardization of drug formulations, recognition of sound-alike and look-alike medications, abbreviation pitfalls, medication reconciliation, proper preparation, reliable patient identification and alerts
  - risk awareness, including situational awareness
  - the purpose of redundancy in clinical processes: medication checking, allergy checking, wrong-side checking, checklists and buddy systems
  - standardization of approaches and processes (e.g., evidence-informed practice guidelines and checklists)

Skills
Health care professionals who effectively manage safety risks:

- anticipate and recognize problems on the level of individuals and of systems
- respond to safety-related situations
- monitor, track and re-evaluate system failures, potential cognitive pitfalls of health care providers, and the clinical status of the patient

Attitudes
Health care professionals who effectively manage safety risks:

- exercise vigilance on safety issues
- conduct proactive risk analysis
- advocate for patient safety

Domain 4 Key Competencies
Health care professionals are able to:

1. *Recognize routine situations and settings in which safety problems may arise*
2. *Systematically identify, implement, and evaluate context-specific safety solutions*
3. *Anticipate, identify and manage high-risk situations*

Enabling Competencies
Each key competency is supported by the following related knowledge, skills and attitudes – the tailored enabling competencies that allow the key competency to be put into practice.

1. *Health care professionals who recognize routine situations and settings in which safety problems may arise:*

   1.1. Demonstrate situational awareness by continually observing the whole environment, thinking ahead and reviewing potential options and consequences
   1.2. Recognize safety problems in real-time and respond to correct them, preventing them from reaching the patient
   1.3. Employ, as appropriate, techniques such as diligent information-gathering, cross-checking of information using checklists, and investigating mismatches between the current situation and the expected state

2. *Health care professionals who systematically identify, implement, and evaluate context-specific safety solutions:*

   2.1. Critically appraise the literature to identify evidence-informed and emerging safety solutions
   2.2. Learn from local successes and experiences, assessing their appropriateness to a work setting
   2.3. Select the most appropriate solution for a given context, taking into account quality, resources, practicality and patient preferences
   2.4. Reflect on the impact of an individual intervention, including the potentially harmful or unintended consequences of a safety intervention
   2.5. Evaluate the ongoing success of a safety intervention by incorporating lessons learned
   2.6. Adjust policies and procedures to reflect established guidelines, if applicable

3. *Health care professionals who anticipate, identify and manage high-risk situations:*

    3.1. Recognize health care settings that may lead to high-risk situations

    3.2. Respond effectively by means of efficient task and process management, crisis team functioning, and dynamic decision-making

    3.3. Participate in ongoing training, such as simulations to enhance abilities to manage high-risk situations

Key References

For further reading on managing safety risks, please see:

1. Connor M, Ponte PR, Conway J. Multidisciplinary approaches to reducing error and risk in a patient care setting. Crit Care Nurs Clin N Am 2002;14(4):359-67.

2. Dekker SWA. Ten questions about human error: a new view of human factors and system safety. Boca Raton (FL): CRC Press; 2004.

3. Flin R, Glavin R, Patey R. Anaesthetists' Non-Technical Skills (ANTS) System Handbook v1.0. Aberdeen: University of Aberdeen. Available from: www.abdn.ac.uk/iprc/ANTS (accessed 2008 Jan 24).

4. Gaba DM. Anaesthesiology as a model for patient safety in health care. BMJ 2000;320(7237):785-8.

5. Hollnagel E. Barriers and accident prevention. Aldershot (UK): Ashgate; 2004.

6. Ranji SR, Shojania KG. Implementing patient safety interventions in your hospital: What to try and what to avoid. Med Clin North Am 2008;92(2):275-293, vii–viii.

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8. Shojania KG, Duncan BW, McDonald KM, et al. Making health care safer: a critical analysis of patient safety practices. Evidence Report/Technology Assessment: Number 43. AHRQ Publication No. 01-E058, July 2001. Rockville (MD): Agency for Healthcare Research and Quality; 2001. Available from: www.ahrq.gov/clinic/ptsafety/pdf/front.pdf (accessed 2008 Jan 24).

9. Wong J, Beglaryan H. Strategies for hospitals to improve patient safety: a review of the research. Toronto: The Change Foundation; 2004. Available from: www.caphc.org/documents_programs/patient_safety/patient_safety_2004.pdf (accessed 2008 Jan 24).

10. Weick K, Sutcliffe K. Managing the unexpected. San Francisco: Jossey-Bass; 2001.

Domain 5: Optimize Human and Environmental Factors

Definition
Managing the relationship between individual and environmental characteristics to optimize patient safety.

Description
Optimizing the human and environmental factors that support the achievement of best human performance is an essential safety competency for all health care professionals. The processes by which we make decisions and perform our roles as individual professionals and as members of teams are complex. An understanding of the individual human factors and the ambient or environmental factors that shape our decisions helps us to recognize and mitigate problematic biases and improve our decision-making.

The ability of health care professionals to optimize patient safety depends on an understanding of their own performance and the performance of others within a given practice environment. Complex, ongoing interactions between individual providers and patients, together with the technological characteristics of the health care environment, significantly shape individual and system performance and thus patient safety. Critical thinking, which involves situational awareness and insight into the cognitive biases that affect decision-making, is influenced by a variety of human and organizational factors.

In terms of individual factors, human performance is significantly shaped by knowledge, skill and experience, in addition to personality attributes and attitudes toward risk tolerance. The well-being of individual practitioners with regard to work-life balance, fatigue and personal health constitutes another key element of performance.

In terms of environmental factors, systems-based thinking in health care can help us understand the relationships between the various elements of complex work environments. The relationships between policies and procedures, resource allocation and work cultures are intertwined with local, regional, national and international organizational structures, and it is important for individual practitioners to be aware of these relationships.

Finally, the interface between individual practitioners and patients and the technological attributes of health care environments has a critical effect on individual and system capacities to achieve the delivery of safe care.

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Elements

Knowledge

Health care professionals who optimize human and environmental factors for patient safety have an understanding of:

- individual characteristics, including gender, age, personality and risk tolerance or aversion
- factors that affect their personal well-being, including work-life balance, sleep deprivation/sleep debt, and physical and emotional health
- environmental factors such as light and sound, surge conditions, work interruptions and technology
- ergonomics, including human factors engineering, system design, technology and work flow
- critical thinking, including situational awareness and an awareness of cognitive biases in decision-making
- systems (local, national and international), including their policies and procedures, resource allocation and culture
- the effect of the acceptance of deviance as the norm and the creation of unsafe work-arounds

Skills

Health care professionals who optimize human and environmental factors for patient safety:

- assess personal work-life balance issues and how they affect professional performance and the safety of patients and human performance
- identify the normalization of deviance and unsafe work-arounds as they relate to human performance and culture
- identify biases that affect decision-making

Attitudes

Health care professionals who optimize human and environmental factors for patient safety:

- appreciate that human performance is affected by one's behaviour within a system constructed by resources, culture and policy

Domain 5 Key Competencies

Health care professionals are able to:

1. *Describe the individual and environmental factors that can affect human performance*
2. *Apply techniques in critical thinking to make decisions safely*
3. *Appreciate the impact of the human/technology interface on safe care*

Enabling Competencies

Each key competency is supported by the following related attitudes, skills, and behaviours – the tailored enabling competencies that allow the key competency to be put into practice.

1. *Health care professionals who are able to describe the individual and environmental factors that can affect human performance understand:*

   1.1. The impact of fatigue and other human limitations on clinical performance
   1.2. The role of attitude and professional culture in clinical practice
   1.3. The role of wellness and its effect on knowledge and skill acquisition
   1.4. How to integrate coping mechanisms to mitigate performance risks and ambient conditions in various practice environments
   1.5. How to evaluate the impact of organizational resource allocation, policies and procedures and culture

2. *Health care professionals who apply techniques in critical thinking to make decisions safely are able to:*

   2.1. Describe the common types of cognitive biases
   2.2. Model the behavioural characteristics that demonstrate situational awareness
   2.3. Demonstrate a process of sound decision-making, understanding where the process can be challenged and corrected

3. *Health care professionals who appreciate the impact of the human/technology interface on safe care are able to:*

   3.1. Define human factors and human factors engineering and understand their application in health care environments
   3.2. Describe the role of usability assessment in the safe application of technology
   3.3. Recognize the importance of ergonomics in safety design
   3.4. Describe principles of workflow analysis to enhance care

Key References

For further reading on optimizing human and environmental factors, please see:

1. Croskerry P. The importance of cognitive errors in diagnosis and strategies to minimize them. Acad Med 2003;78:775-80.

2. Croskerry PG. The cognitive imperative: thinking about how we think. Acad Emerg Med 2000;7(11):1223-31.

3. Norman DA. The design of everyday things. New York: Basic Books; 1988.

4. Vicente K. The human factor: revolutionizing the way people live with technology. Toronto: Knopf; 2003.

Domain 6: Recognize, Respond to and Disclose Adverse Events

Definition

Recognizing the occurrence of an adverse event or close call and responding effectively to mitigate harm to the patient, ensure disclosure, and prevent recurrence.

Description

Health care professionals possess the knowledge and clinical judgment to recognize adverse events and respond in a timely way to prevent further harm to patients. The professional understands that disclosing the facts of the event to the patient and discussing with him or her the plan for future clinical care should occur as soon as is appropriate. Health care professionals also need to be mindful that members of the health care team may need support in responding to an adverse event. Health care professionals understand the importance of reporting adverse events and close calls, and recognize that they and their organizations have an obligation to conduct a review of adverse events and close calls to identify the underlying reasons and implement appropriate measures to prevent similar occurrences. Adverse events and close calls should be considered learning opportunities to reduce system failures and improve professional performance.

The human impact of adverse events on patients, families and health care professionals, as well as their economic cost to the health care system and society in general, is extensive and well-documented. Regulatory licensing authorities, provincial quality councils and governments have addressed the need for health care professionals, their organizations and agencies to be knowledgeable and accountable in their response to adverse events. This knowledge should encompass the ability to recognize an adverse event, immediately address the patient's clinical needs, and then in a timely manner respond to the patient's need for information and emotional support. Patients wish to know about adverse events, the extent of the harm that they have incurred, and how it might be possible to prevent similar events from happening to others in the future. Such disclosure, if provided in a clear and honest manner and accompanied by an expression of regret or, if appropriate, an apology, can sometimes lessen the harm to the patient. A health care provider's ability to continue to give clinical care after an adverse event may be affected; health care professionals should be aware of this possibility on behalf of colleagues involved in adverse events and recognize the need to support them and to draw on the organization's structured support systems. Finally, an honest attitude to the reporting of adverse events and close calls is an important element of a culture of patient safety which provides an opportunity to identify and analyze system failures and to develop solutions.

Elements

Knowledge

Health care professionals who effectively recognize, respond to, and disclose adverse events have an understanding of:

- the definition and recognition of adverse events and close calls
- current professional obligations, legislation and policies for the reporting of adverse events
- correct processes of disclosure

Skills

Health care professionals who effectively recognize, respond to, and disclose adverse events:

- provide honest, timely, effective communication about the facts of the adverse event
- provide care and support to both patients and health care professionals affected by the event
- differentiate between an outcome related to the natural progression of disease and an adverse event

Attitudes

Recognizing, responding to, and disclosing adverse events requires:

- moral-ethical reasoning and decision-making around adverse events
- a commitment to the primacy of the patient–health care professional relationship
- acceptance of the obligation to disclose the occurrence of adverse events in keeping with current legislation and policies
- willingness to participate in event analysis and continuous quality improvement

Domain 6 Key Competencies

Health care professionals are able to:

1. *Recognize the occurrence of an adverse event or close call*
2. *Mitigate harm and address immediate risks for patients and others affected by adverse events and close calls*
3. *Disclose the occurrence of an adverse event to the patient and/or their families as appropriate and in keeping with relevant legislation*
4. *Report the occurrence of an adverse event or close call*
5. *Participate in timely event analysis, reflective practice and planning for the prevention of recurrence*

Enabling Competencies

Each key competency is supported by the following related attitudes, skills, and behaviours – the tailored enabling competencies that allow the key competency to be put into practice.

1. *Health care professionals who recognize the occurrence of an adverse event or close call are able to:*

    1.1. Define the terms harm, adverse event, close call, and the response that is appropriate to each
    1.2. Distinguish between the harm resulting from an adverse event and the natural progression of the patient's underlying medical condition

2. *Health care professionals who mitigate harm and address immediate risks for patients and others affected by adverse events and close calls:*

    2.1. Assess the immediate safety and care needs for the physical and emotional well-being of patients and their families, and provide interventions as appropriate
    2.2. Reduce or manage the risk of further harm to patients affected by adverse events and close calls
    2.3. Provide appropriate support for individual health care professionals and teams involved in adverse events and close calls

3. *Health care professionals who disclose the occurrence of an adverse event to patients and/or their families as appropriate and in keeping with relevant legislation:*

    3.1. Understand what information should be disclosed at the initial disclosure stage, the time frame for disclosure, and the relevant documentation, reporting, and analyses
    3.2. Recognize the ethical, professional and legal obligation to disclose and report adverse events
    3.3. Differentiate between disclosure and reporting and the inherent processes associated with each concept
    3.4. Are aware of existing policies and procedures associated with disclosure and the extent to which these foster a culture of patient safety

3.5. Engage in honest communication and empathic dialogue with respect to disclosure

3.6. Recognize that there are situations that constitute special consideration regarding disclosure, for example, patients in vulnerable situations, patients who have a substitute decision-maker, patients with special communication requirements (e.g., those who are hearing impaired), and patients whose cultural perspective on disclosure differs from the provider's

3.7. Understand the stages of disclosure

3.8. Determine who is responsible for the disclosure and who should be present when it is made

3.9. Recognize the role of expressions of regret and when an apology should be considered in post-analysis disclosure

3.10. Document unexpected outcomes, adverse events and the disclosure discussions

3.11. Provide ongoing follow-up as needed

3.12. Recognize the need for a just culture of safety in supporting disclosure and reporting

3.13. Appreciate the legal implications arising from disclosure

4. *Health care professionals who effectively report the occurrence of an adverse event or close call:*

4.1. Recognize that the reporting of adverse events takes place across the continuum of care and includes primary, secondary and tertiary care centres

4.2. Anticipate the need to gain a better understanding of the adverse event, such as by considering what samples, clinical materials and equipment may be helpful in future investigations

5. *Health care professionals who participate in timely event analysis, reflective practice, and planning for the prevention of recurrence:*

5.1. Engage in personal and professional reflection regarding the adverse event

5.2. Recognize the importance of monitoring the outcome of event analysis

5.3. Apply lessons learned from the event analysis

5.4. Advocate for system change as warranted

5.5. Recognize the need for information exchange across health care organizations and as mandated by provincial/territorial legislation

Key references

For further reading on recognizing, responding to and disclosing adverse events, please see:

1. American Society for Healthcare Risk Management. Disclosure: what works now and what can work even better (one of three). Journal of Healthcare Risk Management; 24(1):19-26.

2. Canadian Medical Protective Association. Communicating with your patient about harm: disclosure of adverse events. Ottawa: CMPA, 2008. Available from: www.cmpa-acpm.ca (accessed 17 July 2008).

3. Disclosure Working Group. Canadian disclosure guidelines. Edmonton: Canadian Patient Safety Institute; 2008.

4. Full Disclosure Working Group. When things go wrong: responding to adverse events. a consensus statement of the Harvard Hospitals. Boston: Massachusetts Coalition for the Prevention of Medical Errors, 2006.

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Strategies for Implementing The Safety Competencies in the Health Professions

The ultimate goal of *The Safety Competencies* initiative is to foster a culture of patient safety that will help to ensure safe practice and improve quality of care across a diverse range of health care settings. To achieve this vision, *The Safety Competencies* will need to be incorporated into health professions education and ongoing workplace training and practice. It will need to be adopted, and adapted, by thousands of health care workers, leaders, and educators. Implementing *The Safety Competencies* framework, whether by transforming curricula or by making enhancements to daily practice, will present the kinds of challenges inherent in any system change. It will necessarily involve considering which methods will be most effective in bringing about change, explicitly adapting the competencies to multiple contexts, and addressing the inherently interprofessional nature of patient safety. To be most effective, the framework will also need to be woven into national standards, supported by professional development, and taught in a myriad of front-line settings. This chapter describes some strategic considerations that will help to make the vision of *The Safety Competencies* a reality.

Strategies for Implementing Innovations in Health Professions Education

Modern health care is inherently complex: not only does it involve numerous stakeholders and institutions, thousands of professionals, and millions of patients, it is constantly being transformed by exponential growth in its scientific knowledge base. Shaping this environment are also financial imperatives, professional standards, power gradients, organizational loyalties, and passionately held value systems. As a societal endeavour, education is as multifaceted as health care; thus, health professions education is positioned at the nexus between two extremely complex areas.

Innovation in health professions education requires careful consideration of critical, recurring barriers to change. The literature describes many general principles relevant to the implementation of curricular change. Some of these are listed below:

- *Awareness and communication.*
  Many innovations wither or generate resistance because of inadequate dissemination. Stakeholders need a thorough understanding of the rationale for change, its elements and implications, and plans to bring it about. Health care professionals are bombarded by innovations and proposed changes to practice and training. It is essential to convey information about such innovations through a clear channel and in a well planned and systematic manner.
- *Workload.*
  The health care professions are characteristically described as burdened by a relentlessly increasing demand for services, an aging population, and a worsening shortage of professionals. Because resentment of change impedes its adoption, safety leaders will need to weave *The Safety Competencies* into existing systems and curricula in a way that avoids creating an untenable increase in workload.
- *Resources.*
  To be successfully initiated and sustained, any system change requires a sufficient allocation of resources.
- *Engagement.*
  Research evidence shows that the active involvement of key stakeholders in any proposed change is essential for its meaningful adoption on a local level and for its adaptation to regional contexts.

- *Evidence.*
  Research findings are an essential currency of the culture of health care. Modern health care owes much to the growth of its scientific basis, and health professionals will require a clear articulation of the evidence base of *The Safety Competencies*. Like any educational standard, *The Safety Competencies* require a core evidence base to ensure their widespread use.
- *Value.*
  Individually and collectively, health care professionals will require a clear articulation of the merit of *The Safety Competencies*. Why are they needed? Is the change they foster acceptable? The vision of achieving better patient care through the use of the framework will need to be made real, worthwhile, and urgent to inspire commitment.
- *Disruption.*
  The rate and extent of the uptake of an innovation is affected by the degree of change proposed. Consideration must be given to the realistic implementation of the framework in health care education and work settings. To succeed, change must be made as simple as possible to implement.
- *Competence.*
  To be implemented widely, innovations often require a set of abilities on the part of adopters. Any implementation plan must take into account the readiness of the target audiences, including teachers, learners, and practitioners.
- *Faculty and professional development.*
  Health care professionals will need support as they upgrade knowledge and skills or adapt to a new approach. Workshops, courses, credentialing, and train-the-trainer models are all effective means of ensuring that a cohort of skilled teachers and practitioners exist to disseminate The Safety Competencies.
- *Leadership.*
  Innovations thrive when they are backed by authorities and opinion leaders who genuinely model and inspire change. Leaders must be identified, and champions developed and supported.[1-10]

The successful implementation of *The Safety Competencies* through multi-faceted and locally adapted innovations in health professions education will require attention to these recurring issues. Leadership, local promotion, effective communications, incentives and resources for change, professional development courses, and useful reference materials will be key ingredients in encouraging the adoption of *The Safety Competencies* in the health professions.[11] It is envisioned that all of these requirements for successful adoption will be developed in the innovative arena of health education in Canada.

Implementing Competency-based Education

Adapting *The Safety Competencies* to numerous curricula will also require attention to the principles by which they can be implemented as an organizing framework for education. *The Safety Competencies* are constructed in terms of abilities in six domains. The central idea of this approach is to orient *The Safety Competencies* initiative toward the outcomes of an educational program, as opposed to the process of instruction. It describes the broad exit abilities of graduates (e.g., competencies), which are thought to be assembled by learners from other, smaller constituent abilities. For example, the ability to work in teams for patient safety (Domain 2) requires several key competencies, which are themselves made up of several smaller enabling competencies and their requisite knowledge, skills, and attitudes. The strength of this approach lies in explicitly defining the goals of the program and ensuring that they are attained.

Implementing competency frameworks typically involves a backwards process of planning, by which the domains are adapted to the needs and objectives of a particular program. The steps include the following:

1. *Identifying the desired competencies.*
   Curriculum authorities will need to decide which domains of the framework they wish to implement. This will require an audit of the current curricular offerings in the context of the goals of the program.
2. *Adapting the competencies.*
   Curricula and competencies are inherently contextual. Each program in each health care profession will need to adapt *The Safety Competencies* to its own milieu, culture, and needs. For example, managing safety risks (Domain 4) may involve different roles for those in physiotherapy than for those in nursing.
3. *Defining the competencies explicitly.*
   For each program, the desired abilities of graduates must then be defined explicitly, in measurable terms. These abilities then become the goals of the patient safety curriculum.
4. *Mapping backwards.*
   Using the explicit goals, curriculum planners can then work backwards to define essential milestones of achievement that learners need to reach along the way to developing these competencies (e.g., by defining the abilities to be acquired in each domain by the end of each year of training).
5. *Teaching and assessment.*
   The activities of the curriculum are then planned, using the competency milestones as a guide. Teaching and assessment methods are selected as appropriate to the goals, timelines and context of the program.[12-14]

Recognizing the Interprofessional Dimension of The Safety Competencies

Although each health profession will need to adapt *The Safety Competencies* to its particular role, implementing the framework must also take into account the inherently interprofessional nature of patient safety.

Nearly anyone who seeks health care in Canada is required to interact with more than one health care provider in more than one system. The health care system is one of the most complex, dynamic and challenging systems in our society. Many would say that it is not one system, but rather multiple systems working in conjunction with one another. Sometimes these systems and the professionals within them work together in an integrated fashion to support a seamless and coordinated journey for those accessing care and services. At other times, barriers to or a lack of coordination between systems create challenges for patients and sometimes result in suboptimal care. Recent research demonstrates that the system that Canadians value and support can also harm them as they seek care.[15]

Because the health care system is so complex, involving thousands of professionals and providers in many sectors and locations, it is imperative that those within the system work together, along with patients and their families, to ensure safety and quality for all who access the system. No one health professional or provider can ensure safety independently. Patient safety can be advanced only through a team effort that addresses the various contributions of each member, the various aspects of the care processes, and the many transitions for any given patient in the system. Research by the US Institute of Medicine and others "has clearly demonstrated that when health care professionals understand each others' roles and are able to communicate and work together effectively, patients are more likely to receive safe, quality care."[16]
Both the Kirby[17] and Romanow[18] reports, which involved extensive consultations with citizens and health care providers, suggested that collaborative patient care is one critical way to enhance the Canadian health care system.

Effective interprofessional collaboration has been regarded as essential to improving communications, reducing errors, enhancing service delivery and improving patient satisfaction, job satisfaction, and staff retention.[19,20] Metrics for the success of collaborative mechanisms such as rapid response teams indicate that team relationships and communication skills are as critical as traditional expert care skills.[21] As one commentator has noted, "Over the past decade there has been a tremendous shift in the calls for collaboration across disciplines. The majority of these focus on enhancing collaboration as a vehicle for improving the quality of care and patient safety."[22]

Interprofessional education is one means of addressing the interprofessional nature of patient safety. At the grassroots level, many health professions educators have been changing expectations, curricula, and approaches to teaching and learning to support the preparation of students for interprofessional collaborative practice. For example, Barsteiner and colleagues have asserted that to improve patient safety efforts at the bedside and to bridge the gap between the disciplines, interprofessional education and training needs to be a core element of the next generation of patient safety curricula for all health sciences schools.[16] Despite the emerging acceptance of the assumption that collaboration leads to improved teamwork and hence patient safety, the link must be made overtly.

"Team learning, practitioner competencies, a shared vision, and system thinking are elements critical to patient safety."[23] A culture of patient safety is inherently about working and communicating in collaborative teams, with the patient at the centre; this must be an interprofessional endeavour. Patient safety is the ideal outcome that can unite and move forward the interprofessional educational agenda. Interprofessional education is one process by which this ideal outcome, patient safety, can be achieved.

Incorporating The Safety Competencies into National Standards

Another essential condition for the widespread adoption of *The Safety Competencies* is their incorporation into recognized national standards. Standard-setting organizations for the health professions, such as The Royal College of Physicians and Surgeons of Canada, Accreditation Canada, the Canadian Association of Schools of Nursing, and the provincial regulatory authorities in medicine, nursing, pharmacy and health sciences also need to examine *The Safety Competencies* in light of their missions. Incorporated into regional and national standards, the framework will gain additional weight in health care. Powerful levers for change, such as accreditation visits, curriculum standards, health professions credentialing, and assessment processes can rapidly facilitate the integration of The Safety Competencies into health care education and practice.

Bringing the Competencies to Front-line Teaching and Learning

Implementation of *The Safety Competencies* as standards of education will not be sufficient to ensure their meaningful adoption: they must also be brought into front-line teaching. The competencies of patient safety need to be an essential part of thousands of daily conversations at bedsides, on hospital wards, in operating rooms, clinics, pharmacies, and numerous other settings. All teachers and role models need to make *The Safety Competencies* an essential part of everyday discourse in a manner that captures opportunities for learning moments (see Appendix 1 for a Case Example on implementing The Safety Competencies).

Workplace Teaching and Learning

The development of programs focused on the implementation of *The Safety Competencies* in the workplace will also be indispensable. By using a variety of approaches, leaders in patient safety can easily enable the application of the competencies to staff members' daily work. A variety of institutional strategies need to be considered, such as support from senior leadership, the involvement of patient safety officers, the formation of quality improvement teams, and the adaptation of existing processes. Senior leaders and boards must support the creation of a culture of safety and a culture of learning in which change can flourish. The

development of specific strategies in multiple contexts will be required to demonstrate how best to integrate interprofessional development for patient safety with existing administrative and quality improvement structures. A formally trained patient safety officer working with health care educators to champion and coordinate the implementation of an in-house safety curriculum may help to ensure that the education is relevant to the local context. Quality improvement teams can be developed to address specific patient safety issues. *The Safety Competencies* can be used as a framework to support the evolution of quality improvement processes for patient safety. Finally, existing processes such as staff orientation and sentinel event analyses can serve as opportunities to coach or teach staff about safety competencies.

Changing the Health Care Culture

The ultimate objective of implementing *The Safety Competencies* is wholesale and systemic change in the culture of health care. This can be achieved only when the framework has become a part of the daily accepted reality and value system of health professionals. All of the initiatives briefly listed in this chapter can lead to this kind of pervasive change. What is needed is a "new normal" that benefits our patients and our colleagues through a transformation that yields safer care.

Conclusions

The Safety Competencies is intended to be a living document that will have a genuine impact on the care provided to Canadians and others around the world. To achieve this, patient safety leaders and educators will need to skilfully support its implementation, adapting it to many contexts and professions, while being mindful of the interprofessional nature of practice. By bringing *The Safety Competencies* into health professions education and practice, we aspire to change the graduates of our programs, enhance the way we work, and transform patient safety into an everyday imperative.

Conclusions and Future Directions

It is our distinct pleasure at the Canadian Patient Safety Institute to present this document, *The Safety Competencies*: Enhancing Patient Safety Across the Health Professions, as a cornerstone of the Institute's educational mandate. By contributing to the patient safety education of health care providers, *The Safety Competencies* framework will foster safer patient care and better patient outcomes.

The document is the result of a two-year commitment to identify and articulate the core patient safety competencies that apply to all health care professionals. On behalf of the Canadian Patient Safety Institute, I would like to recognize the contributions of the Education and Professional Development Advisory Committee, the Steering Committee and the working groups of *The Safety Competencies* initiative. Their passion, expertise and perseverance have made possible the launch of this innovative knowledge-translation tool.

The competencies have been developed for ease of incorporation into interprofessional continuing health education, professional development and clinical care practices. However, the effective integration of the six domains of *The Safety Competencies* tool into real-world educational and organizational settings will require further innovation and the continuing enthusiasm of a variety of health professionals. We look forward to the creation of a compilation of techniques that will contribute to the further evolution of this tool, particularly the development of stimulating methods for the effective and practical teaching and learning of the competencies.

In the immediate future, we envision the possibility of exchanging knowledge and experience of best practices in simulations, case studies and other novel techniques among real and virtual communities of practice. This will, undoubtedly, lead to high-impact learning events for the students and professionals of the future. It will enable them to ensure maintenance of competence through evaluation and continuous improvement of the knowledge, skills and attitudes that are crucial to optimizing patient safety.

The Institute is committed to a broad dissemination of *The Safety Competencies* and to a high level of stakeholder engagement and satisfaction with this patient-centred framework. We solicit your suggestions and support. We especially welcome collaborative opportunities to discover innovative integration strategies and to improve and further develop future versions of this living document.

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Appendix 1: Implementing The Safety Competencies: A Case Example

The US Institute of Medicine and others have emphasized the important role of health professions education in promoting patient safety.[1,2] If this education is to maximize its impact on quality of care and patient safety, it is essential for curricula to reflect areas of high priority in the actual provision of health care. These priorities should not be derived from expert opinion and tradition alone, but should be informed by evidence on patient outcomes.[3] The need to link patient outcomes to educational priorities has led to the development of *The Safety Competencies* framework, initiated by the Canadian Patient Safety Institute with the expert educational guidance of The Royal College of Physicians and Surgeons of Canada.

There are many opportunities for interprofessional teams to explore the various safety competencies in multiple health care settings. Indeed, all settings provide specific opportunities to work and communicate in professional teams in a manner that helps to keep patients safe and contributes to a culture of patient safety. The case example given below, chosen from a community/home care setting, is intended to illustrate how learning opportunities can be derived from workplace scenarios. Case studies such as these can assist learners to explore fundamental issues surrounding patient safety, question system assumptions, and discuss how the competencies essential to safe practice and care can be applied in actual practice.

Case Example

Susan, a 27-year-old woman with insulin-dependent diabetes mellitus, presents with a non-healing ulcer on her left foot after treatment of a callus. On examination she is noted to be febrile and tachycardic; there is a pustular erosion on her left fourth toe, a ragged ulcer on the plantar surface over the third metatarsal head, and an extensive cellulitis of the left foot and calf. Initial cultures show more than 3 commensal flora, including both Gram-positive and Gram-negative organisms. She is admitted to hospital and started on broad-spectrum antibiotic treatment with cefazolin and gentamicin. Her clinical condition improves, and she is discharged home with arrangements for a 10-day course of intravenous cefazolin and gentamicin. The care and follow-up are delegated to the family physician; however, no conversation occurs between the admitting internist and the family physician. The home wound care team arranges for daily dressings of the ulcer. Meanwhile, her family physician instructs her to carry on with her remedy of unpasteurized honey and a wet dressing twice weekly. The patient is unclear as to whether she should abide by the home care wound team instruction and/or the instructions of her family physician. The family physician is unaware of the home care arrangements. Three days after discharge the patient begins to experience intermittent dizziness and nausea, which she reports to the home care nurses. At midnight on the Friday evening of a long weekend, the laboratory attempts to contact the family physician to inform her of her elevated gentamicin level; however, he is not on call that night. Over the next three days the patient continues to receive the same dose of gentamicin, despite persistent vertigo and nausea. On returning to the office the following Tuesday the family physician becomes aware of the elevated drug level and calls the patient, advising her to discontinue the medication. Subsequent investigations are consistent with aminoglycoside vestibular dysfunction.

Themes and competencies
Themes and competencies that could be discussed with reference to this case example include the following key competencies from Domain 2:

- Participate effectively and appropriately in an interprofessional health care team for patient safety. This could be achieved by ensuring adequate communication:
  - at the time of discharge between all members of the health care team, with a clear understanding of roles and responsibilities
  - between the wound care team and the family physician with respect to the therapy

- between the health care nurses and the family physician, for example in reporting the vertigo
- between the laboratory and the family physician

- Meaningfully engage patients as the central participants in their health care team. This can be achieved by:
  - communicating with the patient as to whom to contact if additional symptoms develop
  - providing support for the wound care nurses' therapeutic plan by the family physician
  - being vigilant with regard to health literacy issues

- Work effectively with other health care professionals to manage interprofessional conflict.

The home and community setting is often an intersection of many teams. Conflicting goals, priorities and plans may lead to conflict between team members. Engagement of the patient in their own care is essential.

Methods and tools[4]
These competencies can be promoted through the following methods and tools:
- Role modelling and mentoring by faculty
- Role play of team interactions
- Low-fidelity simulation
- Interprofessional education self-assessment
- Mentorship networks
- Conflict resolution strategies
- Institutional patient safety committee conferences

Although patients are seen to be at particularly high risk in health care settings such as emergency departments, operating rooms and intensive care units, home and community venues may be equally dangerous. This case illustrates that patient outcomes can be adversely affected in any setting, and demonstrates the vital importance of safety competencies in team work and communication even in health care settings that appear to present only low or moderate risks.

Appendix 2: List of Contributors

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Glossary

Adverse event
An event that results in unintended harm to the patient, and is related to the care and/or services provided to the patient rather than to the patient's underlying medical condition.

ARC
A team communication tool. The acronym stands for: Ask a question, Request a change, voice a Concern.

Authority gradient
Balance of decision-making power or the steepness of command and hierarchy in a given situation.[1]

Briefing
A structured communication used to share information, often before an activity (e.g., a surgical time out)

CHAT
A communication tool for monitoring a situation. The acronym stands for: Context, History, Assessment, Tentative plan.

Close call
An event with the potential for harm that did not result in harm because it did not reach the patient due to timely intervention or good fortune (sometimes called a near miss). The term "good catch" is a common colloquialism to indicate the just-in-time detection of a potential adverse event.

Cognitive biases
Mental shortcuts or heuristics that can lead to error such as a pilot who is so focused on malfunctioning landing gear, that she runs out of fuel.

Cultural competency
The ability to interact successfully with people from cultures other than one's own.

Culture of patient safety
A health care organizational approach in which the provision of safe care is a guiding principle. A culture of safety reflects the knowledge, skills and commitment of all leaders, management, health care professionals and staff to the provision of the safest possible patient care. The culture appropriately and adequately supports providers in the provision of safe care, including continuous professional development. The culture encourages learning from adverse events and close calls to strengthen the system. Where appropriate, it supports and educates health care providers to help prevent similar events in the future. Justice is an important element; all are aware of what is expected, and are held professionally accountable in a fair way. Fairness and due process are fundamental to the determination of the reasons for adverse events. The interests of both patients and providers are protected.[2]

CUS
A mutual support communication tool. The acronym stands for: I am Concerned, this is Unsafe, I am Scared.[3]

DESC Script
A constructive approach to managing and resolving conflict. The acronym stands for: Describe the specific situation or behaviour; provide concrete data, Express how the situation makes you feel / what your concerns are, Suggest other alternatives and seek agreement, Consequences should be stated in terms of impact on established team goals, Strive for consensus.

Disclosure
The process by which an adverse event is communicated to the patient by health care providers.

> *Initial disclosure*: The first communication made with the patient as soon as reasonably possible after an adverse event, focusing on the known facts and the provision of further clinical care.

> *Post-analysis disclosure*: Subsequent communications with the patient about known facts related to the reasons for the harm after an appropriate analysis of the adverse event.

Ergonomics
The application of the science concerning human limitations to the design of objects, systems and the environment for human use.[4]

Error, provider (medical)
An act (plan, decision, choice, action or inaction) that when viewed in retrospect was not correct and resulted in an adverse event or a close call.[5]

Event
A significant occurrence.

Fatigue
Extreme tiredness that results in diminished ability to perform both cognitive and physical tasks.

Harm
An outcome that negatively affects the patient's health and/or quality of life.

Health care providers
Health care professionals who work as part of the patient care team

High reliability organization (HRO)
An organization with fewer than normal accidents in an environment where accidents can be expected in view of inherent risk factors and the complexity of the activity, and in an industry where errors have a high potential to result in disastrous consequences. Examples of HROs include organizations within the aviation, nuclear power and space industries.

Human factors and human factors engineering
Study of human abilities and characteristics as they affect the design and smooth operation of equipment, systems and jobs.[1] In North America the term human factors engineering is used to reflect psychological work, whereas the term ergonomics is used to refer to physical work. The two terms are often used synonymously. In Europe, ergonomics is the preferred term that refers to both.

I'M SAFE
A self-assessment tool to help monitor a situation. The acronym stands for: Illness, Medication, Stress, Alcohol and drugs, Fatigue, Eating and Elimination.[3]

Interdisciplinary
An interactive process where researchers, educators and learners work jointly, each drawing from their own discipline to address a common problem.

Interprofessional
Cutting across multiple professions.

Interprofessional education
Occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care.[6]

I PASS THE BATON
A handover communication tool. The acronym stands for: Introduction, Patient, Assessment, Situation, Safety concerns, THE, Background, Actions, Timing, Ownership, Next.[3]

Just culture
A phrase that refers to the principles for achieving a culture in which front line personnel feel comfortable with errors, including their own, while maintaining professional accountability.[1]

Multidisciplinary
A sequential process where researchers, educators and learners in different disciplines work independently from their discipline-specific perspective, with the goal of eventually combining efforts to address a common problem.

No-harm event
An event that reaches the patient but does not result in harm.

Normalization of deviance
The tendency to regularly bend the rules to achieve best performance and the acceptance of this deviance as normal required behaviour.

Patient safety
The pursuit of the reduction and mitigation of unsafe acts within the health care system, as well as the use of best practices shown to lead to optimal patient outcomes.

Reporting
The communication of information about an adverse event or close call by health care providers through appropriate channels inside or outside of health care organizations for the purpose of reducing the risk of adverse events in the future.

Safety
Freedom from the occurrence or risk of injury, danger, or loss.

Situational awareness
The degree to which one's perception of a situation matches reality.

Sleep deprivation
A lack of regular sleep during a 24-hour cycle.

Sleep debt
Cumulative sleep deprivation.

STAR
A thinking tool. The acronym stands for: Stop, Think, Assess/Act, Review.[3]

Substitute decision-maker
A person who is legally authorized to make decisions on behalf of the patient. This authority may be granted by the patient himself or herself with a legal document such as an advance medical directive, by provinicial/ territorial legislation, or by the courts.

Surge conditions
An increase in patient and/or health care flow during particular periods.

System failure
The lack, malfunction or failure of policies, operational processes, or supporting infrastructure for the provision of health care.[5]

Technology
A piece of equipment or a tool used to perform an activity. This includes the simplest tools to the most complex engineered and designed devices and systems used to accomplish human tasks, activities and goals (e.g., ranging from alergy alert wrist banks to CT scanners to computerized physician order entry systems).

Work flow
The way that work is completed over time.

Other patient safety terms and definitions can be referenced in the Canadian PatientSafety Dictionary. available at http://rcpsc.medical.org/publications/patientsafetydictionary_e.pdf

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Appendix 1: Case Example of the Safety Competencies

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