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Best Practice Guidelines

SEPTEMBER 2012

Toolkit: Implementation of Best Practice Guidelines

Second Edition

RNAO
Registered Nurses' Association of Ontario
L'Association des infirmières et infirmiers autorisés de l'Ontario

Greetings from Doris Grinspun

Chief Executive Officer (CEO) Registered Nurses' Association of Ontario

It is with great pleasure that the Registered Nurses' Association of Ontario (RNAO) releases the second edition of its Toolkit: Implementing Best Practice Guidelines. This toolkit supports the implementation of best practice guidelines (BPG) developed by RNAO to date. It is a comprehensive resource manual, grounded in theory, research and experience. It brings practical processes, strategies and tools to clinicians and others committed to initiating and sustaining practice change in health care, and supporting the creation of healthy and thriving work environments. RNAO is delighted to provide this key resource.

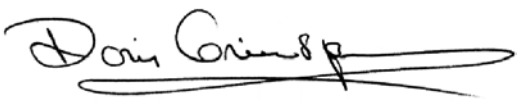
We offer our heartfelt thanks to the Government of Ontario for recognizing RNAO's ability to lead the BPG Program and for providing generous funding. Special thanks also to: Irmajean Bajnok, Director, RNAO International Affairs and Best Practice Guidelines (IABPG) Centre, for her drive and unwavering commitment to excellence; Barb Davies and Donna Rothwell, co-chairs of the toolkit development panel, for their superb stewardship, commitment, and exquisite expertise; and to RNAO Program Manager Althea Stewart-Pyne for diligently guiding the entire process. A huge thanks to our outstanding development panel. We respect and value your expertise and volunteer work, and we could not have done this without you.

The nursing community, with its commitment and passion for excellence in nursing care and healthy work environments, provided the knowledge and countless hours to develop and update the toolkit. Now, it is your turn - the health-care provider and the organization at which you work - to put this tool and the various best practice guidelines into action, ensuring their successful implementation.

Creating excellence in clinical care and healthy work environments is both an individual and collective responsibility. Successful uptake of these guidelines requires a concerted effort by governments, administrators, clinical staff and others partnering together to create evidence-based practice cultures. We ask that you share RNAO's toolkit with members of your team and organization to support guideline implementation and sustainability. There is much we can learn from one another.

Together, we can ensure that evidenced-based practice guides the clinical practice of nurses and all other health professionals, and contributes to building healthy work environments. Evidence and compassion are central pillars to secure quality patient care. Let's make health-care providers and the people they serve the real winners of this important work.

Doris Grinspun, RN, MSN, PhD, LLD(hon), O.Ont.



Chief Executive Officer (CEO)

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Toolkit Development Panel

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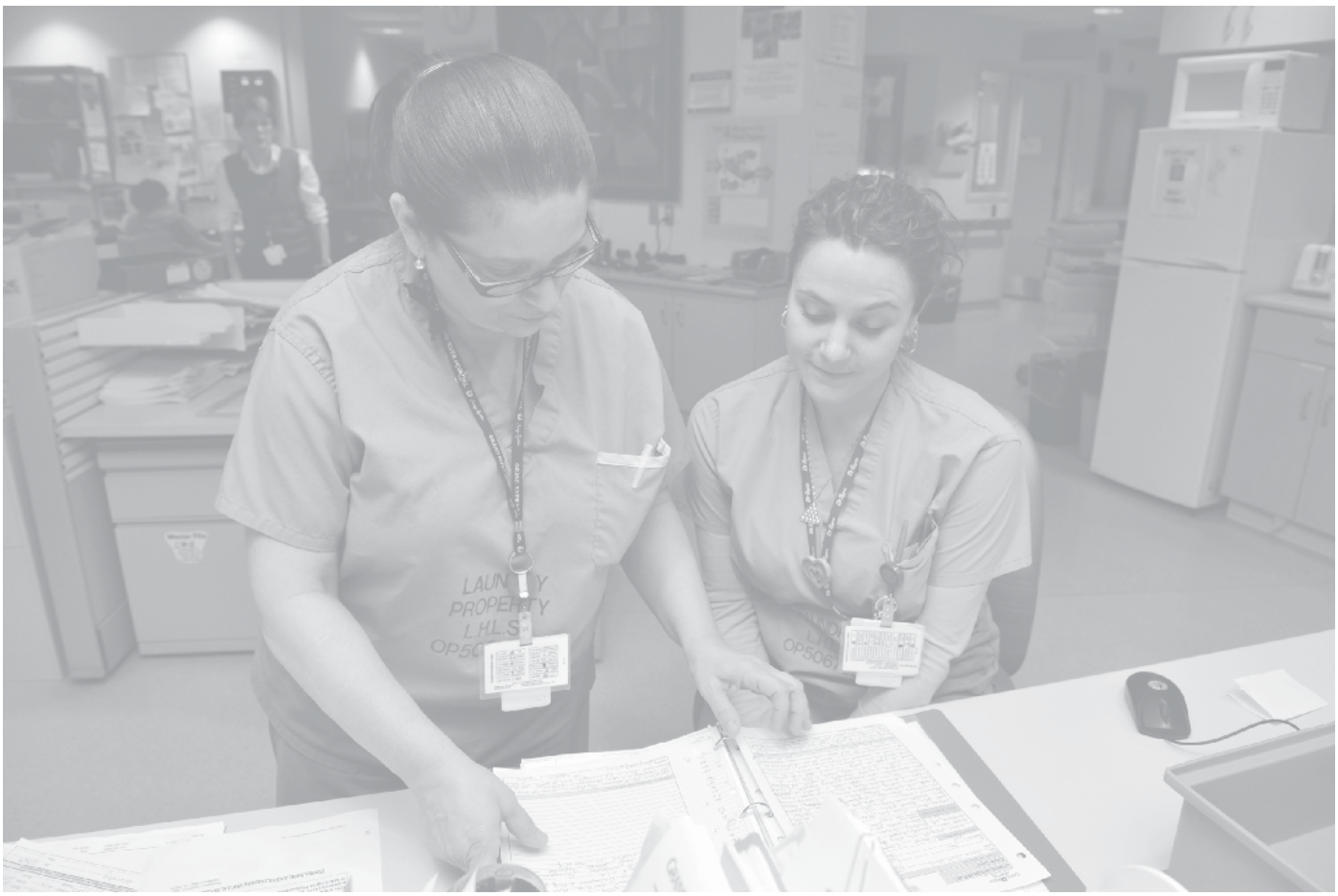
Chapter 2C	Althea Stewart-Pyne, Nancy Bauer
Chapter 3:	Deb McAuslan, Althea Stewart-Pyne
Chapter 4:	Lynn McCleary, Karen Ray, Deb McAuslan, Josie Santos
Chapter 5:	Ian Graham, Lynn Kachuik, Barbara Davies
Chapter 6:	Baiba Zarins, Barbara Davies



Acknowledgement

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Overview of chapter contents

Chapter	Steps of the Knowledge to Action Model	Specific Content Areas
Intro-duction	Setting the stage	• Purpose of the Toolkit • Methodology of development • Knowledge-to-Action Framework • How to use the Toolkit
Chapter 1	Identify problem/issue review and select knowledge tools(BPGs) to be implemented	• How to identify gaps in practice, using quality improvement processes, use of indicators • Initial identification of key knowledge products and BPGs
Chapter 2A	Adapt Knowledge to local context	• Developing an infrastructure for implementing best practices • Identifying and critically appraising guidelines and use of ADAPTE, and adapting them as necessary
Chapter 2B	Stakeholders	• Stakeholder identification, analysis and engagement to lead implementation process
Chapter 2C	Resources	• Environmental readiness assessment worksheet • Steps in the Toolkit are summarized and resources are suggested to assist in managing and monitoring BPG implementation
Chapter 3	Assess facilitators and barriers to knowledge use	• The importance of facilitators and barriers • Potential strategies to assist with implementation
Chapter 4	Select and tailor and implementation strategies and interventions	• Implementation tools categorized according to education, linkage and exchange, audit and feedback, informatics, patient-mediated, and organizational interventions
Chapter 5	Monitor knowledge use and evaluate outcomes	• Ongoing quality improvement processes, indicator monitoring, and ongoing data collected and reviewed • The use of e-health and electronic health records in this process • Indicator identification worksheet • Structure, process and outcome, evaluation relevant to initial problem, and reducing the gaps • Evaluation models, logic model
Chapter 6	Sustain knowledge use	• Action plan template • Embedding an evidence-based practice culture through orientation, position descriptions, performance appraisal, and mission, vision and values • Leveraging key organizational structures in ensuring such a culture is adopted throughout the organization at every level

Introduction - Setting the Stage

Throughout this document, the terms "patient," "client" and "resident" `refer to any person who receives care

Best practices are recommendations that may evolve based on ongoing key expert experience, judgment, perspective and continued research (Health Canada, 2008).They are also known as systematically developed statements of recommended practice in a specific clinical or healthy work environment area, are based on best evidence, and are designed to provide direction to practitioners and managers in their clinical and management decision-making (Field & Lohr, 1990).

A number of recognized guideline development groups including the Registered Nursing Association (RNAO) have focused on bringing best evidence to practice. The Guideline International Network encompasses most of these groups, which include: the Johanna Briggs Institute; the Scottish International Guideline Network; and the National Institute for Health and Clinical Excellence. While many of these groups address clinical issues relevant to nurses, largely from an interprofessional perspective, the Registered Nurses' Association of Ontario (RNAO) is one of the few organizations in the world that develops guidelines specifically for nurses. Indeed, the RNAO guidelines include practice recommendations tailored specifically to nursing interventions, as well as related education and policy recommendations. In addition, the RNAO maintains a major focus on guideline implementation and evaluation.

Regardless of the source or focus, best practice guidelines (BPGs) are developed and implemented to achieve one or more of the following objectives:

- To deliver effective care based on current evidence.
- To resolve a problem in the clinical setting (e.g. poor management of pain).
- To achieve excellence in care delivery by meeting or exceeding quality assurance standards.
- To introduce an innovation (e.g. a new test or treatment).
- To eliminate use of interventions not recognized as best practice.
- To create work environments that enable clinical excellence.

BPG development is a rapidly expanding area, particularly in the field of nursing. However, despite the increasing numbers of BPGs developed, there continues to be variations in health-care practice in general, and in nursing care specifically as well as practices that does not reflect best evidence. Moreover, there are ongoing challenges in promoting full utilization of BPGs by health-care practitioners, particularly if they are not effectively introduced, implemented and supported. There is strong evidence in the literature, albeit largely reflecting studies about medical practices, indicating inadequate use of well-known BPGs (Bero et al., 1998; Davis & Taylor-Vaisey, 1997; Oxman, Thomson, Davis, & Haynes, 1995; Thomas et al., 1999; Wensing, Van der Weijden, & Grol, 1998). These findings mirror the experiences of nurses and no doubt other health-care professionals (Davies, Edwards, Ploeg, & Virani, 2008; Higuchi, Davies, Edwards, Ploeg, & Virani, 2011).

You can read and review the RNAO best practice guidelines at www.rnao.ca/bpg.

This Toolkit delineates a systematic, well-planned implementation process, and is designed to assist nurses and other health-care professionals to support evidence-informed clinical and management decision-making. It is intended to accompany the BPGs developed by the RNAO in order to facilitate their implementation and sustained use in health-care settings. Users will also find this Toolkit helpful in all types of evidence-informed clinical innovation.

This Toolkit is based on emerging evidence that the likelihood of achieving successful uptake of best practice in health care increases when:

- Leaders at all levels are committed to support facilitation of guideline implementation.
- Guidelines are selected for implementation through a systematic, participatory process:
    - stakeholders, relevant to the guideline of focus, are identified and engaged in the implementation process; and
    - [a] environmental readiness for implementation is assessed for its impact on guideline uptake.
- The guideline is tailored to the local context.
- Barriers and facilitators to guideline use are assessed and addressed:
    - interventions are selected that promote guideline use, address the barriers and reinforce the facilitators.
- Guideline use is systematically monitored and sustained.
- Evaluation of the impacts of guideline use is an integral part of the entire process.
- There are adequate resources to complete the activities related to all aspects of guideline implementation.

Guided by these premises, this comprehensive resource manual – grounded in theory, research and experience – brings practical processes, strategies, and tools to clinicians and others committed to initiating and sustaining evidenced based practice change in health care. The Toolkit was developed as a user-friendly resource to facilitate systematic identification and implementation of BPGs. Since the content relies on currently available knowledge, the Toolkit will undergo regular review and updating (see Appendix A).

This chapter of the Implementation Toolkit addresses four questions:

1. **Who is this Toolkit designed for?**
2. **How was the Toolkit developed?**
3. **What are the limitations of the Toolkit?**
4. **How do you use the Toolkit?**

- Implementation teams charged with leading BPG implementation may be referred to as Implementation Committees, Steering Committees or Project Teams.
- Individuals identified for the lead role of such teams may be referred to as Facilitators, Project Managers or Project Leads.

1. Who is the Toolkit designed for?

The Toolkit is designed for the users of the Implementation Toolkit include nurses and other health-care professionals. In particular, this Toolkit will be most valuable for implementation teams who are responsible for implementing BPGs in their organizations. The primary focus of the Toolkit is implementation of BPGs at the organizational or departmental level through a systematic process. However, the strategies identified can be used by teams and/or units, as adoption of BPGs involves changing the practice of individual practitioners, teams and management decision-makers. Organizations or teams wishing to implement BPGs should identify one or more individuals who would be accountable for facilitating the planning, implementation, and evaluation processes. Typically, successful integration of best practices occurs when an interdisciplinary approach is used in planning, initiation, ongoing implementation and evaluation activities.

BPG champions are nurses and other health-care professionals who are educated and trained to better understand evidence-based practice, BPGs and the process of introducing evidence-based practice into clinical settings. Currently, the RNAO has prepared over 5,000 nurses across all sectors to be BPG champions. BPG champions are effective in carrying out roles in mentoring, educating, and initiating policy and practice changes (Ploegg, Skelly, Rowan, Edwards, Davies, Grinspun, Bajnock & Downey 2010).

2. How was the Toolkit developed?

Original development process: 2001–2002

In 2001 the RNAO convened a panel of nurses, allied health-care professionals and researchers with expertise in guideline implementation. The panel came to consensus on the scope of the Toolkit, developed a model of guideline implementation informed by the best available evidence and prepared specific recommendations regarding each phase of the implementation process based on the supporting evidence. Implementation tools and case studies were provided. The original Toolkit was targeted toward resource nurses, BPG champions and managers who were leading clinical guideline implementation.

Revision process: 2012

In January 2009, the Registered Nurses' Association of Ontario (RNAO) assembled a Review Panel of expert nurses and researchers comprised of members from the original Development Panel as well as other recommended individuals with experience in guideline implementation at the organizational level through the RNAO Best Practice Spotlight Organization (BPSO) ® initiative.

The BPSO® program is a partnership between the RNAO and, health-care organizations and/or academic settings that commit to implementing multiple best practice guidelines throughout their organization, and sustaining an evidence-based nursing practice culture. BPSOs® commence a 3-year qualifying period and on successful achievement of specific deliverables, are designated as a BPSO®.

The mandate of the panel was to review the original Toolkit (published in 2002) in light of new evidence, and make the necessary revisions to ensure that the resource presented a systematic, evidence-based approach to implementing clinical and healthy work environment best practice guidelines. This work was conducted as follows:

Planning:

- A structured website search focusing on recently published BPG implementation resources was conducted by RNAO staff.
- The panel reviewed the existing implementation tools and selected the Knowledge-to-Action Framework as a model for knowledge translation. The model is a knowledge creation and knowledge translation framework that is based on more than 30 different theories related to the processes of developing knowledge resources and successfully implementing them in practice (Straus, Tetroe, Graham, Zwarenstein, & Bhattacharyya, 2009). This evidence-based model with some modifications reflected the mandate of the Toolkit to support guideline implementation in a systematic manner that could be used by organizations, departments and teams or units.
- Based on the elements of the action cycle, which is outlined in the Knowledge-to-Action Framework, the panel identified key topic areas of the revised Toolkit.
- These topic areas were used to structure the literature search.
- Search terms were generated with input from the review panel for each topic area of the Toolkit
- The literature search was conducted by a health sciences librarian.

Critical Appraisal:

- Search results were reviewed by the panel.
- This review included assessing for inclusion and exclusion related to the specific topic area.
- Studies that met the inclusion or exclusion criteria were retrieved.
- Quality appraisal and data extraction were conducted by RNAO assigned Research Assistants, and the results summarized.
- Appendix B provides a detailed description of the search strategy.

Development of Recommendations:

- Panel members reviewed the data extraction tables, systematic reviews and, where appropriate, original studies and implementation resources.
- Recommendations for additional search strategies were identified, if required.
- Through a process of consensus, each chapter was developed based on the identified topic area (see page 6 for the panel member(s) who took the lead of each section).

Stakeholder Review:

- Once developed in draft form, the Toolkit was reviewed by a wide variety of stakeholders for clarity, relevance, utility and link to the evidence
- Stakeholder feedback was incorporated into the final version of the Toolkit.

What's New or Different in this Revision?

- The use of the modified Knowledge-to-Action Framework.
- Inclusion of a chapter on sustainability
- The incorporation of tools, related resources and examples in each chapter, based on experiences of BPSO's BPG implementation in acute care, public health, home health care and long-term care settings.

What are the limitations of the Toolkit?

CAUTION

Research in the field of BPG implementation (particularly that which is focused on nursing and on building sustained cultures of evidence-based practice) is evolving to incorporate key structures and processes that result in BPG uptake influencing practice and client outcomes. The nature of knowledge translation renders it very context specific; thus, any attempt to present a systematic process must be approached with careful attention to building in opportunities for contextualizing to the local culture.

How do you use the Toolkit?

The Toolkit was conceptualized using the Knowledge-to-Action Framework (Straus, Tetroe, Graham, Zwarenstein, & Bhattacharyya, 2009) as adapted for implementation of BPGs (Figure 1). The model depicts the following 7 essential components of knowledge translation necessary for successful implementation of best practice guidelines:

1. Identify the problem: identify, review, select knowledge tools/resources
2. Adapt knowledge tools/resources to local context
3. Assess barriers and facilitators to knowledge use
4. Select, tailor and implement interventions
5. Monitor knowledge use
6. Evaluate outcomes
7. Sustain knowledge use

These steps reflect a process that is dynamic and iterative, rather than linear. Thus, at each phase, preparation for the next phases and reflection on the previous phases is essential.

RNAO BPG Toolkit: Knowledge–to–Action Process

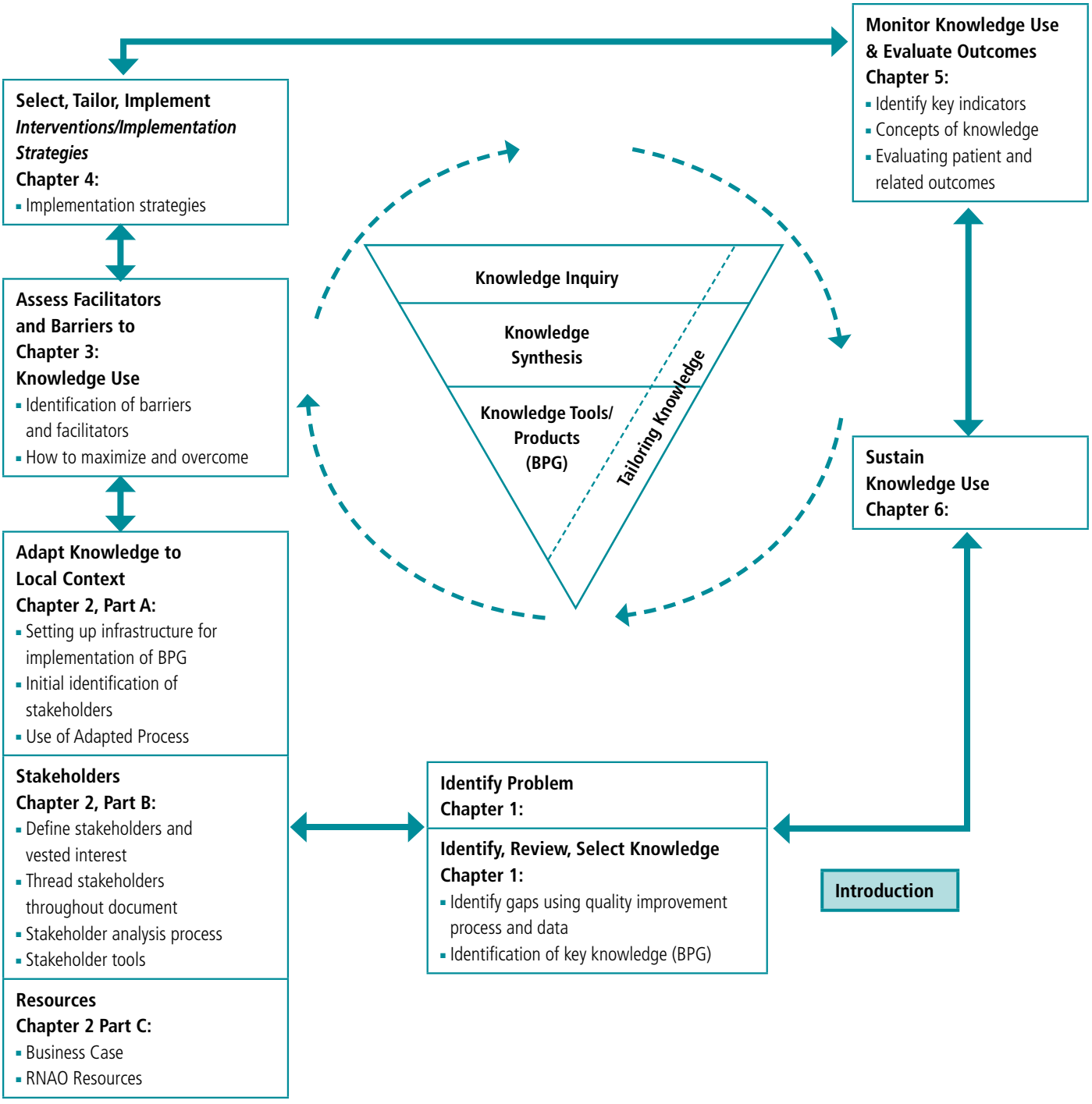


Figure 1: Revised Knowledge-to-Action Framework
Adapted from "Knowledge Translation in Health Care: Moving from Evidence to Practice". S. Straus, J. Tetroe, and I. Graham. Copyright 2009 by the Blackwell Publishing Ltd. Adapted with permission.

In viewing the model in Figure 1 it is evident that there are two key processes that comprise the knowledge-to-action cycle. The first is the **knowledge creation process,** which focuses on the identification of critical evidence and results in knowledge products. The second is the action cycle, which focuses on application of knowledge in the practice setting. In this Toolkit, we are concerned primarily with the action cycle in the application of best practice guidelines.

Before addressing the action cycle, it is important to know that the **knowledge creation** portion of the model depicts the processes that are used to identify relevant knowledge, and validate and tailor it to the specific area of knowledge enquiry. This is the process used in evidence-based guideline development, whereby research and other evidence is identified and then synthesized into knowledge tools and products such as BPGs and practice recommendations, clinical pathways and patient decision supports. Essentially, all guideline development methodologies incorporate a knowledge creation process, albeit some more rigorous than others. Those responsible for leading BPG implementation teams can determine the quality of knowledge products by assessing them against recognized standards for guideline development. These internationally recognized standards are available in the Appraisal of Guidelines for Research and Evaluation (AGREE II) instrument (Brouwers, et al., 2010). The RNAO BPG development process incorporates the standards embedded in the AGREE II instrument.

The **action cycle**, which guides the chapters of this Toolkit, is the process by which the knowledge created is implemented, evaluated and sustained in the practice setting. The seven phases that comprise the action cycle are based on a synthesis of evidence-based theories that focus on the process of deliberate, systematic change in health-care systems and groups (Straus, Tetroe, Graham, Zwarenstein, & Bhattacharyya, 2009).

For the purposes of this Toolkit the seven phases have been compressed to six stages, each of which is outlined in a separate chapter.

The **first phase** of the action cycle – identifying the problem – is activated in one of two ways:

1. Clinicians and/or managers define a problem (often through quality improvement methods and/or analysis of indicator data) and then identify and review possible best practices that may help to resolve the problem.
2. Clinicians and/or managers become aware of a BPG and determine whether current practice is consistent with the best practice, or whether practice change is necessary.

This initial phase is important, as it sets the stage for how participatory the implementation process is, how the process is linked to ongoing quality improvement, and how the identified problem will be resolved through adoption of best practice, education and/or policy development or revision.

The **second phase** – adaptation to local context – is critical to effective knowledge translation and requires understanding of the local context and the implications of the best practice within that context so that recommendations can be adapted in ways that best fit the culture. Adaptation of a guideline to the local context does not disregard the evidence base underpinning the guideline. Adaptation involves establishing an implementation committee, reviewing and selecting appropriate guidelines for use, assessing them against the AGREE II quality appraisal, determining the clinical utility and implementability of the guideline recommendations and identifying those that are generally acceptable in the local context. Modifications to the guideline recommendations may be carried out at this time by the implementation group with stakeholder input. The aim of this phase is to select a knowledge product or BPG recommendations in a transparent way that is perceived by all to reflect best evidence address the identified problem, and fit the local context. This phase involves staff and stakeholders at a planning level, to be sure that the BPG selected is going to meet the needs and can be shaped to the organizational context.

The **third phase** – assesses facilitators and barriers to knowledge use – moves closer to implementation of elements of the guideline and identifies barriers and facilitators to BPG use in the environment as well as the impact of relevant stakeholders. Specific barriers such as lack of knowledge, attitudes, and resistance to change are critical to identify, and to balance against those elements that will facilitate the knowledge transfer. It is also important to identify in this phase stakeholders,

who will support, challenge or have no stake in the work to implement the selected BPG. In essence, this phase incorporates an assessment of the environment and the relevant stakeholders.

The **fourth phase** – tailor and implement the interventions – incorporates an implementation plan that takes into consideration the stakeholder assessment and engagement strategies. It also includes the assessment of barriers and facilitators and the evidence on effective implementation strategies. The plan draws on these data to identify and support selection and tailoring of interventions that will facilitate implementation of the guideline in the practice setting.

The **fifth and sixth phases** relate to monitoring, evaluating and sustaining knowledge use, and are central to effective implementation. These phases include assessing BPG use as demonstrated by adherence to the recommendations or changes in knowledge and/or attitudes, evaluating the impacts or outcomes of implementing BPG recommendations and sustaining or embedding the changed practices. Given the importance of these aspects of the knowledge-to-action cycle they should be considered throughout all the earlier phases. Likewise, careful planning and implementation of the first four phases provide direction to the monitoring, evaluation and embedding processes.

It is important for leaders, about to embark on knowledge transfer activities, to keep in mind that knowledge transfer as depicted in the Knowledge-to-Action Framework is not necessarily a sequential process, as many phases may occur or need to be considered simultaneously. Therefore it is essential for members of BPG implementation teams to read the Toolkit in its entirety, to gain familiarity with all aspects of knowledge transfer. Finally, the Toolkit has been designed to provide the "how to," "why," "what now," and "here is what we did" type of information. As such, it contains theory and practical applications, as well as worksheet templates that can be used throughout all phases of the process. In addition, each phase includes resource implications, which must be identified and addressed for successful BPG implementation. Examples of case applications that reflect different sectors are incorporated throughout the document.

What to look for as you read the chapters

Each chapter is organized with the following subheadings:

1. Review of previous steps
2. What is this chapter about?
3. Key definitions
4. Specific content or Here are the FACTS
5. Application, or Making it happen in your practice setting
6. Implications to consider before proceeding to the next chapter
    - **Stakeholder implications**
    - **Resource implications**
    - **Action plan implications**
    - **Sustainability implications**
    - **Evaluation implications**
7. Scenario* (an illustration of the content of each chapter)
8. References
9. Resources (highlighted in each chapter)

*** Various icons are used throughout each chapter to highlight important sections related to the subheadings. These are explained on the next pages.**

Icons Used in This Toolkit

Action Plan

As you begin the planning exercise, we recommend that you use the action plan labelled in this Toolkit. The template for the action plan and blank worksheets are provided on an accompanying compact disc. Become familiar with the action plan template; identify broad-based timelines for BPG implementation and evaluation. The templates can be put to use immediately, by inserting the appropriate information in the worksheets.

Stakeholders

At each step in the action cycle, stakeholders play a key role. Each chapter discusses stakeholder implications, including how to obtain stakeholder input, how to inform stakeholders, and the importance of understanding how stakeholders may be affected by your actions in the process. Chapters 2, 3 and 4 specifically address stakeholders and their role in the process; stakeholder identification, analysis and engagement are also addressed.

Resource Implications

The individuals identified to lead the process of BPG implementation in your organization should be credible clinicians in the topic area, have skills in project management, change management, facilitation, working with and engaging others, and be aware of the resources required for this work.

It must be understood early in the process that BPG implementation will require resources such as dedicated time for leading, planning and implementing the BPG, education time, and monitoring and evaluating processes. The specific details of resource requirements are discussed in Chapter 2C Resources. However, like stakeholder assessment, resource requirement assessment should begin and be developed through the planning process. Use the worksheets as you work throughout each chapter to identify the budget implications for implementing a BPG.

Idea

Specific approaches or new strategies are shared to assist you further when moving knowledge to action through guideline implementation. These can be shared with your team to assist you as you proceed along your journey.

Caution

There are areas that require your close attention to avoid risk. Remember the goal at hand and understand that you may not please everyone, all the time, know there will be delays, and keep communication clear, consistent and regular. Being prepared for these requirements in any change process will assist you to have a positive experience in implementing your chosen guideline.

Icons Used in This Toolkit

Worksheet

Blank sheets are provided for you to document your ideas and, plans and can be used to review the work that you have done or plan to do. These tools are available in a word document for use on your computer or you can photocopy them as required. Worksheet templates are provided on an accompanying compact disc. Use the worksheets as you work through each chapter.

Case Studies

Examples of clinical case studies and situations in various sectors are provided that will describe the experiences of others who have implemented guidelines. These case studies may include suggestions as to how different teams approached guideline implementation.

Scenario

Within each chapter is a scenario to illustrate how you can identify, implement and evaluate the implementation of a BPG. The scenarios will reflect various types of settings, i.e. hospital, community, and various issues related to guideline implementation.

Evaluation

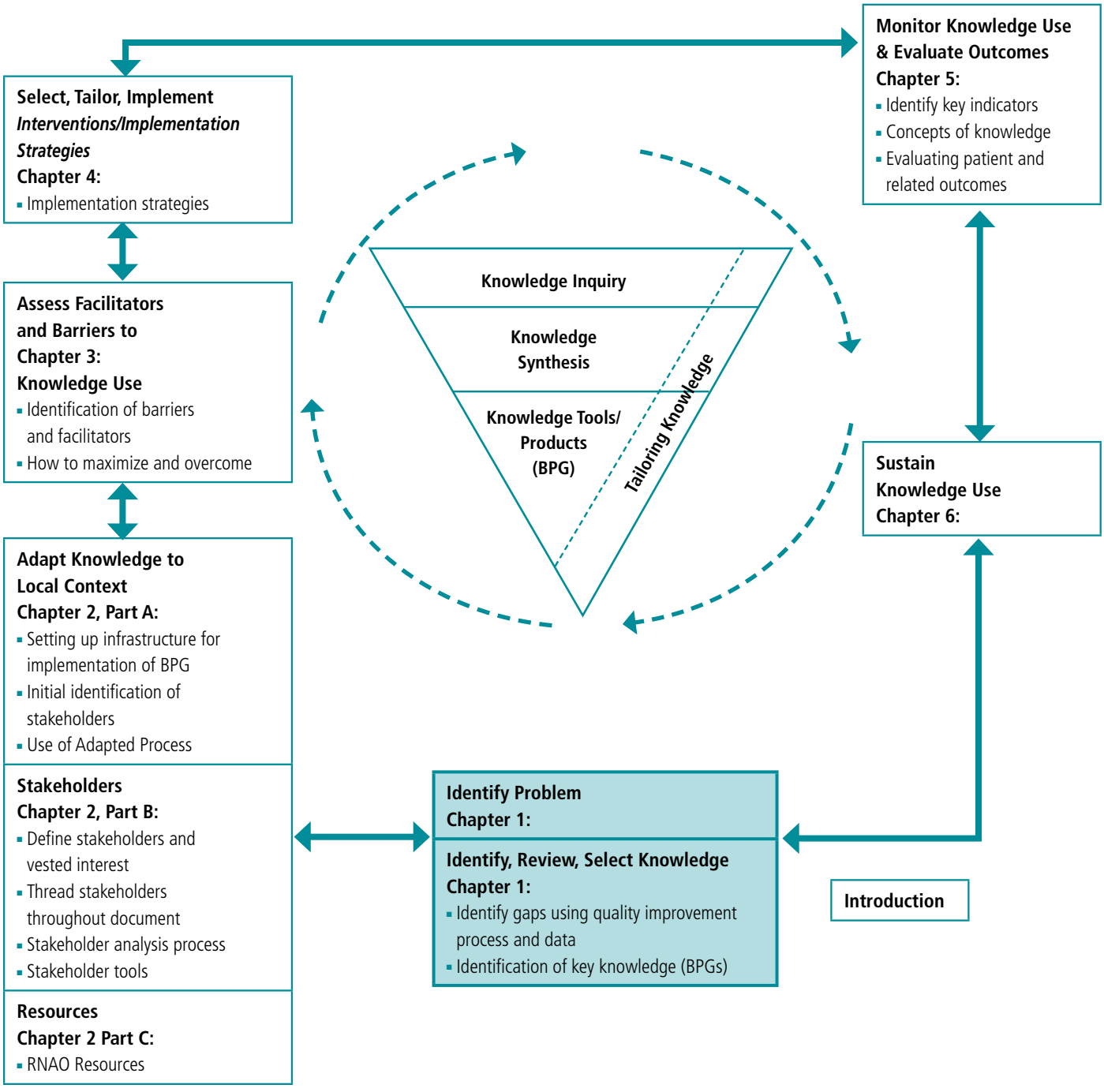
Become familiar with the various stages of evaluation, the methods of evaluation, the tools and the time you will need to evaluate your process, progress and the implementation of the guideline.

Sustainability

Once the BPG has been implemented it is important to build a process for sustainability that may include evaluation, audit, celebration, re-training, publication, presentations. The sustainability process may require additional resources and these should be identified as part of the entire process for implementation.

Key definintions are included in each chapter and a full glossary is provided in Appedix C.

Chapter 1: Identify Problem, Review & Select Knowledge



CHAPTER ONE

Chapter 1: Identify Problem, Review & Select Knowledge

Review of Introduction

In the introduction, we reviewed the purpose, focus and target audience for this Second Edition of the RNAO guideline implementation Toolkit, and discussed its similarities to and differences from the First Edition Toolkit. In addition we introduced and described the evidence based Knowledge-to-Action Framework which guides the structure and content for this edition of the Toolkit.

What this chapter adds

- Defines a Guideline
- Provides a rationale for using BPGs
- Demonstrates how BPGs are used
- Links quality improvement and BPG use
- Outlines how to select a high-quality BPG
- Delineates next steps once a BPG is selected

Introduction

This chapter provides a background to and further discussion of the first step in the BPG Toolkit knowledge- to-action cycle. This process is precipitated by identification of a practice problem, and uses knowledge tools often called practice guidelines. Thousands of practice guidelines are now available and accessible to practitioners from all disciplines. These guidelines vary with respect to the level of methodological rigor used in their development, the strength of the evidence supporting recommendations, clarity and format. Many guidelines fall short in following established methodological standards of guideline development (Brouwers, et al., 2010) particularly with respect to the identification, evaluation and synthesis of scientific evidence (Straus, Tetroe & Graham, 2009). Practitioners often need assistance in identifying and selecting those guidelines that are of the highest quality and are relevant to their practice. This Toolkit provides guidance to assist practitioners and others understand what is a quality guideline and how to access such guidelines

What is a Practice Guideline?

The terms guideline, clinical practice guideline (CPG) and best practice guideline (BPG) are often used interchangeably to describe a variety of directive tools for clinical practice. This Toolkit is based on the understanding that guidelines are evidence based resources to support clinical and management decision making, In this Toolkit, the following terms as defined here, are used throughout to discuss guidelines:

- **Evidence-based clinical practice guidelines:** Systemically developed statements that are developed to assist health-care practitioners and clients in making decisions related to an appropriate plan of care for specific clinical circumstances (Field & Lohr, 1990),
- **RNAO Nursing Best Practice Guideline (BPGs):** The RNAO name for their unique brand of clinical practice guidelines. There are two streams for the BPGs, Clinical Guidelines and Healthy Work Environment (HWE) BPGs. This work is led by the RNAO, with funding from the Ontario Ministry of Health and Long-Term Care and support from Health Canada, Office of Nursing Policy (RNAO website, 2009).

Best practice guidelines lead to policy, direct practice, and inform standards, and protocols. The Appraisal of Guidelines Research & Evaluation (AGREE II) instrument clearly identifies standards for practice guidelines and helps differentiate between a quality "guideline" and other practice related documents available to clinicians in the workplace.

Why are Best Practice Guidelines Important

Best practice guidelines bring the best evidence to the point of care for use by clinicians to direct their practice and impact patient outcomes. While it behooves every practitioner to keep up to date and be sure the best evidence is being used, the amount of new knowledge that is produced daily makes it unrealistic to expect each practitioner to conduct literature reviews regularly to update their practice. The development of quality best practice guidelines by credible organizations provides a way for clinicians and organizations to be assured they are using the best evidence in the care provided. Best practice guidelines are important then because they enable clinicians to focus on the provision of care knowing they are informed by the best evidence (Ferguson-Pare, Closson, & Tully, 2002). The model in Figure 2 outlines the BPG development, dissemination, implementation and evaluation processes

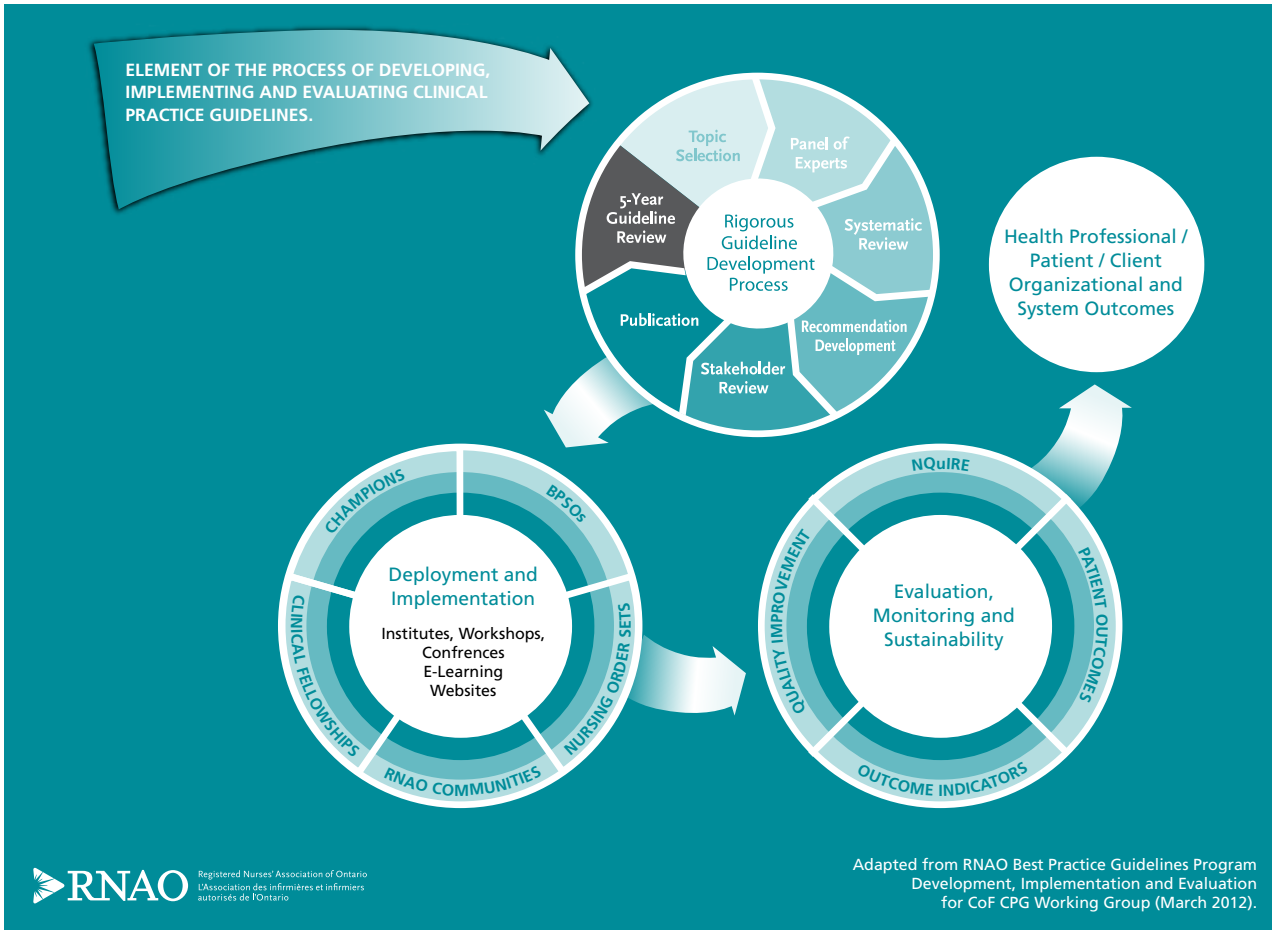


Figure 2

Rigorous Guideline Development Process

RNAO's rigorous guideline development process consists of a seven phase approach which enables the highest quality and most current research and other evidence related to a topic area to be utilized in the development of practice, education and policy recommendations by a panel of expert nurses and others. The specific steps of the process are depicted in the above model in Figure 2 and include: comprehensive topic selection, identification of Expert Panel, identification of specific scope of guideline, systematic review, development of evidence-informed recommendations focused on practice, education and policy areas, stakeholder review, publication of the guideline, dissemination and a five year review process.

Deployment and Implementation

RNAO is committed to widespread deployment and implementation of the guidelines and utilizes a coordinated approach to dissemination incorporating a variety of strategies depicted in Figure 2. Guideline implementation is facilitated through RNAO specific initiatives that include: 1) the Nursing Best Practice Champion Network®, which serves to develop the capacity of individual nurses and foster awareness, engagement and adoption of BPGs; 2) nursing order sets which provide clear, concise, actionable intervention statements derived from the BPGs' practice recommendations that nurses can implement at the point of care. They are designed to be embedded in clinical information systems, but may also be used in paper-based or hybrid environments. Please see Appendix E for more information; and 3) the Best Practice Spotlight Organization® (BPSO) Designation that supports BPG implementation at the organizational and system levels. BPSO's focus on developing evidence-based cultures with the specific mandate to implement, evaluate and sustain multiple RNAO clinical practice BPGs. In addition to these strategies, capacity building learning institutes related to specific BPGs and their implementation are held annually.

Evaluation, Monitoring and Sustainability of BPG Implementation

Evaluation of the impact of BPG implementation and sustained use of BPGs are monitored through regular review of structural, process and outcome indicators. Structural indicators relate to those elements of the work environment that facilitate quality care and include staffing, models of care, and the like. Process indicators evaluate the extent to which the BPGs' practice recommendations have been implemented. The outcome indicators are the specific client outcomes expected from BPG use. The ability to link structure and process indicators with specific client outcome indicators aids in determining the impact of BPG implementation on specific client health outcomes.

Nursing Quality Indicators for Reporting and Evaluation (NQuIRE®) is an international quality improvement initiative that enables data collection and measurement of structural, process and outcome indicators related to each of the RNAO BPGs. NQuIRE® was specifically designed for BPSO®s to systematically monitor the progress and evaluate the outcomes of implementing the RNAO BPGs in their organizations.

Effective BPG Implementation can achieve the following goals:

- Contribute to strong client outcomes
- Reduce the variation in care
- Transfer research evidence into practice
- Promote the nursing knowledge base
- Assist with clinical decision making
- Identify gaps in research
- Stop interventions that have little effect or cause harm
- Reduce cost

How Best Practice Guidelines are Used

The expectation is that health-care professionals use evidence-based practice to provide high-quality, safe and ethical client care. BPGs direct clinical practices, standards, protocols, education programs and policies that are part of the daily practice of all health-care workers. Examples of where BPGs have been incorporated into the ongoing structures and processes in health care include:

- Client information provided for informed decision-making
- Client care plans, care maps, clinical pathways and algorithms.
- System processes and outcomes
- Vision statements, mission statements, day-to-day practice, policies, procedures and documentation, (Krugman, 2003).
- Learning sets, and educational packages used for orientation and staff development (Krugman, 2003).
- Accreditation standards related to evidence based clinical and management decision making

How are Practice Change Opportunities to be addressed by BPGs Identified?

Today health-care organizations and practitioners strive to make sure the approaches used in practice are producing quality outcomes and are based on the best evidence. Therefore there are generally two ways that best practices are used to trigger a practice change. One way is that a new guideline may be made available, that drives a practice review and adoption of the new guideline. Another way is that a clinical practice issue, problem, or challenge will surface that motivates a search for knowledge tools like a BPG to help determine how a new set of practices or specific practice changes can drive an effective solution. Generally speaking, most BPGs will be reviewed for use after one of the following circumstances, which reflect a knowledge practice gap:

- Stakeholders identify a practice need
- A community partner requests assistance or collaboration with a project.
- A sentinel event forces the investigation of current practices and the examination of ways to improve care
- The government launches a new health-care initiative
- Patient Safety Initiatives surface
- Quality initiatives and collected data require a response

The matrix on the following page depicts how an event, issue or problem can lead to BPG identification and use.

EXAMPLES of How Practice Change/Issue Is Identified & May Lead to Guideline Use						
Chain of Events	**Stakeholder Involvement**			**Government Initiative**	**Sentinel Event**	**Quality Indicator**
	Individual	Group	Organization			
What happened?	Preceptor receives ostomy care update from a student. BPG is mentioned.	The Accreditation Committee has identified the need to improve stroke care	University PhD candidate is conducting restraint research at your organization	Health Canada mandate blood transfusion practice change	Medication error that almost resulted in unnecessary surgery for a client	Noted that Incident of Pressure Ulcers higher than industry average.
Related problem or opportunity identified	Ostomy care at organization may need review	Stroke Care at organization is under review	Opportunity to update all practices related to restraints	IV & CVAD practices & documentation need review	Staff shortages & medication related practices & systems need review	Staff well educated on Pressure Ulcers but equipment lacking.
RNAO BPG(s) the Nursing Practice Team identified as helpful	• Ostomy Care and Management • Client Centred Care • Establishing Therapeutic Relationships	• Stroke Assessment Across the Continuum of Care • Nursing Management of Hypertension • Screening for Delirium, Depression and Dementia in Older Adults • Prevention of Falls and Fall Injuries in the Older Adult	• Prevention of Falls and Fall Injuries in the Older Adult • Care Giving Strategies for Delerium, Depression and Dementia in Older Adults • Risk Assessment and Prevention of Pressure Ulcers • Client Centred Care	• Assessment and Device Selection for Vascular Access • Care and Maintenance to Reduce Vascular Access Complications	• Developing and Sustaining Effective Staffing and Workload • Developing and Sustaining Effective Nursing Leadership • Professionalism in Nursing • Workplace Health, Safety and Well-being in Nursing Guideline	• Risk Assessment and Prevention of Pressure Ulcers • Assessment and Management of Stage I to IV Pressure Ulcers.
Other Guidelines & also used	None Used	• ACLS, TNCC, PALS, Triage • Stroke Strategy Guidelines	None Used	• Oncology Nurses Society Central Venous Access Device Clinical Practice Guideline	• Pharmacy Guideline • Just Culture Community	None Used.
Response to Problem Identified	Review ostomy related policies, training, documentation & procedures resulting in fewer complication of ostomy surgery	Review risk assessment-related policies, procedures, training, documentation. Goal is improved treatment of hypertension and stroke.	Review intravenous-related policies, training, documentation and procedures. Goal is increased client and staff satisfaction.	Review IV related policies, training, documentation & procedures with client & staff satisfaction.	Review policies, training, practices & documentation regarding prescribing, dispensing and administration of medications. Goal is decreased incidence of errors.	Purchase of pressure-reduction mattresses throughout hospital, documentation changes made, and enterostomal therapist hired. Goal is decreased incidence of pressure ulcers.

Look for High Quality Practice Guidelines

Once a knowledge-practice gap has been identified, it is important to look to the appropriate evidence to find the solution. Major efforts have been made to improve the quality and rigor of practice guidelines in order to ensure that clinical practice will be based on the best available evidence. In keeping with the goal of using the best possible evidence in guideline development, it is equally important to use the best guidelines available. Thus, it is recommended that guideline writers and adopters use a guideline evaluation instrument – such as the AGREE II instrument (Brouwers, et al., 2010). – to ensure the quality of BPGs before adopting them (Burgers, Cluzeau, Janna, Hunt & Grol, 2003; Harrison, Graham, & Fervers, 2009).

The Agree II Instrument

To select a BPG, criteria for decision-making is needed; critical appraisal instruments have been designed expressly for this purpose. The AGREE II instrument identifies key criteria called domains that make up a high-quality guideline and is sensitive to differences in these important domains. Burgers, Cluzeau, Janna, Hunt, & Grol, 2003). These domains and what they address include:

- **Scope and purpose:** Overall practice guideline objectives, clinical question and target population.
- **Stakeholder involvement:** Composition, discipline, expertise of practice guideline development group – including the client
- **Rigour of development:** Information on the search strategy, linking the supporting evidence to the recommendation with discussion, external review prior to publication and process for post-publication updating of the practice guideline
- **Clarity and presentation:** Appropriateness of the recommendations, different options presented, easy to read and find key information, summary of recommendations and client leaflets provided.
- **Applicability:** Organizational and cost implications of applying the practice guideline with review criteria for monitoring guideline use
- **Editorial independence:** The funding body has not influenced the recommendations and the development group members have declared possible conflicts of interest.

Guideline Appraisal - Make it Happen in Your Workplace

If you have identified a knowledge-practice gap and have identified a guideline that would be useful, several steps should be carried out as part of your guideline appraisal process. These are listed and discussed below.

Step #1: Identify whether or not a credible author has already conducted an up-to-date appraisal of BPGs of interest. Organizations such as the RNAO have a systematic process to critically appraise BPGs in diverse topic areas. Information from such a review carried out by RNAO can be found in the appendix section of each guideline.

Step #2: If no review is available, search available BPGs on your topic. Systematically search for related BPGs, and remember that such guidelines vary in rigor and quality. Use a skilled librarian or literature search expert.

Step #3: Access all BPGs in their entirety. A quick read often points to technical documents, monographs or other associated documents describing BPG development in detail, and supporting evidence. Keep a meticulous record of guidelines accessed.

Step #4: When many BPGs are accessed, screening criteria (e.g. inclusion and exclusion criteria) may be used to short-list guidelines of interest. Screening should ensure that guideline development was evidence-based. Screening criteria may also

include: BPGs written in English (if you do not have capacity for translation), written within a specific time frame and with a narrow focus of topic interest.

Step #5: Identify a group of four to six individuals to review and appraise the BPGs of interest. Preferably, members have expertise or experience in the clinical topic area of interest, have some understanding of the research process, and have an orientation on how to use the AGREE II instrument.

The process of critically appraising BPGs allows for the identification of one or more BPGs considered for implementation (it also helps identify documents that are not guidelines). If you identify more than one, the implementation team can decide whether to use one guideline exclusively, or adopt recommendations from one or more guidelines, based on levels of evidence and the context of your local work environment.

RNAO Best Practice Guidelines

RNAO deliberately follows the domains from AGREE II during the guideline development process in order to produce a quality product. RNAO selects a topic, forms an expert interdisciplinary panel, searches for and evaluates related BPGs and identifies systematic reviews and articles on the topic. All evidence is critically reviewed, and the information synthesized into recommendations; the document is peer reviewed, finalized and published. Every 5 years, the guideline is reviewed and revised as necessary (Graham, Harrison, Brouwers, Davies, Dunn, 2002; Grinspun, Virani & Eajnok 2002).

Many organizations and clinicians will opt to use RNAO guidelines because of the rigorous process used and the high credibility of RNAO's BPG work. Even if the decision has already been made to use an RNAO BPG, reviewing the guideline using the AGREE II instrument is recommended as it assists the guideline implementation team to validate and highlight the domain properties of the chosen RNAO guideline to team members. It also provides the team with a tool that they can apply to other BPGs that are either currently in use or under consideration. Conducting a critical appraisal of a BPG can also serve as an active learning strategy (Singleton & Levin, 2008).

Reviewing BPGs early by the people involved in implementation can accomplish several things:

- help build the team;
- create confidence in the recommendations of the guideline and
- introduce to the Agree II Tool instrument, as the standard for quality guidelines.

Once a guideline is selected, what's next?

When determining next steps, it is important to ask key questions that will direct how and where the guideline will be implemented. Such questions include:

- Does the BPG apply to all areas of the organization?
- Are there specific recommendations that address known organizational needs?
- Are there any recommendations that are already being implemented
- Are there some that have only been implemented partially? Only certain recommendations? Only on some units?
- Have some recommendations been partially implemented (e.g. only certain recommendations? Only on some units?)
- Are there recommendations that must be implemented before others?
- Can any recommendations be implemented quickly?
- Are there recommendations based on higher levels of evidence than others?
- Will some recommendations take longer to implement? Are there barriers to implementation? Are there budget issues? Staff skill issues? Leadership issues? Workload issues? Cultural and attitudinal issues?

In answering these questions, include and involve key stakeholders (see Chapter 2B for information about how to involve stakeholders). You may also want to examine available quality assurance data to fully address the questions listed above.

The decisions made next based on the answers to these questions will determine the scope of your BPG implementation, as well as the resources required.

Focusing on needed practice change

Not all practice will change when implementing a new BPG

BPGs provide clinicians and organizations with support for current practice and direction for practice improvement. It is important to build upon existing practices and processes when committing to practice change. A total overhaul of the workplace and general upheaval is neither usually necessary nor recommended during BPG implementation.

As identified in the questions above, it is critical to examine current practice and compare it with the BPG recommendations, to determine which current practices are supported by the recommendations. Implementation can then be directed toward reinforcing and sustaining existing best practices in the workplace, and on targeting specific areas for practice improvement.

The Gap between Current Practice & Recommended Practice

In order to better identify current evidence based practices and those that need changing, the BPG implementation team will be well served by measuring the evidence-to-practice gap (i.e. that gap between evidence from high-quality BPGs or systematic reviews and current practice in the organization) (Kitson & Straus, 2009; Straus, Tetroe, Graham, Zwarenstein, & Bhattacharyya, 2009). In carrying out this gap analysis it very useful to engage point-of-care providers and ask the following questions:

1) Are there gaps between current practice and best practice?

2) Where and to what extent do the gaps exist?

A "Gap Analysis" tool, is included here to guide this process, and has been completed using recommendations from two RNAO BPGs. The completed tool includes the guideline recommendations and indicates which have been met, partially met, or is unmet; and which recommendations or parts of recommendations may not be applicable.

This tool is useful to:

- Determine what current practices are already evidence based and supported by the BPG, that can be used to reinforce practice strengths
- Identify the recommendations that are not applicable.
- Identify practices that partially meet, the BPG recommendations and would be good first targets for practice change
- Determine recommendations that are not met, and may require longer term practice change strategies.

It is important to start with those practice changes that can be made easily, or are crucial to client and staff safety. Start by reinforcing success and focusing on quick wins.

The Gap Analysis is a quick and easy method of confirming that some of the recommendations are being met (i.e. current practice is already evidence-based). This is worth noting and celebrating with staff. It is always good to start a process by saying, "well done!" The recommended practices that are being partially met can often be addressed next.

Once the analysis is complete, it is necessary to take action related to rating provided. For example: for partially met recommendations it must be determined what should happen to meet these recommendations? Perhaps the purchase of new equipment or focused staff education updates can ensure the recommendations will be met. The "unmet" recommendations column will always be the most challenging. However, it may be a short list after taking a closer look at what is already

best practice in the workplace processes, policies and practice interventions. Some unmet recommendations will also be identified as not applicable.

The completed Gap Analysis related to the BPG under consideration for implementation is useful for quick explanations of where the practice environment stands currently, compared with where it wishes to be. It becomes a useful monitoring tool to demonstrate progress in implementing a guideline, if used in a planned way throughout the BPG implementation process.

The Gap Analysis provides a summary of information that may come from a number of sources, including system analysis, outcome root cause analysis, chart audits, formal/informal interviews, meetings with interdisciplinary teams, discussion at the practice committee level, surveys, policy reviews, related documentation review, staff skill-set analysis, and equipment inventory.

Behind the Gap Analysis At-a-Glance matrix lies the in-depth look at the "where" and "why" of current practices as well as the "who" and "how" to make "what" kind of change. Two examples are provided below to demonstrate how the Gap Analysis can be used to identify areas for change

EXAMPLE #1: At-A-Glance BPG Gap Analysis or Gap Analysis Summary

RNAO BPG: Prevention of Falls & Fall Injuries in the Older Adult – (Oct 2002)				
Guideline Recommendation	**Met**	**Partially Met**	**Unmet**	**Comments**
1.0 Assess fall risk on admission.	✓			Also done after first 24 hours & every time client is moved. Organization exceeds recommendations.
1.1 Assess fall risk after a fall.	✓			
2.0 Tai Chi to prevent falls in the elderly is recommended for clients whose LOS is greater than four months and for those clients with no history of fall fracture.			✓	Introducing Tai Chi under review at practice committee.
2.1 Nurses can use strength training as a component of multi-factorial fall interventions. However, there is insufficient evidence to recommend it as a stand-alone intervention.	✓			See plan of care related to falls.
2.2 Nurses, as part of the multidisciplinary team, implement multi-factorial fall prevention intervention to prevent future falls.	✓			See plan of care related to falls.
2.3 Nurses, in consultation with the health-care team, conduct periodic medication reviews to prevent falls among the elderly in health-care settings.	✓			See plan of care related to falls.
2.4 Nurses could consider the use of hip protectors to reduce hip fractures among clients considered at high risk of fractures associated with falls.		✓		Critical care centre/rehabilitation unit does this. Staff education in acute care underway.

2.5 Nurses provide clients information on benefits of vitamin D supplementation in relation to reducing fall risk. In addition: information on dietary, life-style and treatment choice for the prevention of osteoporosis is relevant in relation to reducing the risk of fracture.		✓		Inconsistently done: Need prompts on the admission summary form. Form changes to go to Documentation Committee on November 14th.
2.6 All clients who have been assessed as high risk for falling receive education regarding their risk.	✓			See plan of care related to falls.
3.0 Nurses include environmental modifications as a component of fall prevention strategies.	✓			See plan of care related to falls.
4.0 Education on fall prevention and fall injury should be included in nursing curricula (N/A) & ongoing education.	✓			Review in nursing & student orientation.
5.0 Nurses should not use side rails for the prevention of falls or recurrent falls for clients receiving care in health-care facilities: however, other factors may influence decision-making around the use of side rails.	✓			Side rails for self-repositioning on beds. Side rails available as needed for non-restraint needs.
6.0 Organization establish a corporate policy for least restrain that includes components of physical & chemical restraints	✓			See "Least Restraint" Policy.
7.0 Organization created an environment that supports interventions for falls prevention that includes: • Fall prevention program • Staff education • Clinical consultation for risk assessment & intervention • Involvement of multidisciplinary teams • Equipment, transfer devices, high low beds & bed exit alarms	 ✓ ✓ ✓ ✓ ✓			Organization exceeds recommendation. See Least Restraint policy, nursing and student orientation packages and plan of care related to falls.
8.0 Implement processes to manage poly-pharmacy/psychotropic meds – Use med reviews & alternatives to sedation.	✓			See "Least Restraint" Policy.
9.0 BPGs can be successfully implemented with adequate planning, resources, facilitation & administrative support.	✓			PPL is the PG lead See PPL for details.

Reference: Nancy Bauer & Leamington District Memorial Hospital, 2002

EXAMPLE #2: At-A-Glance BPG Gap Analysis or Gap Analysis Summary

RNAO BPG: Prevention of Constipation in the Older Adult Population – (Oct 2002)				
Guideline Recommendation	**Met**	**Partially Met**	**Unmet**	**Comments**
1.0 Assess for constipation by obtaining a client history.	✓			Assessments inconsistent: Need prompts on Admission Summary & Plan of Care & Med Record. Changes underway by Pharmacy & Acute Care reps on the Documentation Committee.
2.0 Obtain client information regarding: amount & type of daily fluid intake, usual amount of dietary fibre, relevant medical /surgical history. (See BPG for details)		✓		
3.0 Review client medication to identify those associated with risk of constipation, include history of laxative use.		✓		
3.1 Screen for risks of polypharmacy, including duplication of both prescription and OTC drugs & their adverse effects.	✓			
4.0 Identify client functional abilities related to mobility, eating and ringing and cognitive status related to abilities to communicate needs and follow simple instructions.		✓		Done on critital care centre/ rehababiliation unit. Docu-menation Committee look-ing at how to use critital care centre/rehababilitation unit process in Acute Care.
5.0 Conduct a physical assessment of the abdomen and rectum. Assess for abdominal muscle strength, bowel sounds, abdominal mass, constipation, fecal impaction, hemorrhoids and intact anal reflex.		✓		Abdominal assessment & Bowel Sounds currently performed upon admission and as needed.
6.0 Prior to initiating the constipation protocol, id bowel patterns (see BPG) & toileting method thru use of 7-day bowel record/diary.		✓		Appropriate for clients with extended length of stay. Need for use elsewhere under review.
7.0 Fluid intake should be between 1500-2000 ml/day. Encourage sips of fluids throughout the day. Minimize caffeine and alcohol.		✓		Process well understood in critical care centre/rehabili-tation unit. Need for staff education in acute care planned for January. Plan of care regarding constipation is under revision. Multidisciplinary team part of implementation
8.0 Dietary fibre intake should be from 25-30 grams/day. Dietary fibre should be gradually increased once the client has a consistent fluid intake of 1500 ml/day. Consult with dietitian recommended.		✓		
9.0 Promote regular consistent toileting each day based on the client triggering meal. Safeguard client privacy.		✓		Done in critical care centre/ rehabilitation unit. See new acute care plan of care.

10 Physical activity should be tailored to individual physical abilities, health condition, personal preference & tolerance.	✓			New plan of care will provide a place to document this.
10.1 Walking for fully mobile individuals or with mobility limitations (See BPG for frequency details).	✓			New plan of care will provide a place to document this.
10.2 Persons unable to walk or on Bedrest – use pelvic tilt, low trunk rotation and let lifts for exercise.			✓	See Plan of Care revisions
11 Evaluate client response and need for ongoing intervention (See BPG for details).		✓		Need prompts on medication record & daily assessment forms. Documentation Committee to review.
12 Comprehensive Education programs aimed at reducing constipation and promoting bowel health should organized & delivered by a specially trained nurse (Nurse Continence Advisor or CNS) See BPG for details.			✓	Nursing Admin looking at training an RN as a Continence Advisor. See Gap Analysis for *Prompted Voiding BPG.*
13 Organizations are encouraged to establish an interdisciplinary team approach to prevent and manage constipation.		✓		Documentation Committee ad hoc members in place.
14 BPGs can be successfully implemented with adequate planning, resources, facilitation & admin support.	✓			Charge Nurse in critical care centre is lead for this BPG.

Reference: Used with permission from Leamington District Memorial Hospital

Before proceeding to the next chapter, consider the following:

- Do you have a comfortable knowledge about guidelines and best practice guidelines, how to define them and why they are important
- Do you understand what a quality guideline should consist of, and how that can best be determined through use of the AGREEII Instrument
- Do you understand how RNAO is involved in the Guideline development process and the approach they take to develop guidelines
- Do you see how in your workplace you can link BPG implementation to quality improvement or other approaches used to determine quality practice and outcomes?
- Could you and a team of staff conduct a gap analysis in a guideline topic area to determine what key practices are currently evidence based and what may need changing?

1 Exercise

1. Quickly compare the two sample Gap Analyses provided in this chapter.
2. Decide which of the two BPGs would you recommend implementing first. Why?

Recommended Reading:

Brouwers, M. C., Stacey, D., & O'Connor, A. M. (2009). Knowledge translation tools. In S. Straus, J. Tetroe, & I. D. Graham (Eds.) *Knowledge translation in healthcare: Moving from evidence to practice. Hoboken, NJ: Wiley-Blackwell.*

Kitson, A., & Straus, S. E. (2010). *The knowledge-to-action cycle: identifying the gaps. Canadian Medical Association Journal, 182(2), E73–E77.*

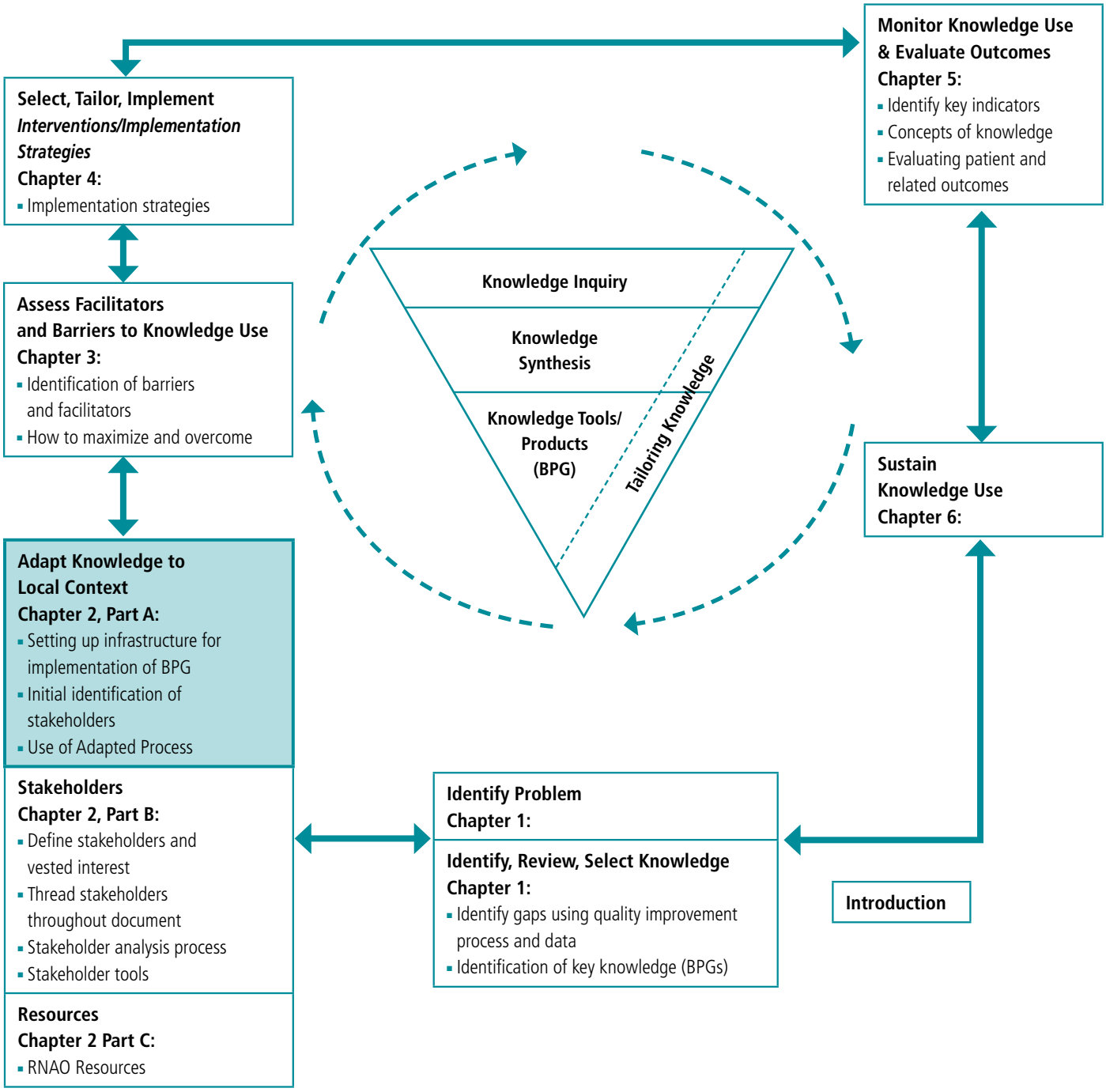
Recommended Websites:

ADAPTE Collaboration : http://www.adapte.org/.

Agree II Collaboration: www.agreecollaboration.org/instrument

National Guideline Clearinghouse: http://www.guideline.gov/

Chapter 2A: Adapt Knowledge to Local Context



Review of previous chapter

Best practice guidelines, including the RNAO BPGs, are valuable resources that facilitate the delivery of effective evidence-based client care. In the RNAO BPG Toolkit's knowledge-to-action cycle, the first step of the action cycle focuses on identifying practice gaps, followed by review and selection of applicable knowledge to address these gaps. The identification of problems or gaps in current practice may be considered an opportunity for practice change, based on a relevant best practice guideline. Decisions regarding the specific guideline or individual recommendations to be implemented should consider the quality and rigor of the guideline development using a quality appraisal instrument, such as AGREE II.

What this chapter adds

This chapter will address the second phase of the knowledge-to-action cycle, adapt to local context. We will describe why practice guidelines and guideline recommendations may need to be adapted to the local context in which they will be implemented. Various strategies to accomplish this will be discussed, including the ADAPTE methodology for guideline adaptation. It is important to keep in mind that all guidelines usually require some modification in order to fit with the local context. These types of modifications can generally be carried out as part of the key steps in the Knowledge-to-Action Framework, such as stakeholder analysis, barrier and facilitator identification, and/or development of implementation plans. In some cases, where a guideline needs a substantial alteration to support implementation in a specific specialty area, a sector, or in a markedly different cultural context, the steps in this chapter focused on ADAPTE will be useful. In these situations the ADAPTE methodology is meant to facilitate the guideline development process by enabling an already developed guideline to be systematically modified to fit the target area. Information in this chapter will be applied at such times, otherwise guideline implementers may move to the next step in the Knowledge-to-Action Framework.

Key Definitions

Guideline Adaptation: A "systematic approach for considering the endorsement or modification of guidelines produced in one setting for application and implementation in another as an alternative to development of locally specific clinical practice guidelines as a first step in the process of implementation, while preserving evidence-based principles." (Fervers, Burgers, Voellinger, Brouwers, Browman, & Graham, 2011)

Source guideline: A guideline "selected to undergo assessments of quality, currency, content, consistency, and acceptability/applicability and upon which an adapted guideline may be based" (The ADAPTE Collaboration, 2009).

Stakeholders: A stakeholder is an individual, group and/or organization with a vested interest in your decision to implement a best practice guideline (Baker, Ogden, Prapaipanich, Keith, Beattie, & Nickleson, 1999). Stakeholders include individuals or groups who will be directly or indirectly affected by the implementation of a best practice guideline.

Here are the facts

Guideline adaptation is an important process in the implementation of evidence-based practice (Harrison, Graham, & Fervers, 2009). Clinical practice guidelines that have been developed in one cultural or sectoral setting may be challenging to implement in another. Contextual differences may affect the suitability or feasibility of particular recommendations, even when supported by a strong body of evidence. Each local context is unique, and is based on a range of factors, including organizational priorities, available resources, scopes of practice and regional legislation. The adaptation of existing high-quality clinical practice guidelines to the local context minimizes the need to develop locally specific clinical practice guidelines and enhances the implementation of evidence-based recommendations to the particular practice setting.

Guideline adaptation involves making decisions about the value and suitability of the knowledge presented in the source guideline to local circumstances (Graham, et al., 2006). "It also encompasses those activities that the implementation team may engage in to tailor or customize the knowledge to their particular situation," (Graham, et al., 2006) while maintaining the evidence-based nature of the recommendations. The overall aim is to ensure that the guidelines and recommendations that are eventually implemented are perceived by all to address the identified problem, fit the local context and represent the best available evidence.

In all phases of the guideline implementation process, the involvement of an implementation team and relevant stakeholders is critical. The implementation team may be engaged in reviewing and selecting appropriate guidelines for use, assessing them against the international standards outlined in the AGREE II instrument, assessing the clinical utility, ease of implementation for the guideline recommendations and identifying those that are generally acceptable in the local context. Modifications to the guideline recommendations, which are in keeping with the recommendations, may be carried out at this time by the implementation group, with stakeholder input. Stakeholders at the local level can help ensure that the recommendations meet the needs of the setting. External stakeholders may also be helpful in ensuring that the adapted recommendations remain consistent with the original evidence base and/or source guideline (Graham, et al., 2005).

A major challenge in the process of adapting knowledge to the local context is ensuring that what is eventually implemented still remains evidence-based. The ADAPTE Collaboration (The ADAPTE Collaboration, 2009) has developed a systematic approach to guideline adaptation that has been applied in a range of Canadian guideline development and implementation initiatives (Gupta et al., 2009). The process outlines a number of steps that may be taken to ensure that any guideline or recommendation implemented in a particular setting addresses the particular needs, priorities and resources of the context without losing the validity of the recommendations, given the evidence. The set of core principles on which the ADAPTE guideline adaptation process was developed, as well as resources to assist in the local setting, are provided in Appendix D.

Implications to consider before proceeding to the next chapter

Stakeholder implications

- In the adaptation process, engage stakeholders that will be able to ensure the adapted knowledge is both evidence-based and tailored appropriately to the setting.
- Stakeholders may be involved throughout the adaptation process (i.e. as part of the adaptation working group) or consulted at different stages of the process (i.e. external review).

$ Resource implications

- Consider the resources you will need for adaptation activities. These may include: access to internet and library services to search and retrieve clinical practice guidelines; time for critical appraisal of the guidelines; and space for the working group or implementation team to meet on a regular basis.

Action plan implications

- Thoroughly assess identified clinical practice guidelines for relevance to the local context.
- If adaptation is required, use a systematic approach to enhance rigor and transparency of the process.

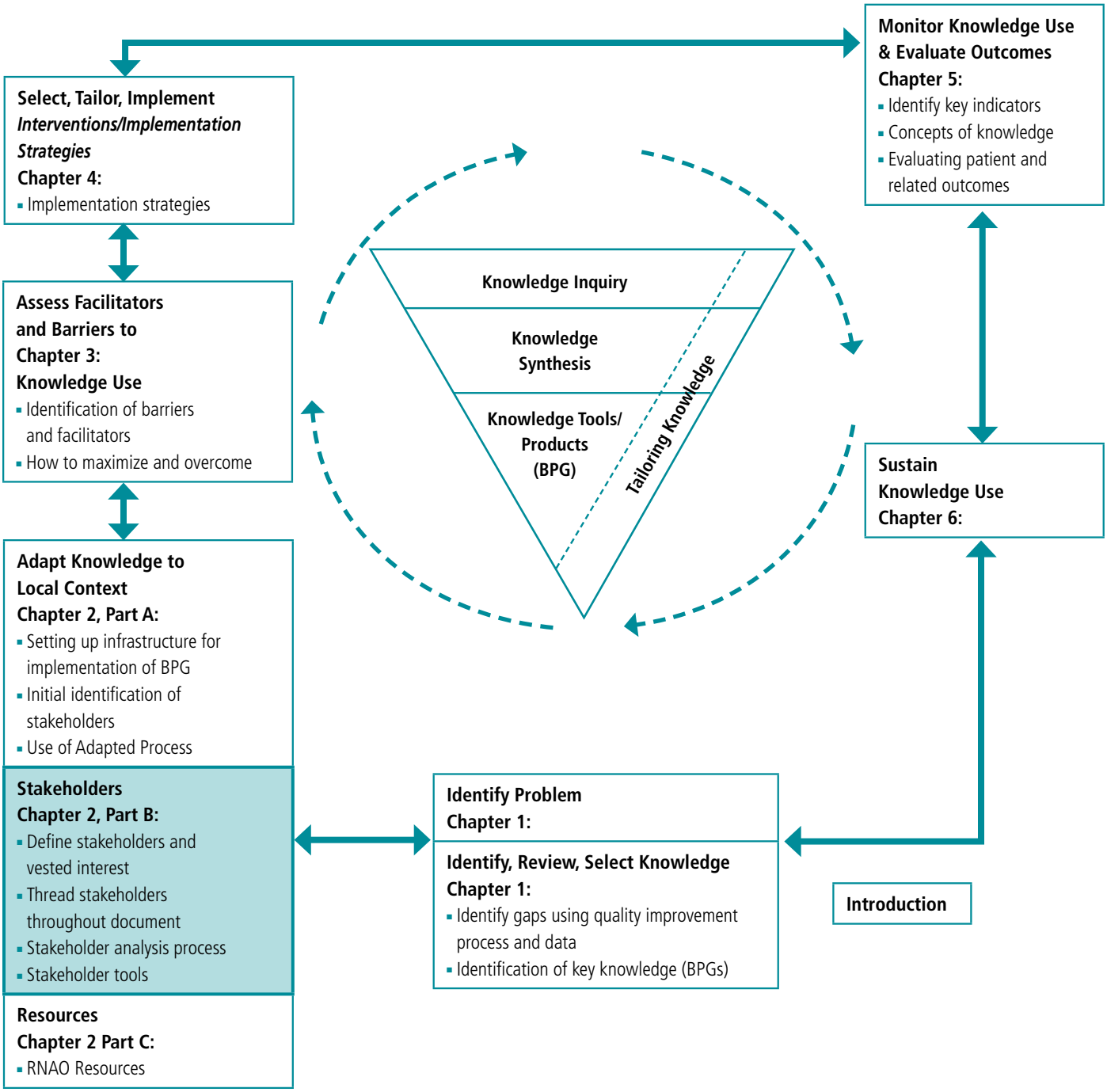
Scenario :An example from the Long-Term Care setting

In one long-term care organization, an interdisciplinary team has been convened to oversee the implementation of oral hygiene assessment. Relevant guidelines have been reviewed and a working group has decided to implement the recommendation from the Oral Health: Nursing Assessment and Interventions Best Practice Guideline on Oral Hygiene for "nurses to use a standardized, valid and reliable oral assessment tool to perform their initial and ongoing oral assessment" (Registered Nurses' Association of Ontario, 2008, p. 29). In deciding on an assessment tool to implement, the implementation team identifies the following factors relevant to the local context:

- The resident population in this long-term care setting is composed of older adults who require daily assistance with oral hygiene.
- Oral hygiene in this long-term care organization is performed by a mix of registered nurses, registered practical nurses and personal support workers.
- To limit the impact of a formal oral assessment on daily routines, especially given the staff mix, the assessment should be brief and easily documented.
- Other long-term care organizations in the local area have implemented oral hygiene assessment tools and have expressed a willingness to share their experiences.

The RNAO oral hygiene BPG identifies a number of oral assessment tools that may be relevant for older adults in a long-term care setting. Supporting literature and examples of each of the tools were retrieved by the implementation team. The team reviewed each tool for validity and reliability, applicability to the resident population and feasibility for implementation in their setting. Local long-term care organizations were also consulted regarding their experiences with various oral hygiene assessment tools. Once a decision was made regarding which tool to implement, feedback from various stakeholders from within to the organization (e.g. residents, staff) and external to the organization (e.g. registered dental hygienists) was requested. The results from the internal and external review were generally positive and supported the vselection of this tool. As a result of this process, the team was confident that the recommendation to use a standardized, valid and reliable tool was adapted appropriately for their particular setting.

Chapter 2B: Stakeholders



Review of previous chapter

In previous chapters we have seen that clinical practice guidelines are selected based on specific clinical needs, and can be implemented through use of a systematic inclusive process on the Knowledge-to-Action Framework. In determining the quality of the guideline selected, the AGREE II Tool is a useful resource to guide you in the guideline assessment process. In addition, if necessary the ADAPTE Process can be used to modify the guideline for a better fit and culturally different, and/or speciality setting or contexts.

What this chapter adds

This chapter examines the roles of stakeholders. The interest of the stakeholders' lies not only in the decision to implement a guideline, and the intended outcome, but also in if and how that decision and the outcome affects them. This chapter describes how to perform a stakeholder analysis and suggests ways in which the information collected can best be used.

Key Definitions

Stakeholder: A stakeholder is an individual, group and/or organization with a vested interest in the decision to implement a best practice guideline (Baker, Ogden, Prapaipanich, Keith, Beattie, & Nickleson, 1999). Stakeholders include all those individuals or groups who will be directly or indirectly affected by or who can directly or indirectly affect the implementation of a best practice guideline.

Stakeholder Analysis: A stakeholder analysis is the process of identifying and generating information about stakeholders for the purpose of helping the guideline implementation team understand stakeholder behaviour, plans, relationships and interests. This knowledge can help the team to determine the support, resources and influences that the stakeholder can bring to bear and determine how best to engage them for success.

Here are the facts

Stakeholders are individuals, groups or even organizations who have an interest in, are affected by or can affect a practice change (Legare et al., 2009). For examples of potential stakeholders see Table 1. Stakeholders play an essential role in any change process and need to be involved throughout the process. Stakeholders can support, or oppose, or remain neutral about the implementation of the BPG. Before considering stakeholders, it is important that those engaged in leading the guideline implementation process understand the components and processes involved. Familiarity with the related issues will help identify the initial set of stakeholders, as well as analyze their vested interest in the proposed changes. The position of each stakeholder is dependent on how closely the change is perceived to be aligned with their own perspectives. The health policy literature identifies a number of considerations related to how stakeholders should be identified and engaged within the context of varying types of clinical practice changes (Varvasovsky & Brugha, 2000). For example stakeholder identification involves:

- Being clear on the components of the project and the implementation process and being familiar with the related issues will help you identify the initial set of stakeholders. Following this, you can use a snowball technique. With this technique, each stakeholder is asked to identify other relevant stakeholders, and/or a structured survey is conducted where respondents are asked to identify and/or rank the importance of various stakeholders.
- Using both qualitative and quantitative approaches to identify stakeholders will facilitate a complete stakeholder list and database.
- Consider is the client/patient/resident. The client's perspective of the planned implementation and the impact to his/her health and quality of life should be determined (RNAO, BPG, Client Centred Care, 2002).

- Including a variety of point of care health professionals affected by the change (e.g. staff nurses, physicians, allied health professionals). Other key stakeholders to consider are senior management, middle management and other care giving staff. Certain stakeholders may be more involved or critical at specific times in the clinical change process.
  - Senior management are important in the initial stage to set goals that are consistent with organizational strategy.
  - Middle management will work with senior management on implementation planning.
  - Front-line employees must be involved where there are changes which directly affect their work, i.e. where they may know best where, what and how to change (Vink, Imada & Zink, 2008).
- Categorizing stakeholders based on their degree of agreement with the practice change and or their relationship to the organization in which the guideline is being implemented (Baker, Ogden, Prapaipanich, Keith, Beattie, & Nickleson, 1999):
  - Internal stakeholders are from within the organization and can include the staff nurses, the Chief Nursing Office, clinical nursing specialists, physicians and others.
  - External stakeholders operate outside the organization and can include organizations such as the RNAO, accreditation bodies as well as patient and consumer interest groups.
  - Interface stakeholders operate across organizational and environmental boundaries, and include board members and staff with cross appointments.

Table 2: Examples of Potential Stakeholders

EXAMPLES of Potential Stakeholders			
	Individuals	**Groups**	**Organizations**

Internal	• Client (&/or Family Member)
	• Chief Nursing Executive
	• CEO
	• Nurse (RN, RPN, NP)
	• Clinical Diabetic Educator
	• Enterostomal Therapist
	• Educators
	• Physicians (Chief Medical Officer, Family Doctor, Internist, Surgeon, Specialist)
	• Dietitian
	• Social Worker
	• Clerical/Support Staff
	• Physiotherapist
	• Occupational Therapist
	• Housekeeper
	• Personal Support Worker
	• Department Manager or Division Director
	• Project Leader
		• Family Council
		• Nurses
		  • RNs
		  • RPNs
		  • Permanent off-shift
		  • Department, Division or Team of Nurses
		• Therapy
		• Permanent Off-Shift Employees
		• Departments
		• Division
		• Program
		• Committees
		  • Practice Committee
		  • Documentation Committee
		  • e-Doc Committee
		  • Infection Control
		  • Medical Advisory
		  • Senior Management
		  • Purchasing Review
		  • Health Promotion
		  • Occupational Health & Safety
			• Unions
			• Community Partner (E.g. CCAC)

External	• Dean of Students • City Mayor • Sales Representative • Consultant • School Teacher • School Principle • CCAC Case Manager	• Client Family Forums • Community Partners may see the hospital Emergency Department as an External Stakeholder Group • School Board • Accreditation Committee	• Client Interest Group • Community Partner • Vendor Company • Healthcare Programs e.g.: Stroke Strategy • Professional Body • Accreditation Canada • Government Ministry

Interface	• Client Member on the Board of Directors
	• Community Partner Representatives with Internal Roles and Responsibilities (e.g.: CCAC with a Case Manager in the Hospitals)
	• Academic Clinical Instructor who also works at the organization as a Nurse
	• Union Representative who also works internally as a Nurse
		• Public
		• Support Groups
		• Regional Committees
		  • Regional Infection Control Committee
		  • University/College Student Advisory Committee
		  • LHIN Committee
		  • Regional Ad Hoc Working Committee
			• Community Partner
			  • Community Service Provider
			  • Community Hospital
			  • LTC Organization
			  • Public Health Unit
			  • Community Care Access Centre (CCAC)
			• Professional Body (E.g.: RNAO or CNO)
			• Union
			• Local Health Integration Networks (LHIN)

NOTE: This is not intended to be an exhaustive list – Other Stakeholders exist outside of those identified here			

It is critical that stakeholder analysis is undertaken at the onset of the project, but it can also be revisited and revised throughout the project

Stakeholder Analysis

The analysis should take into consideration the characteristics of the stakeholder, i.e. their knowledge of the topic, their related perspectives, experience with teams, and decision-making abilities. The literature supports that early stakeholder involvement is integral to the success of BPG selection and implementation, and that the proper use of stakeholders can contribute to the successful uptake of a new guideline (Henderson, Davies, & Willet, 2006; Lawrence et al., 2008; Loisel et al., 2005; McKinlay et al., 2004).

Different guidelines will mobilize different sets of stakeholders, who will require different resources and strategies for engagement (Isett et al., 2007). Following the identification of stakeholders', stakeholder analysis is carried out next and involves:

- Assessing stakeholders for potential influence and reaction, based on their position in relation to the change; and
- Determining possible ways to engage stakeholder interests to ensure as much support as possible (Lawrence, Polipnick, & Colby, 2008; Miles, Valovirta, & Frewer, 2006;).

The goals of a stakeholder analysis are two-fold:

1. Maximize congruence between stakeholder interests and the goals of the guideline implementation.
2. Manage and/or minimize risks associated with stakeholder non-support.

Stakeholder analysis considers the vested interest of individual stakeholders, their level of influence and support for the proposed change and the factors that may facilitate their buy-in. Based on this analysis, appropriate strategies for stakeholder engagement can be developed. It is important to reassess each stakeholder and his/her corresponding position regularly. Strategies may need to be revised as new stakeholders emerge and others change positions over time. The depth and breadth of stakeholder analysis can vary, and many stakeholder analysis models – which range from the simple to the complex – are available for use (Baker, Ogden, Prapaipanich, Keith, Beattie, & Nickleson, 1999).

Most models for stakeholder analysis incorporate the examination of two variables:

1. The potential for support for the change initiative.

2. The potential for threat or the degree of influence related to the adoption of the change. You will need to employ different strategies of stakeholder engagement depending on the assessed stakeholder support and influence (Figure 3):

- Those who have **high influence** and are **highly supportive** can be counted on to most positively influence dissemination and adoption of the BPG. Such stakeholders need a great deal of attention to enable them to continue to support the initiative, and must be continually kept informed.
- Those who have **high influence** and are **low in suppor**t need the greatest amount of attention in order to get them on board.
- Those who have **low influenc**e but are **highly supportiv**e need some attention to prevent them from becoming neutral or negative toward the change, and can be counted on to provide assistance.
- Those who have **low influence** and are **low in support** may be lowest on the priority list; however, it is best to engage this group to move them to a neutral position if possible, to minimize any negative effects.

Attention to stakeholder triaging, which includes determining what strategy to use with what type of stakeholders and when, enables the most effective use of energy and resources in project implementation (Miles, Valovirta, & Frewer, 2006). Generally all stakeholders should be involved early in the guideline adaptation and implementation process to ensure their needs are met (Henderson, Davies & Willet, 2006; Lawrence et al., 2008; Loisel et al., 2005; McKinlay et al., 2004). Certain stakeholders may be well-suited to act as champions to enhance the acceptability and uptake of the guideline by other challenging stakeholder groups (Lawrence et al., 2008; Lichtman et al., 2004; McKinlay et al., 2004). A good match between stakeholder and strategy results in maximum congruence between stakeholder interests and the goals of the projects and or minimizes risks associated with stakeholder non-support. Alternatively, a mismatch between stakeholder and strategy may result in wasted energy (excess attention is paid to stakeholders who have little influence), or missed opportunities (failure to involve supportive stakeholders). This may place the organization at risk, because there is a failure to anticipate and/or defend against non-supportive stakeholders.

Remember, stakeholder analysis is an ongoing process.

- New stakeholders may emerge overtime.
- Some stakeholders may not be engaged until the implementation process.
- Strategies may need to be revised.
- A change in the stakeholders title/position may change the influence of the stakeholder.

Figure 1: Stakeholder Support, Influence, and Strategies for Engagement

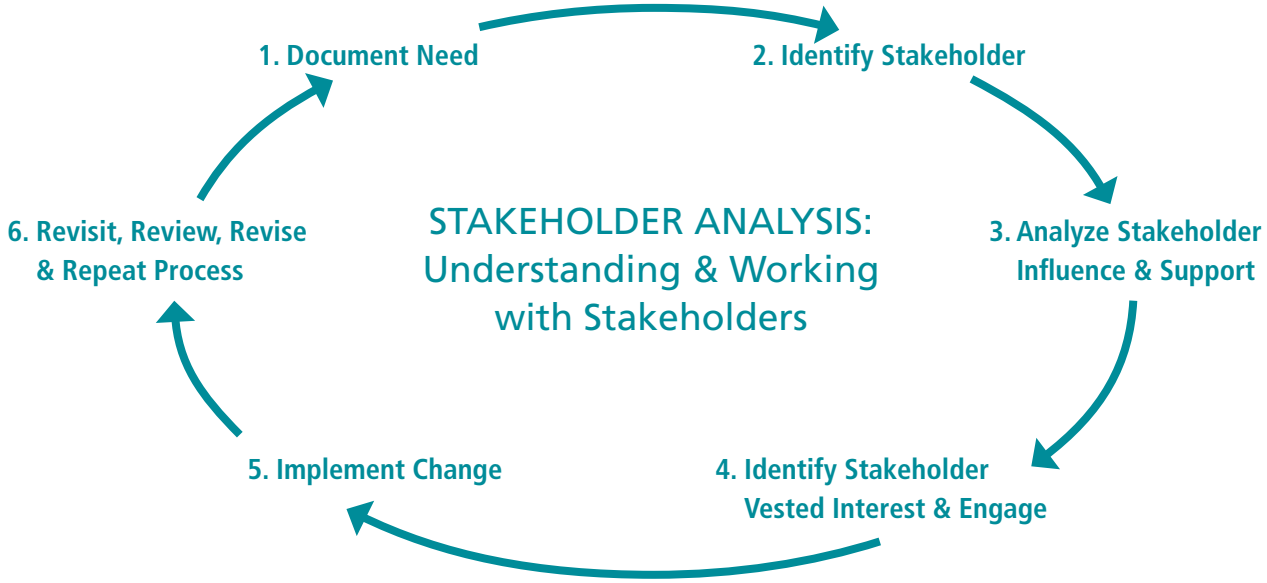
STAKEHOLDER INFLUENCE & SUPPORT GRID
With Generic Strategies For Engagement

SUPPORT	High <—— INFLUENCE ——> Low
High ↑	• Will positively affect dissemination and adoption • Need a great deal of attention and information to maintain their buy-in **Strategies** • Collaborate • Involve &/or provide opportunities where they can be supportive • Support and nurture • Encourage feedback • Prepare for change management • Empower	• Can positively affect dissemination and adoption if given attention • Need attention to maintain buy-in and prevent development of neutrality **Strategies** • Collaborate • Encourage feedback • Empower with professional status • Encourage participation • Prepare for change management • Involve at some level
	High Support High Influence	High Support Low Influence
	Low Support High Influence	Low Support Low Influence
Low ↓	• Can negatively affect dissemination and adoption in a big way • Need great amount of attention to obtain support &/or neutrality • Work towards buy-in **Strategies** • Consensus • Build relationships • Recognize needs • Use external stakeholders & consultants • Involve at some level • Stress how BPGs are developed • Don't provoke into action • Monitor	• Least able to influence dissemination and adoption • Could have negative impact on plans • Some attention to obtain support &/or maintain neutrality • Work towards project buy-in **Strategies** • Consensus • Build relationships • Recognize needs • Use external stakeholders and consultants • Involve at some level • Monitor

Making it happen in your practice setting

You are now ready to conduct a step-by-step stakeholder analysis, as illustrated below. This will help your organization support the implementation of your BPG.

Figure 2: Overview of Stakeholder Analysis



Adapted from: http://leadershipchamps.files.wordpress.com/2008/03/ Stakeholder - management process - 1.jpg, accessed 2011/01/05

Step #1: Document Needs. You have accomplished this through the completion of the gap analysis from chapter one and by identifying the BPG to be implemented. Be very clear on your BPG project, objectives, goals and outcomes. Be able to clearly articulate, what your target group is (i.e. the entire organization, one site, one division, a program, or specific unit) and just what you are attempting to accomplish. Outline current practice and who is involved. Outline how practice will change using the BPG, and who will be involved. Use the entire team to complete this step.

Step #2: Identify Stakeholders. Work with the team to identify and develop a comprehensive list of key stakeholders in the implementation project. Work with your team to collect information that helps you understand your stakeholders. You may wish to conduct surveys, focus groups, or individual interviews with key personnel. Plan to use a specific script to describe the BPG initiative so that each stakeholder is provided with the same information. Information from large stakeholder groups, such as nursing staff, may be a challenge to obtain; however, working with professional practice councils and nurse representatives, and using written surveys or open forums, may facilitate obtaining input from important stakeholder groups. Often with large stakeholder groups you may find there are a variety of different points of view depending on the nature and perspective of the subgroup. Remember to consider that there may be different perspectives within a stakeholder group.

Step #3: Analyze Stakeholder Influence and Support. In analyzing stakeholders' influence, consider how your institution makes decisions. Who is involved in decision-making? Who will ultimately make the decision? Who can influence the decision? Who can influence implementation? Who will champion the decision and implementation? Who will lead and champion the implementation? Finally, who will use the recommendations? Stakeholders must also be analyzed and decisions made regarding how much support can be expected from each of them. Stakeholders will be supportive, non-supportive or indifferent.

Remember that your stakeholder analysis is always time-sensitive. Some stakeholders may not appear to be highly influential now; however, as the project unfolds their influence may increase. For example, staff nurse groups may not be highly influential initially in obtaining resources to move your project forward; however, they will be key stakeholders in the planning and implementation phases.

Step #4: Identify Stakeholder Vested Interest and Engage Stakeholders. Vested interest is the motivation for change. Determining and understanding what issues will engage the stakeholder cannot be overstated. Vested interest must also be identified specifically. It is not enough to think "improved client care" will be a sufficient motivator. It is important to be as specific as possible, as vested interests may stem from various viewpoints. It may:

- Have little to do with the proposed change itself but may be a very personal function (E.g.: An individual is looking for a promotion or recognition)
- Be a point of personal interest that directly relates to the topic (E.g.: An individual may have had a family member experience a stroke and not receive evidence-based care)
- Be a function of workload reduction (E.g.: New documentation reduces the number of forms from 10 to 5 on a related topic)

Carefully assess your stakeholders' interests and influence, as the data gathered from the stakeholder analysis will be useful to determine engagement strategies throughout the planning, implementation and evaluation phases of your project.

Step #5: Implement Change. Implement your planned change (See Chapter 5), incorporating plans for engagement of stakeholders, so they are involved in the project in ways that best match their degree of influence, support and vested interest.

Step #6: Revisit Review, Revise and Repeat the Cycle. Remember to revisit your stakeholder analysis regularly to review your list of key stakeholders and determine whether their positions have changed based on your strategies of engagement, the current status of the project or other changes specific to your stakeholders. Revise your strategies of stakeholder engagement as necessary to increase congruence between stakeholders' needs and project goals. This will reduce the risk to the organization and your project, and enable your organization to make the best use of its resources.

Implications to consider before proceeding to the next chapter

Stakeholder implications

- Stakeholders themselves may help identify other important stakeholders that need to be considered in the implementation of the clinical practice guideline (often referred to as snowball sampling), or provide information that may further your stakeholder analysis.

Resource implications

- Consider the resources you will need to assess and engage stakeholders. These may include: access to email or phone to communicate with stakeholders and time to meet with stakeholders and time for the implementation team to meet on a regular basis.

Action plan implications

- Identify all potential internal, external and interface stakeholders.
- For each stakeholder, conduct a stakeholder analysis, considering their vested interest, level of influence, and level of support with respect to the proposed change.
- Develop tailored strategies for stakeholder engagement.

Scenario

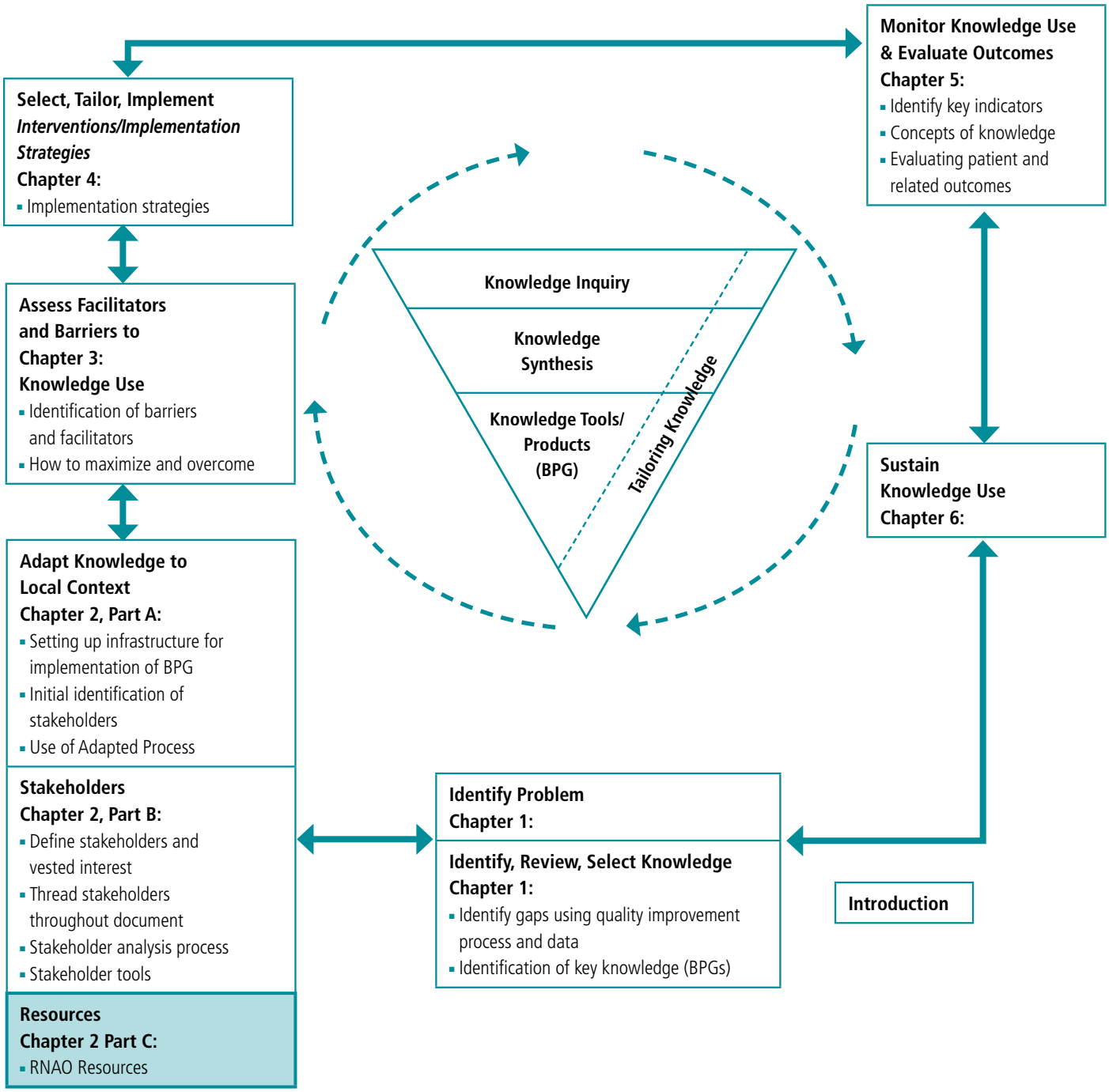
In one small community hospital, an interdisciplinary team has been convened to oversee the implementation of a wound care protocol for pressure ulcers based on the RNAO *Assessment and Management of Stage I to IV Pressure Ulcers Best Practice Guideline.* The target users of the protocol will be staff nurses caring for the hospital's inpatient population; however, the implementation of the protocol is expected to affect a number of internal, external and interface stakeholders. A stakeholder analysis (Table 2) is conducted regarding each of the identified stakeholders in an effort to determine possible strategies for engaging these individuals and groups in the implementation initiative.

Table 3: Scenario Worksheet

Stake-holder	Nature of the Vested Interest (Examples Only)	Stakeholder Influence & Support - (High, Low)		Management Strategies	Revision
Facility Adminis-tration	• Improving the quality of clinical services • Improving professional practice • Cost-effectiveness and efficiency of services	High	High	• Obtain approval for key project activities • Prepare for, and include in, change management strategies	
Chief Nursing Officer	• Being the best provider of services to the community	High	High	• Collaborate on key proj-ect activities (i.e. steering committee, finalization of wound care protocol) • Prepare for, and include in, change management	
Managers	• Improving the quality of clinical services • Reducing the number of pressure ulcers • Improving profes-sional practice • Being the "best" provider of services to the community	High	High	• Collaborate on key project activities (i.e. presentation to units) • Prepare for, and include in, change management	

Stake-holder	Nature of the Vested Interest (Examples Only)	Stakeholder Influence & Support - (High, Low)		Management Strategies	Revision
Clinical Educator	• Improving the quality of services for patients • Improving professional practice	High	High	Collaborate on key project activities (i.e. staff education and training)	
Nurses	• Reducing the incidence of pressure ulcers • Maintaining professional practice independence • Maintaining job satisfaction	High	High	• Monitor acitivities initally • Engage key opinion leaders in project activities • Build consensus overall (i.e. educate about the guidelines, educate about current research and develop aids that will improve clinical practice-standardized care plans)	
Physicians and Allied Health Professionals	• Reducing the number of pressure ulcers and associated complications	High	High	• Involve in key project activities (i.e. policy review and development) • Education regarding guidelines and their development	
Patients and Families	• Choosing a health-care provider (hospital or health professional) that makes safety a priority	High	High	• Involve in key project activities (i.e. policy review and development) • Involve in implementing policies and procedures	

Chapter 2C: Resources



Review of previous chapter

The first steps in implementing a best practice guideline involve the identification of a relevant and high-quality clinical practice guideline based on identified needs, adapting to the local context if there are major cultural or sector requirements and the engagement of stakeholders who will influence successful guideline implementation.

What this chapter adds

The success of an implementation plan is highly dependent on the availability of resources required to complete the planned activities. This chapter addresses how to assess the resources needed in order to support the effective implementation of the clinical practice guideline in your organization and offers strategies to help you acquire these resources.

Key Definitions

Resources: Financial, human, or in-kind requirements necessary to achieve the objectives that are outlined in your action plan.

- Financial resources include the funding necessary to cover the financial costs of implementation activities (e.g. staff education, release time for a project lead, equipment, dissemination).
- Human resources are the individuals needed with the required expertise to execute the implementation activities (e.g. project coordinator, information technology specialist).
- In-kind resources are non-cash forms of support, such as those provided by access to goods and services (e.g. the organization providing access to the internet and/or library services).

Here are the facts

An essential part of any implementation plan is the assessment and acquisition of the resources required to execute the planned activities, e.g. searching relevant guidelines to address the clinical problem requires internet access and library services. Understanding the availability of resources in the local context is important to the successful implementation of a best practice guideline in a given practice setting. A commonly cited facilitator or barrier to the effective implementation of a clinical practice guideline is resource availability. Chapters 4, 5 and 6 of this Toolkit describe how to plan the specific activities of implementation, evaluation and sustained use of a practice change – each of which has its own resource requirements. Therefore, knowing how to present a case for resources will be important at a number of points during the process of clinical practice guideline implementation.

Analysis of the relevant stakeholders in your organization will help to identify the individuals and organizations to approach for support. Once identified, a tailored approach to requesting resources is often necessary, based on factors such as influence, and support, vested interests and organizational policies (whether formal or informal). However, in all cases, presenting a strong evidence based case outlining needs, purpose and value added outcomes that will appeal to the target audience is essential to acquiring the resources needed.

Making it happen in your practice setting

Assess the resources you will need

Table 3 provides a worksheet that can help you generate your project budget. The worksheet lists examples of expenses that may be relevant at each stage of the implementation project. The specific list for your project may contain more or fewer items, depending on the planned activities at each stage. The costs associated with each activity may be determined through experience, research or consultation with stakeholders.

Table 3: Expense Worksheet

Chapter	Expenses	Cost
Setting the stage - General • Getting organized • Educational/public relations activities	• Project Manager • Press conference • Staff meetings • Speaker time • Meeting expenses	
BPG identification • Search and assessment activities	• Librarian support • Literature and Internet searches • Data analysis and information systems requirements (hardware, software, technical support time)	
Stakeholders • Identification, assessment and engagement activities	• Meeting expenses (room, food and beverage) • Focus groups • Staff/departmental meetings • Seminars	
Assessing environmental readiness • Research and needs assessment	• Meetings • Travel • Surveys	
Implementation • Promotion and behaviour changing activities	• Printing costs • Presentation and/or poster production • Attendance at key meetings • Art and graphics design • Marketing (e.g. posters on each unit) • Article in the hospital newsletter • Media Release • Staff replacement time to attend session(s) • Workshops, interactive educational meetings • Time of staff involved in implementation (e.g. Clinical Nurse Specialist, Clinical educator, Information Technology specialist) • Equipment and its maintenance • Development of audit tools	
Evaluation • Data generation, review, and report production	• Staff time: charts pulled, extraction of data from charts, data entry and analysis, interviews • Stipends/incentives paid to enhance response rate • Audio tape/digital recording and transcription of interviews and focus groups • Stationery or publication costs • Data collection by health records staff • Data analysis and report	

Acquire the resources you need

Step #1 Create your BPG campaign strategy

A written and well-developed implementation plan is the key to your acquiring the support you need. This Toolkit provides strategies to developing a comprehensive action plan that will point to the outcomes or deliverables the organization can expect as a result of implementing the proposed change.

A number of key messages are helpful to highlight when lobbying for resources:

- the specific goals of the implementation project;
- a description of the target population affected by the implementation;
- the planned implementation strategies;
- a discussion of why the project is unique and compelling to clients/patients and staff;
- possible research and development opportunities;
- potential cost savings;
- timelines;
- budget; and
- a description of how this project can help position your organization as a leader, challenger, follower or niche player in the area.

In some cases, a more detailed business case may need to be articulated to present how the proposed initiative will address current and or future challenges and what will be required to successfully implement the guidelines. convince decision-makers that the project is a sound clinical and financial investment. A business case is defined as an argument usually in the form of a document that provides the benefits and the risks of a proposed action, the information should be specific and detailed to convince decision makers that the project is a sound investment, http://en.wikipedia.org/wiki/Business_case, accessed August 2, 2012. Table 4 below then provides an example of the elements of a business case and how it related to the K to A Framework.

Table 4: Business Case Development Checklist

Knowledge-to-Action Framework Components	Business Case Elements and Questions to Consider	
Introduction	**Element:** Executive Summary **Questions:** Have you provided a general introduction and information on the issues surrounding the problem? *Note: This section should be **written last** to summarize the: who, what, when, why and pertinent details that the case/plan will provide.*	
Identify Problem	**Element:** Problem/Opportunity, Current Situation **Questions:** Why is the implementation of the guideline needed? *Note: Describe the problem and support this with data. This step is only for identifying the problem; the solutions should be discussed later.*	

Adapt to Local Context	**Element:** Project Overview **Questions:** Who is the patient group? What is the scope of the guideline implementation? What are the goals and objectives? What are the timelines? Which departments/organization is involved? What technology is required? Is it clear what the project will accomplish? How will this project affect the organizational processes, resources? Will any new roles be created as a result? *Note: Provide a project description and outline the anticipated outcomes and benefits for the patient population, staff and or organization. Benefits should be realistic.*	
Assess Facilitators and Barriers to Knowledge Use	**Element:** Project Constraints **Questions:** Who are the key stakeholders? Will the reader know all parties that will be impacted by the project? What is the return on investment? What is currently being done? Who is part of your team? Is it clear what is not included in the project and what it will not accomplish? What are the constraints? Are the general requirements, roles and responsibilities of each stakeholder clearly identified? Are the timelines of the project clearly outlined? Does the business case mention consultation that has taken place with stakeholders?' *Note: Describe in details the team members, their roles and responsibilities for the duration of the project. Identify consultations that have occurred with the stakeholders. Acknowledge that the barriers may change as the project proceeds. Identify any risks.*	
Select Tailor, Implement Interventions/ Implementation Strategies	**Element:** Strategic Alignment **Questions:** How will the plan be rolled out? What type of communication and marketing will be used? How will you measure success along the way? What are cost projections? How will the project be executed? Are there any assumptions? How does the project align with the strategic plan and does it impact any other initiatives? *Note: Consider resources and specific strategies for implementation. A cost benefit analysis should be included. Depending on your setting your financial department may be able to assist with this analysis.*	

Monitor Knowledge Use and Evaluate Outcomes	**Element:** Operational Impacts **Questions:** How will you measure success? Will there be a change in service? Will there be a change in provider? Will there be a change in products used? Will there be a change in the focus of the unit/department or organization? What are the outcome measurements? How will these changes help sustain the new practices? Examples of operational impacts are: • Staff training required • Reduction of staff resources *Note: Consider staff training, and staff resources. Identify the level of the impact, high, medium or low.*	
Sustain Knowledge Use	**Element:** Conclusion **Questions:** Have the indicators for sustainability been clearly outlined? Has the business case been reviewed and approved by appropriate stakeholders? *Note: Include a compelling statement and reiterate operational impacts indicating why the guideline implementation is imperative.*	

Step #2 Generate a plan to attract resources

Your attempt to persuade your administration to allocate resources to make the BPG implementation and evaluation a success is analogous to your efforts to change the behaviour of your target group or staff. You are attempting to influence the behaviour of the people who have control of the resources in your institution or externally. An integrated communication plan that outlines key project messages and co-ordinates multiple strategies for attracting resources will ensure consistency throughout the campaign and enhance the credibility of the project (Nowak, Cole, Kirby, Freimuth, & Caywood, 1998).

An understanding of the needs and desires of the target audience (e.g. hospital administrators) will best ensure that any presentation or request for resources is appropriately tailored. Such a strategy may take into account the Four P's (Weinreich, 2000):

Product: What is the "product" that you are offering, and what benefit is it to the target audience? In the cases of the implementation of a clinical practice guideline, the ultimate product is an impact on client outcomes, as measured by a variety of indicators. Other intermediate products that are directly related to target audience may include an assessment tool, a new nursing role, an intervention, a set of practice changes, policy changes, or a change in the organization's mission or vision. The benefits of the product will be best articulated based on an understanding of the vested interests of the particular individual and/or organization from whom you are requesting resources.

Price: What will be cost of the product for the target audience? You should be able to articulate the resources (financial, human, and/or in-kind) that you are requesting from each individual and/or organization. The likelihood of acquiring resources is higher if the cost benefit ratio is perceived by the audience to be acceptable

Place: How will the product be delivered? How will you ensure that the implemented change will reach the desired target audience and fulfill the objectives you propose?

Promotion: What are the most effective and efficient vehicles to reach the target audience and increase their interest in the project?

Determine who your supporters are and make use of them. You may also need to consider formal and informal processes for acquiring resources. Ideally, your manager should be on board with the project and should be able to attract senior administration's attention to the effort.

Step #3 Pool resources/build partnerships with key stakeholders

Collaboration with other organizations concerned with your issue can be valuable. By pooling resources with other organizations or practice settings (units, departments, etc.), you can have a greater impact as well as access new audiences. Build connections with key people and organizations that have the potential to bring attention and credibility to your initiative. Leverage specific initiatives that may provide funding i.e. the Late Career Initiative in order to link with a particular guideline and maximize benefits to your organization. Invite businesses to sponsor your project (be sure to consider any conflict of interest first) and align yourself with other professional associations, local service organizations and existing community coalitions,

Implications to consider before proceeding to the next chapter

Stakeholder implications

- Consider stakeholders that will assist you in determining an accurate and presentable budget: people in your finance department, communications department, education department, your manager, etc.
- Consider stakeholders that will rally your cause, specifically, your manager, other members of administration, members of Patients Council (if one exists), quality improvement staff, board members, or anyone that can help to build the case for implementing the BPG.

Action plan implications

- Add to your action plan the strategies you will be using to identify the resources for the implementation and evaluation of the BPG.

Scenario: Home Care Agency

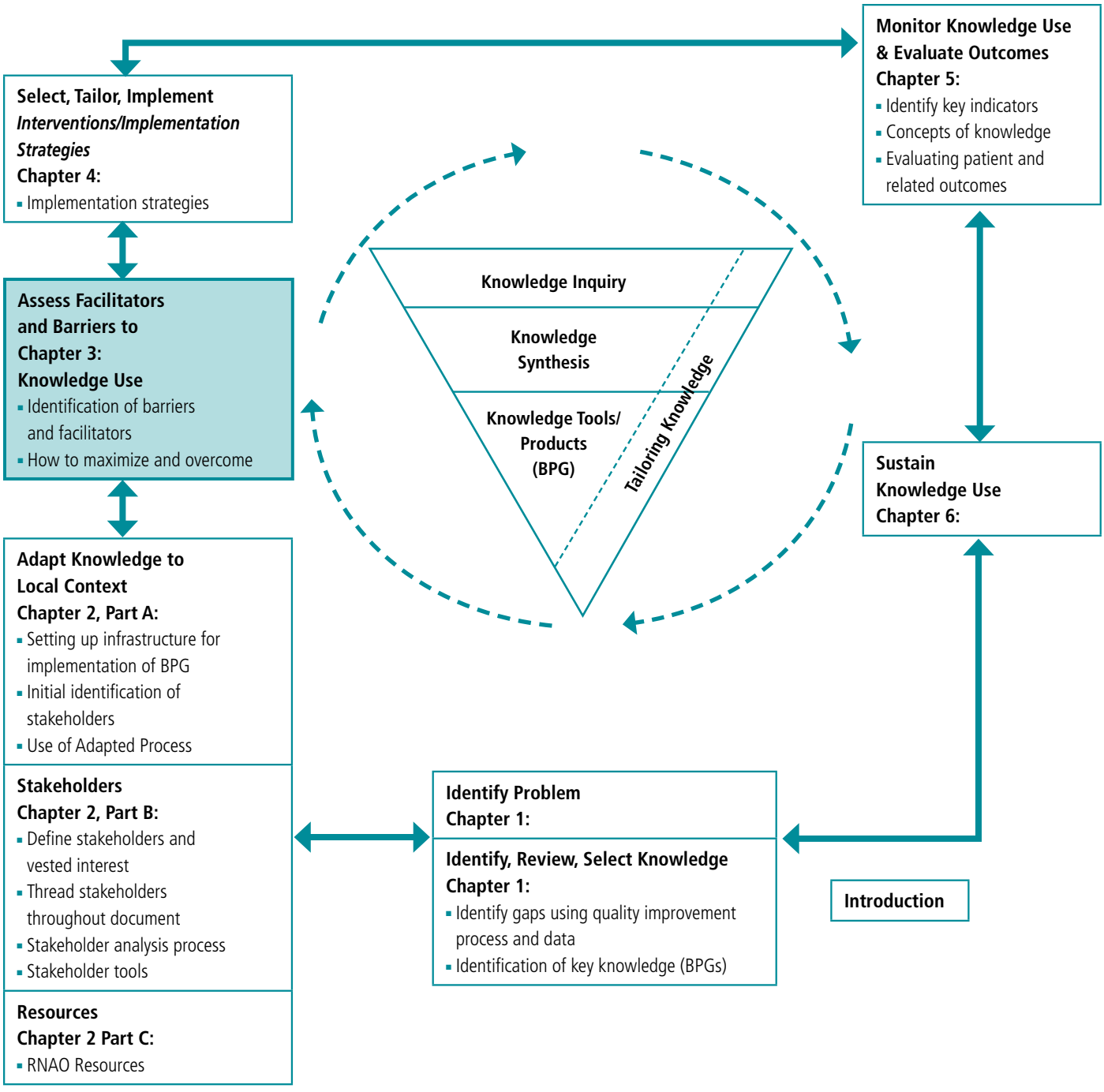
In one home care agency, a team has been convened to oversee the implementation of the RNAO Best Practice Guideline entitled Assessment and Care of Individuals at Risk for Suicidal Ideation and Behaviour. The purpose of the project is to support nurses who provide home care to: identify patients who may be at risk for suicidal ideation and behaviour; provide emotional support; and mobilize the necessary resources for these patients. The implementation plan involves activities related to engaging staff champions, in-person staff training and development of clinical pathways. Prior to approval of the implementation plan, the Site Manager and Director of Nursing request that your committee generate an implementation budget; they want to know how resources will be allocated to conduct the multifaceted implementation plan, and what new costs will be associated with the implementation.

As the committee prepares the budget, they think systematically about the costs associated with each implementation strategy and ask questions that help them to develop the budget (see Table 5). Prior to finalization, the committee consults with their stakeholders and the financial and/or human resources representatives for the agency to ensure that all costs have been considered appropriately. External sources of funding are also explored through the RNAO Advanced Clinical Practice Fellowships program.

Table 5: Budget Planning Table

Strategy	Activities	Questions the committee asks as they prepare the budget
Engaging local champions in planning and executing implementation activities	• Plan and design focus groups with staff regarding the issue of suicide • Consultation with the multidisciplinary team	• How much staff replacement time is needed to plan the focus groups? • How much time is needed for participants to attend the focus groups? • How much time is needed for the individuals who will meet with multidisciplinary team members?
In-person staff training	• Design and conduct the educational sessions	• How much time is needed to design and conduct the education sessions? • What is the cost of preparing and printing the materials for the sessions? • What are the costs for the venue, catering, audio-visual support? • How much staff replacement time (and/or overtime) is needed to enable all nursing staff to attend? • Will there be costs for travel and/or parking?
Develop clear clinical pathways	• Develop clinical pathways based on consultation with nursing staff and multidisciplinary team members regarding availability of relevant specialized service	• How much time is needed for the individuals who will meet with multidisciplinary team members? • What resources or other departments need to be consulted before finalizing the clinical pathway?
Other supports	• Set up strategies for providing debriefing opportunities and support to nursing staff who care for patients at risk of suicidal ideation and behaviour	• How much time is needed to consult with nursing leadership and others to develop these processes? • Who will provide these supports on an ongoing basis and will there be a cost for their time?
Reminders	• Develop a pamphlet summarizing the key messages of the training session • Develop a poster to be posted in each nursing station displaying the clinical pathway	• What is the cost of developing and printing these materials? • How many documents will need to be printed?
Evaluation of Clinical Practice Guideline Implementation	• Collect both quantitative and qualitative data to evaluate whether the implementation process was successful	• What evaluation materials will need to be developed and or analyzed? • Staff time

Chapter 3 : Assess Facilitators and Barriers to Knowledge Use



Review of previous chapter

Thus far we have discussed using a systematic approach to guideline implementation based on the Knowledge-to-Action Framework, reinforced the steps of: determining the issue, selecting a quality practice guideline, validated by the AGREE II Tool. Adapting the guideline as necessary to the local context and identifying and determining how to engage stakeholders for best results. In addition it is essential that required resources are identified for the full duration of the process from inception to evaluation, and sustained use. We are now moving to assessing facilitators and barriers that may impact implementation of the guideline in practice settings.

What this chapter adds

In this chapter, we will review elements identified in the literature to be facilitators or barriers to implementation. In either situation – knowing what you can do, or cannot do will help you decide whether and when to move forward with the Practice Guideline implementation project or initiative.

Key Definitions:

Barrier: Any real or perceived concept that interferes with a change intervention (Ferlie & Shortell, 2001).

Facilitator: Factors that would promote or help implement shared decision-making in clinical practice (Legar, 2009).

Here are the facts

Why is it important to consider facilitators and barriers in the implementation plan?
Identifying facilitators will enable you to foster and maximize support for implementation. Understanding barriers will allow you to plan effective strategies to overcome or mediate them early in the process. It will also allow you to pause and decide whether a barrier is sufficiently significant that implementation will not be successful.

Assessment of the facilitators and barriers in your local context can best be achieved by listening to the identified stakeholders. Stay alert to the potential for new barriers to be identified as:

- new stakeholders are identified
- the scope of the implementation expands and
- environmental issues change

In a pilot study conducted to evaluate the usefulness of the original 2002 RNAO Clinical BPG Implementation Toolkit, participants who completed a self-administered questionnaire identified that their main use of the Toolkit was to identify, analyze and engage stakeholders (Dobbins et al., 2005). The entire stakeholder analysis process leads to identification of the people related barriers and facilitators, and as they discuss the change, other structure and process barriers at the individual, organizational and environment levels surface. Stakeholder analysis is not a one-time occurrence, and can influence guideline implementation as facilitators or barriers are identified at various steps of the implementation process.

Factors influencing facilitators and barriers
Factors that influence guideline implementation can, in some situations be facilitators, while in others they can be barriers; sometimes, they are both. In a study conducted by Ploeg et al. (2007) barriers and facilitators of clinical practice guideline implementation were examined; they are listed below.

Individual, organizational, and environmental facilitators influencing guideline implementation:

- **Group Interaction** (individual): Small group educational sessions that enhanced learning via social interaction with peers
- **Positive staff attitudes and beliefs** (individual): Some believed implementation would improve patient outcomes and working conditions
- **Leadership support** (organizational): Support from nurse managers and administrators at all levels, to support the vision and to embed the guideline in policy.
- **Champions** (organizational) A delegated person to lead, facilitate and encourage the implementation process. (Most commonly reported by administrators to be essential.)
- **Inter-organizational collaboration and networks** (environmental): Administrators highlighted the importance of networks to promote integration, coordination and continuity of client care.'

Individual and organizational barriers to guideline implementation:

- **Negative staff attitudes and beliefs** (individual): Staff resistance to change may be due to organizational level issues (heavy workloads, high staff turnover and organizational change).
- **Limited integration of guideline recommendations into organizational structures and processes** (organizational): For example, inadequate staffing for implementation activities.
- **Organizational and system level change** (organizational): For example, changes in nursing roles and models of care, structural renovations on units.

While all categories of influencing factors are relevant to the success of BPG implementation and utilization of research, the influence of individual nurse characteristics is critical. In a systematic review of the individual characteristics that influenced research utilization, the **nurses' beliefs and attitudes** toward research were the most persistent characteristics positively associated with research utilization. Nurses' **participation and attendance** at in-services and conferences were also identified as being positively associated with research utilization (Squires, Estabrook, Gustavsson, & Wallin, 2011). The authors noted that these were the most modifiable factors influencing research utilization.

Unexpected issues such as personnel changes, organization mergers, funding cuts, pandemics, and corporate priority/direction shifts can facilitate new opportunities for guideline implementation or present barriers not previously anticipated. Strategies to implement guidelines should address all barriers and be tailored to the audience (e.g. nursing staff, project leaders and administrators). In addition, the costs of implementing the guidelines may be either a facilitator or a barrier and need to be considered by health-care administrators (Ploeg et al., 2007).

Research regarding the implementation of clinical practice guidelines provides insight into factors to consider when identifying facilitators and barriers, as well as potential strategies to manage them to benefit your project. These factors may be classified as those related to: 1) the **evidence** guiding the change, 2) the t**arget audience (individuals, and teams)** for the change; 3) **the resources (environmenta**l) needed to fulfill the implementation plan, and 4) the organizational context in which implementation activities will be conducted.

Evidence (guideline)-related factors:
Ensuring you have the best evidence for your clients, setting and staff will provide a solid basis for proceeding. Confidence in the evidence (guideline) and the ability to convince others that it is the right thing to do, and the right time to do it, will help minimize or remove barriers and facilitate your implementation. Some examples of facilitators or barriers related to the evidence are illustrated in Table 6 which outlines the factors with a specific example.

Table 6: Examples of Facilitators and Barriers Factors Related to the Evidence

Facilitators/Barriers		Potential Strategies to consider to maximize facilitators and minimize barriers
Accessibility (Grol, 2005; Hutchison & Johnston; 2006)	Awareness of where and how to access relevant guidelines	Make guideline/ guideline recommendations or summary readily available at point of care (e.g., attach to patient charts, display around unit).
Understandability/ Complexity (Knowles 1988)	Level of understanding and how to implement it in practice	Provide real-world examples, relevant to your setting.
		Tailor education to needs of end users.
Ease of implementation (Grol, 2005)	Ease of implementation of guideline into current practice environment	Engage opinion leaders (relevant to your environment/ setting) to demonstrate how the new guideline can be integrated into current practice.
Believability (Grol,2005)	Quality of the evidence on which the guideline is based	Provide information that demonstrates the guideline was based on the highest level of evidence possible.
		Provide examples that demonstrate how guideline implementation improved outcomes in other settings.
		Provide staff with the opportunity to discuss any disagreement they may have with the guideline and try to achieve consensus.
		Pilot test the innovation with a target audience in a small area prior to implementation.
Compatibility (Grol, 2005)	Compatibility with what is already known, believed and done	Provide examples as to how the new guideline is consistent with what is already done, known and believed for that setting.
		Involve those who will be using the guideline in the implementation process.

Target audience related factors

Ensuring key target stakeholder needs have been addressed will facilitate smoother implementation. Examples of facilitators or barriers at the individual/team level are illustrated in Table 7 below.

Table 7: Examples of target audience related factors

Facilitators/Barriers		Potential Strategies to consider to maximize facilitators and minimize barriers
Individual and Team	**Specific Example**	
Attitudes and beliefs (Squires, Estabrook, Gustavsson, & Wallin, 2011)	Attitudes and beliefs towards research use in practice	Have change agents/champions model positive attitudes towards research use and guidelines.
		Encourage attendance at conferences and in-services; highlight positive experiences with guideline use.
(Knowles, 1988)		Draw on past successes, provide encouragement and incentives.
Knowledge/skills (Gifford, 2010).	Level of knowledge and skill	Provide education/training where knowledge and skill necessary to implement the changes recommended in the guideline are assessed to be deficient.
Time (Knowles, 1988)	Time to read and implement guidelines	Provide health-care providers with dedicated/protected time to read the guidelines.
		Schedule information sessions about the guidelines at various times.
Buy-in (Grol, 2005)	Belief that guideline will make a difference	Demonstrate the disparity between current practice and new guideline recommendations.
Opinions of others (Gifford, W. 2010)	Degree of consensus between / within professions	Allow for interprofessional discussions Interprofessional participation and awareness..
Exchange of information processes (i.e., communication) (Gifford, W. 2010)	Opportunities to exchange information	Educational opportunities (e.g., in-services, on line learning, conferences).
		Journal club.
Cohesiveness (Grol, 2005)	Ability of team to work together	Draw on history of collaboration.
		Team building activities.

Resource Related Factors

Resources, including human, financial, time, physical or space can be barriers as well as facilitators. Addressing these areas in your planning will help to avoid pitfalls during implementation. Examples of resource-related facilitators or barriers are illustrated in Table 8.

Table 8: Examples of Resource- related Factors

Barriers and Facilitators		Potential Strategies to consider to maximize facilitators and minimize barriers
Human resources	Presence of adequate staff	Ensure that there are extra staff available to provide relief during education sessions and other implementation-related activities.
Financial resources (Grol, 2005)	Availability of financial resources necessary to implement the guideline	Conduct a thorough cost assessment prior to beginning implementation efforts.
		Examine all sources of possible funding: foundations, fundraising, professional organizations, government, etc.
Time as a resource (Thompson et al, 2006)	Ensure that target audience have enough time to engage in implementation efforts	Be aware of competing demands and projects
		Ensure that there is time available to participate in all stages of the implementation (e.g., planning, education, evaluation, reading).
		Build a realistic timeline to bring about change and plan accordingly.
Physical resources (e.g., equipment and supplies) Gifford, W. (2010)	Access to required equipment and supplies	Ensure availability of • Computers/ electronics resources if required • Equipment and supplies
Space Hutchison & Johnston (Grol, 2005; Hutchison & Johnston, 2006; Knowles, 1988)	Adequacy of physical facilities for implementation	Ensure physical space is conducive to learning.

Organization-related factors

The support of the organization that is the setting for the guideline implementation is essential for success. Leadership support/facilitation is needed at all levels, whether it be ensuring resources (human, financial, physical or space), or having knowledge of what other activities/priorities are influencing the organization, having an understanding of what impact the guideline implementation might have beyond the organization, and providing direction on how funding might be accessed. Embedding the guideline into organizational policies, procedures, and documentation will support the sustainability of the guideline recommendations.

Examples of resource-related facilitators or barriers are illustrated in Table 9.

Table 9: Organization-related factors

Barriers/Facilitators		Potential Strategies to consider to maximize facilitators and minimize barriers
Leadership (Grol, 2005)	Presence of effective leaders	Leaders need to be supportive, accessible, good communicators and effective change agents.
		Leaders will support team members, education activities and the acquisition of needed equipment and supplies.
Scope of practice (Gifford , W.2010)	Assure guideline recommendations are consistent with relevant staff's scope of practice	Engage professional associations/unions in the guideline selection and implementation process.
Existing policy and procedures (Grol, 2005)	Fit with existing policies and procedures	Assess fit between new guideline and existing policies and procedures prior to guideline selection.
		Make any necessary adjustments to the guideline prior to implementation.
Change agents/ Opinion leaders (Gifford, W. 2010) (Grol, 2005)	Presence of effective change agents/opinion leaders	Ask staff to identify natural leaders.
		Engage change agents/opinion leaders in the guideline implementation process.
Workload (Gifford, W. 2010)	Manageable workload	Consider complexity of patients.
Concurrent projects (changes)	Concurrent projects (may act as a barrier or a facilitator)	Examine what other changes are occurring simultaneously in the organization and unit. Too many changes at once can overwhelm a team.
Priorities	Concurrent with organizational priorities	Examine corporate priorities and strategic goals to see if the new guideline is reflected in them.
		Engage stakeholders early in the guideline selection and implementation process.
		Education to show why the new guideline should be a priority.
Organizational approval Processes (Grol, 2005)	Speed at which administrative/ organizational process works	Know whose approval is required.
		Plan far enough ahead to allow time for lengthy administrative/organization decisions, approval and change.

Application, or Making it happen in your practice setting

In order to increase the likelihood of a successful implementation, it is important to identify factors that facilitate and factors that inhibit the adoption of clinical evidence/knowledge (Henderson, Davies, & Willett, 2006), recognizing that some factors may be in both categories. The following is a brief synopsis of this process:

1. Assess facilitators and barriers. Conducting a survey is often done to identify facilitators and barriers. Clement et al. (2011) discussed the experiences of nurses in an emergency department developing a survey tool and conducting their survey. You may find this article helpful (see recommended readings).

Consider factors in a number of areas:

- Evidence-related factors
- Target Audience-related factors
- Resource-related factors
- Organization –related factors

2. Maximize facilitators. Build on facilitators to add support and strength to implementation (e.g. pain management guideline to coincide with organizational pain pump purchases).

3. Make a plan. Match what you know to what is possible within the situation (See Chapter 5). Appendix 3.1 consists of a series of questions to assist you in identifying barriers as you plan the implementation stage. It provides questions for the planning team as you develop implementation approaches. Obtaining answers to these questions will help overcome barriers and will be essential in assuring successful outcomes.

Implications to consider before proceeding to the next chapter

Stakeholder implications

Reviewing facilitators and barriers may have increased the number of stakeholders you had initially considered. Think through what support you need from any new stakeholders and how you will involve them, whether indirectly or directly as you proceed to plan for implementation.

$ Resource implications

Estimating resources needed to implement can be a daunting task, but is absolutely necessary. All those with budgets that will be impacted appreciate knowing upfront what is being asked to ensure the implementation is successful. Leadership support is essential for success.

When they agree upfront to the cost, the implementation will proceed with great ease. Creeping implementation costs cannot not only delay implementation…it can bring it to a halt.

Action Plan implications

- Thoroughly assess facilitators and barrier in your environment
- Analyze whether they will assist implementation and build on those strengths or whether they are a "show stopper".
- Build implementation strategies to maximize facilitators and remove barriers
- If there is a "show stopper", do not proceed until a solution is found.

Scenario or case study

The following examples from a variety of sectors present background information, the clinical problem, the selected guideline, a completed assessment of barriers and resulting implementation recommendations.

An Example from the Community Setting

Background: This scenario takes place in a **public health unit** that is attempting to implement BPGs across multiple programs within their region.

The problem: The **chronic disease prevention** division identified a need to improve their client approach.

The evidence: The RNAO Client Centred Care BPG clearly outlines a number of recommendations that include the following "beliefs": respect; human dignity; clients are experts for their own lives; clients as leaders; Clients' goals coordinate care of the health-care team; continuity and consistency of care and caregiver; timeliness; responsiveness and universal access to care. These values and beliefs must be incorporated into, and demonstrated throughout, every aspect of client care and services." (RNAO Client Centred Care BPG, 2006)

The barriers: 1) The public health unit consisted of a variety of multidisciplinary members who were resistant to the implementation, as they viewed it as "nursing initiative" and did not want to change their way of practice; 2) The public health unit was not able to assign a public health nurse to lead this initiative.

The possible solutions:

1. The multidisciplinary members were invited with the nurses to meet with the BPG coordinator and were provided with detailed information on the BPG project. During this meeting, the coordinator stressed that he wanted to support the team in implementing any of the initiatives they felt would be beneficial to their practice and program.
2. The team as a whole decided to **narrow their focus** for the BPG to focus on healthy adolescent development. Although this initiative was already in place, they felt that healthy adolescent development was an initiative that was not specifically attributed to nurses and required the collaboration of the entire multidisciplinary team in order to be successful. In addition, the team felt this project could potentially **build on the initiatives already started** and also **fulfill one of the organizations priorities** (i.e. to engage youth).
3. The public health division was able to allocate two health-care promoters to lead the initiative. This proved to be very successful. They were able to translate the guidelines into something meaningful to those implementing them.

An Example from an Acute Care Hospital

Background: On an **inpatient unit in a large academic teaching hospital** a sentinel event occurred. A client fall had the worst possible outcome. Staff and management were devastated. They identified that there was a pattern of increasing falls. All involved wanted to take action on preventing further events.

The evidence: The Nurse Practitioner on the unit volunteered to take the lead. A Falls Prevention Team (including physiotherapy, occupational therapy, clinical nurses, clinical educators, management, professional practice, risk management and patient equipment facilitator) reviewed the *RNAO Prevention of Falls and Fall Injuries in the Older Adult BPG*. Multiple recommendations were implemented, including the use of Morse Fall Scale (with high-risk interventions such as bed alarms, medication review, etc.) and environment scans. Some decreases in falls and severe falls were seen, but the group felt more could be done.

Next Phase: The falls prevention group read in the literature about some hospitals finding success with the implementation of yellow arm bands to identify clients at high risk of falling. The group decided this would further help identify those at risk. They felt this would be easy to implement, as all that was needed was to instruct the nurses on the unit and get a supply of yellow armbands.

Barriers and Solutions: As they discussed their plan with stakeholders, concerns regarding privacy and the potential for labelling arose. The Privacy Department was consulted. The group took the Privacy Department's advisement and discussed how to move forward while protecting clients' privacy. The group reviewed the messaging for the armband and came up with a slogan that was respectful and also conveyed the intention of the armband. The slogan "Call Don't Fall" was printed on each armband.

More stakeholders responded with concerns that other units would not know what the armband was and questioned how its purpose would be communicated. The group devised a plan for communication, recognizing that their patients frequently left the floor for tests and patient transfers, and that other members of the health-care team needed to know what the yellow armband meant. This required a corporate broadcast, to ensure the many other members of the health-care team (porters, radiology, other units, security, spiritual care, etc.) understood the purpose of the yellow armband.

Another issue arose regarding where to purchase the armbands. The facility had a latex-safe policy. A latex-free armband was identified. For other floors to purchase the armband, the central vendor for the agency needed to be brought in and consulted, so that a stock number would be obtained for all to use.

The Morse Fall Scale document needed to be updated to allow nurses to document the use of the yellow armband. Consultation with the Forms Department was required to make the needed changes.

By listening to stakeholders and removing the barriers, this group was able to successfully implement the use of yellow armbands. The group also gained an appreciation of how each department, although separate entities, needed to work together to assure excellence of care.

Recommended Websites & Web-based Resources

Perceived Barriers to and Facilitators of the Implementation of Priority Clinical Preventive Services Guidelines:
http://www.internetgroup.ca/clientnet_new/docs/Barriers.pdf

Facilitators and Barriers to Implementing Clinical Care Pathways:
http://www.biomedcentral.com/1472-6963/10/182

Recommended Reading

Clement, C., Stiell, I., Davies, B., O'Connor A., Brehaut, J., Sheehan, P., et al. (2011). Perceived facilitators and barriers to clinical clearance of the cervical spine by emergency department nurses: A major step towards changing practice in the emergency department. *International Emergency Nursing,* 19, 44–52.

Ploeg, J., Skelly, J., Rowan, M., Edwards, N., Davies, B., Grinspun, D., et al. (2010). The role of nursing best practice champions in diffusing practice guidelines: A mixed methods study. *Worldviews on Evidence-Based Nursing*, 4, 238–251.

Appendix 3.1 – Facilitators and Barriers: Questions to Guide You

These charts are a resource to help raise questions for the planning team as you plan for implementation. The answers to these questions will help you devise strategies to help overcome barriers and will be essential in assuring successful outcomes.

Evidence-related factors

Ensuring you have the best evidence for your clients, setting and staff will provide a solid basis for proceeding. Faith in the evidence and the ability to convince others that it is the right thing to do and the right time to do it will help in minimizing or removing barriers and facilitating your implementation

Barriers/Facilitators		Questions to consider
Accessibility	Awareness of where and how to access relevant guidelines	How might you display the guideline/recommendations to catch attention in your workplace? Posters? Bedside charts? Newsletters? Meeting rooms?
Understandability/ Complexity	Level of understanding and how to implement it in practice	Are the recommendations clear and easy to understand? If not, how might you make them so? Provide real-world examples, relevant to your setting Who has used it in your hospital? In a similar setting elsewhere? Who is the end user of the recommendations? Tailor education to their needs in a respectful and interactive way. (using principles of adult characteristics *) Are there RNAO Best Practice Champions on this team(s) that could be enlisted to help?
Ease of implementation	Ease of implementation of guideline into current practice environment	Who in your organization is looked up to, either in formal in leadership or on your team? How might you engage those people to help promote using the evidence? How can the implementation flow into current work to make it ease into practice? Does it need to be broken into steps?

Believability	Quality of the evidence on which the guideline is based	How can you communicate the evidence to assure that what you are using is well founded? Has been successful elsewhere? How can you provide for time to discuss and bring forward any disagreements openly? How can you be open to opposition, provide discussion and if valid concerns, find consensus? Where could you run a pilot to either show success or provide learning on how to improve implementation?
Compatibility	Compatibility with what is already known, believed and done	What examples can you provide where the guideline fits with current thinking, beliefs, and values? For your client population? For the care providers? For the organization? How can I involve those who will be using the guideline in the implementation process? Can they be on the committee? Can they help with development of a tool? Could they provide feedback at certain points in the planning? Can they be part of a pilot?
Timing	Number of guidelines available	What other guidelines or other implementations are being planned during the timeframe you plan to implement? If there are others, is there any opportunity to combine efforts, or is an adjustment or delay needed to avoid over taxing staff?

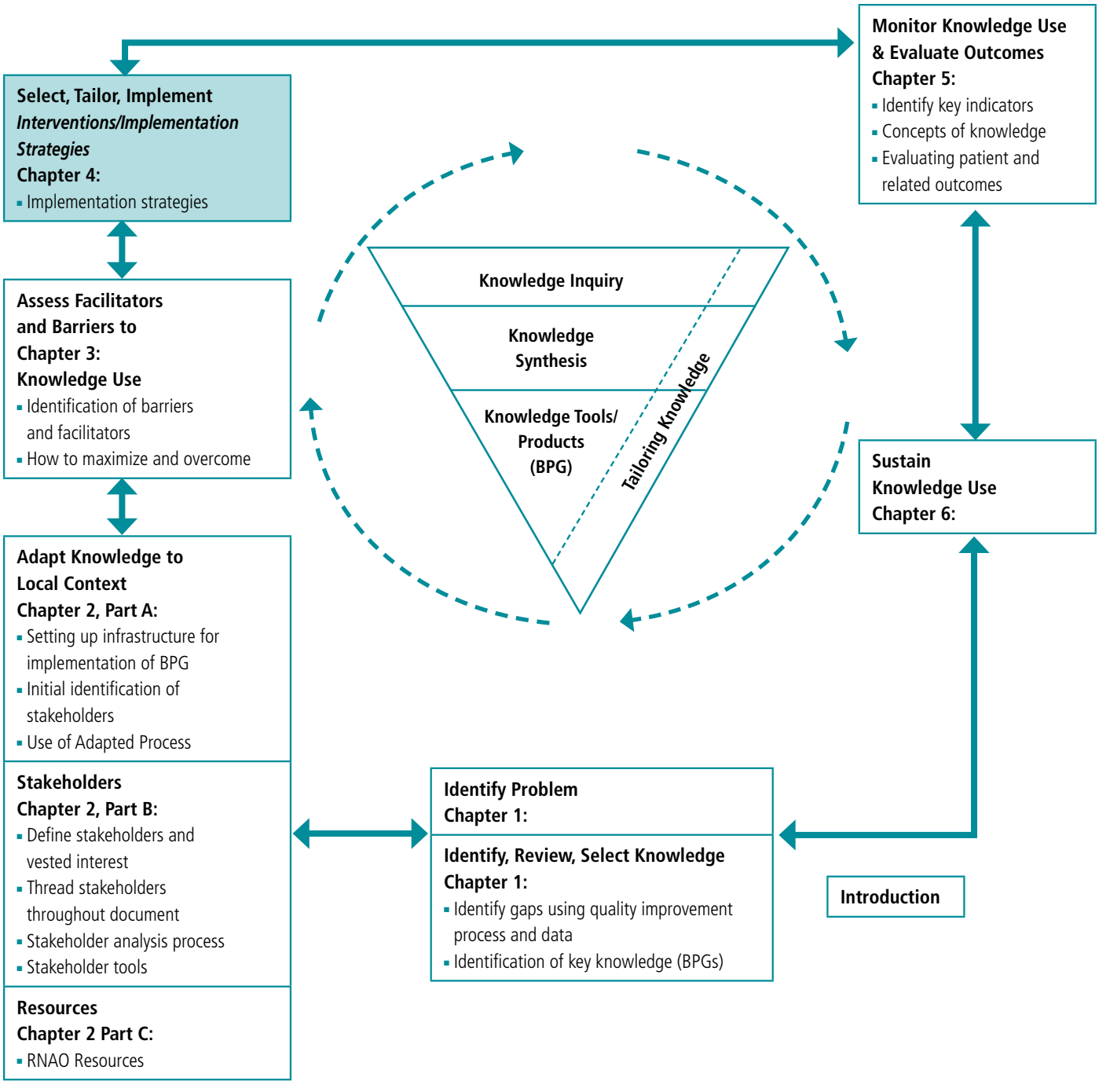
Target audience related factors		
Barriers/Facilitators		**Questions to consider**
Health-Care Providers		
Attitudes	Attitudes towards research use in practice	What have their previous experiences been with evidence based changes in practice? What went well? What didn't go well? What can you learn from those stories to modify your approach? Has there been a positive experience within your facility/ organization that you can use to highlight?
Knowledge/Skills	Level of knowledge and skill	Who will need education? What level of education will be required? (i.e. client education is recommended to be at Gr.6 level). Do you need to educate on all recommendations? Are some recommendations already current practice? Can you focus on only those that need changing?
Comfort/confidence	Level of comfort and confidence	How can you provide a supportive environment? Are you comfortable dealing with concerns and disagreement? How will you provide positive feedback where appropriate?
Time	Time to read and implement guidelines	How can you provide time needed for the team members to read and implement the guideline? How can you reach those on shifts or those on leaves? When could you schedule sessions to reach as many members as possible?
Motivation to change	Belief in ability to bring about change	Has there been a successful change in the past? What factors helped in that success? How can you provide encouragement at all stages of the implementation? What would be an incentive in your workplace? Does the team respond well to case studies? To opportunities to highlight their area to the rest of the organization? To snacks with education?
Buy-in	Belief that guideline will make a difference	How can you show the difference between current practice and the recommendations? Would a chart help? Would a visual depiction of the current outcomes versus possible outcomes work?
Patient/Client related factors		
Knowledge	Knowledge of guideline recommendations	How will you provide client education? Are your materials accessible? (literacy level, multiple media, available to those with disabilities) Who will assure they are available at implementation and into the future? Where will they learn best? (during hospitalization, at home, in clinic)?

Access	Access to required resources	What resources are needed for clients when implementing? Will they need more labs? Supplies? Additional care? Will any current resources no longer be needed? How will you communicate to the areas/ organizations affected?
Team		
Opinions of others	Degree of consensus between / within professions	Is senior leadership openly supportive of this implementation? If not, how can you enlist their support? Can they role model the change needed? Who on the team is not directly involved in the implementation, but should be kept involved in the plans? How can you engage them in discussion and take into account their feedback?
Expectations	Clarity of expectations	How will you plan and communicate the implementation so that everyone is clear on what is changing, how it will change and their role in the change?
Exchange of information processes (i.e., communication)	Opportunities to exchange information	How is education delivered currently? How is it communicated? How well does it work? If it works well, could the education needed for implementation use this format? Do they learn well with in-services? Self-learning? Online learning? Is there funding for attending a workshop or conference? Has the health-care team been exposed to evidence-based practice? If not, could some education about research be provided? Would a journal club work in this setting? Are they able to access resources to help with clinical appraisal of research? For example, are librarian resources available? Could you link with academic partners?
Cohesiveness	Ability of team to work together	Does the team work well together? Does the team have a history of collaboration? If not, how might you build some skills doing small implementations? How might you access and use team-building activities to support the change in practice?

Resource Related Factors		
Barriers/Facilitators		**Questions to consider**
Human resources	Presence of adequate staff	How can you ensure there will be extra staff to allow for education sessions? Will additional staff be needed for those on the planning committee? During implementation? During evaluation? Do you have leadership support for needed staffing?
Financial resources	Availability of financial resources necessary to implement the guideline	What will the cost be to implement? Have you costed out not just supplies and educational materials, but also replacement costs for staffing? What will be on the ongoing costs of equipment or documentation materials? Where could you look for funding other than the operational budget? Foundations? Fundraising? Professional organizations? Government?
Time as a resource	Ensure that target audience have enough time to engage in implementation efforts	What else is going on in the unit or facility that might demand your time, and the time of those changing their practice or the leadership? How much time will be needed for the planning stage? Education stage? Evaluation? Have you built a realistic timeline (most projects take longer than expected)?
Physical resources (e.g., equipment and supplies) (3)	Access to required equipment and supplies	Do you need access to computers for education/implementation? Are they available? What supplies are needed? Who will order and put in place for implementation and ongoing? Is capital equipment needed? What is the process and timeline for getting what is needed?
Space	Adequacy of physical facilities for implementation	Where will learning take place? Do people need to get away from the clinical area to focus? Is the room big enough for the groups? Is the room equipped with necessary tables/chairs, LCD/laptop/screen, flipcharts, etc.?

Organization-related factors		
Barriers/Facilitators		**Questions to consider**
Leadership	Presence of effective leaders	Are they visible and accessible to the team members when they have concerns? Do you have leader support for team member time, educational activities and the acquisition of needed equipment and supplies?
Scope of practice	Assure guideline recommendations are consistent with relevant staff's scope of practice	Is this within staffs' scope of practice? Would a medical directive be required? Is this implementation supported by the relevant professional associations? How might you engage professional associations/unions in selecting and implementing? Do they have policies or materials that support the recommendations?
Existing policy and procedures	Fit with existing policies and procedures	What policies currently in place might support the recommendations? What will need to be changed to reflect the new practices? Are these corporate? Profession specific? Unit/clinic specific? Who owns these and needs to be involved?
Change agents/ Opinion leaders	Presence of effective change agents/opinion leaders	Do senior nurses role model positive clinical leadership? Who on this team might you target to help champion this implementation? Is someone passionate about these recommendations, this patient population, the potential outcomes that can be achieved?
Workload	Manageable workload	Does the complexity of clients impact the implementation of these recommendations? Will implementation add or decrease workload? Will the complexity of the client's condition impact measurement of outcomes?
Concurrent projects (changes)	Concurrent projects (may act as a barrier or a facilitator)	What other change projects are happening during the time frame of implementation? Too many changes at once can overwhelm a team.
Priorities	Concurrent with organizational priorities	What are the corporate priorities? Does this implementation complement the strategic goals? How can you engage stakeholders early in the guideline selection and implementation process? How can you educate senior leadership to show why the new guideline should be a priority?
Organizational approval processes	Speed at which administrative/organizational process works	Who has to approve the project? The financing?
		What is the turn-around time for decisions in the organization? How far ahead do you need to be planning?

Chapter 4: Select and Tailor Implement Interventions and Strategies



Review of previous chapter

Now that you've identified a quality BPG that will address the clinical practice needs, considered stakeholder support in your setting, determined and addressed key resource issues, and assessed your practice setting's readiness for implementing the selected BPG, through identification of facilitators and barriers, you are ready to put the BPG into practice.

What this chapter adds

This chapter addresses the following questions:

- What is the change process and how does it influence guideline implementation?
- What are guideline implementation strategies? Which one is most appropriate for the BPG selected?
- Which guideline implementation strategies are the most successful?
- How do we match guideline implementation strategies to our practice setting?
- Where can we find information about guideline implementation strategies?

Guideline implementation strategies should be based upon the outcomes and the data that you have collected from each step in the process so far. This includes priority guideline recommendations needed in your setting; stakeholder analysis, the identified barriers and facilitators and how to work with them; and evidence regarding which implementation strategies work best in a particular setting.

This chapter provides a summary of what is known about the effectiveness of various strategies for implementing practice guidelines, as well as an introduction to change theory. It provides information that will help you decide which guideline implementation strategies to use when implementing the BPG in your setting by focusing on strategies aimed at health-care providers, clients and the work environment.

At this time there is insufficient evidence to determine which specific strategies work best in a particular context, so it is important to be flexible and willing to experiment. Bear in mind that change can be a challenging process. As you work through the knowledge-to-action cycle, be prepared to change or modify your approach based on feedback and results.

Key Defintions

Audit and feedback: A summary of clinical performance that may include recommendations for action, gathered over a specified period of time, which is used to increase group awareness of their and/or others' practice. Information may be obtained from medical records, computerized databases, or observations from patients/clients/residents (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Educational materials: Published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications. The materials may be delivered personally or through mass mailings (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Educational meetings: Lectures, conferences, workshops or traineeships (Cochrane Effective Practice and Organisation of Care Review Group; 2002). Meetings may include methods of learner involvement such as discussion and active participation (e.g. work group tasks, problem-based learning) (Registered Nurses Association of Ontario; 2002).

Educational outreach visits: One-to-one visits by nurse-facilitators, pharmacists, study investigators or others to the health-care provider in a practice setting, to provide information with the intent of changing the health-care provider's practice. The information provided may include feedback on the provider's performance (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Organizational interventions: Organizational interventions include revision of professional roles, revision of multidisciplinary teams, integration of services, skills mix changes, continuity of care, interventions to improve working conditions, communication and case discussion (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Managerial leadership: An organizational strategy, leadership is a multidimensional process of influence to enable nurses to use research-based evidence in clinical practice, and includes behaviours and activities of managers that exert direct and indirect influence on individuals, their environment, and organizational infrastructures (Gifford, Davies, Edwards, Griffin, & Lybanon, 2007).

Local consensus processes: Inclusion of participating practitioners in discussions to ensure they agree that the chosen clinical problem is important and the suggested approach is appropriate (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Local opinion leaders: Providers identified or nominated by their colleagues as educationally influential. They can influence others to change behaviour (Registered Nurses Association of Ontario; 2002).

Mass Media: Varied use of communications to reach great numbers of a targeted audience; mass media includes television, radio, newspapers, posters, leaflets, and booklets, alone or in conjunction with other interventions (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Patient mediated interventions: New clinical information (not previously available) collected directly from patients and given to the provider, e.g. education patients about research evidence relevant to their clinical condition and treatment (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Reminders: Patient/client/resident or encounter specific information, provided verbally, on paper or through electronic means to prompt health professionals to recall information and perform or avoid some action to aid care. Reminders could be incorporated in education, documentation, interactions with peers or computer aided decision supports systems (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Social Marketing: The "application of marketing concepts and tools drawn from the private sector to programs designed to influence voluntary behaviour of target audiences to achieve social goals." (Andreason, 2004).

Here are the facts

Implementation strategies:

It is important to choose an implementation strategy that facilitates the translation of new knowledge into practice. This requires recognition of the difficulties that are associated with change in practice. A number of studies have been conducted to evaluate the effectiveness of implementation strategies. Historically, they have focused on medical practice; however, more recent research has focused on nursing practice. There are a number of differences between care delivery models in nursing and medicine that may influence the transferability of an effective intervention in medicine to the practice of nursing. For example, the level of autonomy in clinical decision-making of hospital nurses is highly related to and driven by organizational policies and procedures, and given the 24/7 nature of much nursing practice, nurses generally practice in a team or interdependent situation, whereas many physicians are solo practitioners. Therefore, strategies that are tsuccessful when used with physicians may or may not be effective with nurses or interdisciplinary health teams. Where possible, this chapter includes recommendations based on evidence from implementation with nurses or interdisciplinary health teams.

Strategies that work:

Implementation strategies that work with other professions may not be effective in nursing.

Based on through review of the research literature the evidence reinforces that implementation strategies must be carefully planned and used in combination. There is no one approach that will make the difference, but various different combinations of approaches can influence effective practice change based on clinical practice guidelines.

Use multiple strategies

Changing health-care provider behaviour is difficult. Effective strategies often involve multiple components that target different barriers. However, it is not clear precisely how many strategies are necessary. Many strategies have a small effect when considered on their own.

Education should be interactive or combined with other interventions:

- Education, i.e. presentations or passive dissemination of information, is frequently used as part of a multifaceted strategy, and may lead to small improvements in care. Passive education is unlikely to be effective on its own for changing complex behaviours (Bloom et al., 2005; Forsetlund et al., 2009b; Gilbody et al., 2003).
- Interactive or multimedia educational techniques (e.g. role playing, practicing skills) are more likely to be effective than presentations or passive dissemination of information (Forsetlund et al., 2009b; Mazmanian et al., 2009).
- When educational interventions are combined with interaction between the educator and practitioner (e.g. audit and feedback, reminders or opinion leaders), they are more likely to lead to changes in behaviour (Francke et al., 2008; Prior, 2008).
- Educational outreach alone or in combination with other interventions has a small but consistent effect on physicians' prescribing behaviours (Ginrod et al., 2006; O`Brien et al., 2007).
- Knowledge alone may be insufficient for practice change. Changing provider knowledge does not necessarily result in behaviour and practice change (Forsetlund et al., 2009b).
- Printed education materials have a small positive effect on professional practice (Farmer et al., 2008; Forsetlund et al., 2009a).

Audit and feedback influences health professional and nursing practice:

- Audit and feedback is more effective when there is a large difference between the baseline, pre-guideline implementation professional practice and the recommended practice (Jamtvedt et al., 2006).
- It is also more effective when it is intensive and personalized, and provided repeatedly over a lengthy period of time (Bywood et al., 2008; Jamtvedt et al., 2006; Veloski et al., 2006). Quality monitoring systems can provide data for audit and feedback. Managers' use of quality monitoring systems can influence nurses' use of research (Gifford et al., 2007).

> Audit and feedback was used in a hospital that implemented the RNAO client-centred-care BPG. Each week, a nurse was assigned the task of auditing one practice; findings were compiled by the manager and shared with staff. Another RNAO Best Practice Spotlight Organization® used quality assurance data to provide feedback to nursing units.

Local opinion leaders can influence practice (Chaillet et al., 2006; Flodgren et al., 2007). Examples of local opinion leaders include practice champions and resource nurses at the unit or organizational level who influence their colleagues' knowledge and practice.

The Best Practice Champions Network® is composed of nurses or other health-care providers who are opinion leaders and who actively work to support practice change related to BPG implementation. Champions attend a full-day educational workshop, where they learn strategies for integrating BPG recommendations into their work setting. Following the workshop, Champions become a part of the RNAO's Nursing Best Practice Champions Network® and are given access to additional, ongoing educational and networking opportunities, resources and support.

Patient mediated interventions may be effective as part of a multifaceted strategy (Ginrod et al., 2006). Examples of patient-mediated interventions include educating patients about research evidence relevant to their clinical condition and treatment, education about screening and education about vaccination.

Interventions at the organizational level have been evaluated in conjunction with interventions aimed at professionals. There is less evidence about the effects of organizational interventions and findings are mixed, with some studies showing positive results from this strategy. Interventions that influence organizational processes and interventions that influence organizational structure are considered separately below.

Integrating recommendations into organizational processes, .e.g. automated reminders, clinical decision support systems, or restructuring patient records, can also be effective. Strategies that are nearer the end user and integrated into the process of care delivery are more likely to be effective (Bywood et al., 2008; Kawamoto et al., 2005; Shojania et al., 2009).

There is increased likelihood of success with strategies that focus directly on the health-care provider and the patient (e.g., restructuring patient records, patient-specific reminders, patient mediated interventions) (Kawamoto et al., 2005; Shojania et al., 2009).

Reminders can significantly improve practice (Bywood et al., 2008; Grimshaw et al., 2001; Shojania et al., 2009), and are more likely to be successful when they:

- automatically provide decision support as part of normal workflow (e.g., as part of electronic charting or order entry), at the time and location of decision-making (evidence-based nursing order sets are also examples of effective reminders);
- provide a specific recommendation with a reason for the recommendation; and
- are provided through computer-based support.

It has been demonstrated in the literature that **leadership from managers** (often referred to as "managerial leadership") may influence nurses' research use. While support from managers is consistently identified as important, the term 'support' is used to indicate encouragement, information sharing, allocation of resources and role-modelling to create a supportive organizational culture. Monitoring performance and outcomes can influence nurses' research use and application of BPGs (Gifford et al., 2007).

Interventions targeting organizational structure were not evaluated in the systematic reviews regarding BPG implementation. However, there is some evidence from systematic reviews regarding structural interventions, e.g. systematic review by Greenfield and Braithwaite (2008) found that engaging in accreditation can promote change in practices. Impacts on quality were mixed.

Although there is limited research regarding social marketing in the context of guideline implementation, this approach may be helpful. Social marketing has been used to achieve behaviour change in community health. More recently, it has

been argued that a social marketing framework can be used to plan strategies for guideline implementation; furthermore, many barriers to practice change are amenable to a social marketing approach (Andreason, 2004; Morris & Clarkson, 2009). (See Appendix 4.1 for information about the principles of social marketing.)

Choosing Your Strategies

Careful thought and considerable judgement must go into selecting BPG implementation strategies, as well as matching strategies to the characteristics of the practice environment, the BPG and the identified barriers and facilitators. While there is a plethora of evidence regarding which strategies are likely to be most effective, research evidence alone cannot determine which strategies will work best in a particular context or with a specific barrier.

As part of the planning process, you and your team should determine whether there are systematic reviews of BPG implementation used in settings similar to yours. Systematic reviews could help with matching implementation strategies, guidelines and settings. For example, there are several reviews of research regarding guideline implementation in the mental health setting (Bauer et al., 2002; Gilbody et al., 2003; Weinmann et al., 2007). As the research on BPG implementation by nurses grows, there will be more nursing-focused systematic reviews to guide BPG implementation selection.

Tailored strategies that target barriers that have been identified in advanced are more likely to improve professional practive (Baker et al., 2010). However, more research is needed to guide matching barriers and implemenation strategies to determine which strategy works best for which barrier.

Remember, this process is fundamentally about change. Changing the way we do things can be a challenging experience and process. Using a particular approach to change based on one of the many theories of change can help you understand the impact of change and help you select appropriate strategies for implementing your BPG.

Change Theory

Although the Lewin Change Theory has been used as an example in this Toolkit (see figure 5 below), there are many theories available, including Bridges (1991) and the ADKAR™ Model (Hiatt, 2006). The Lewin Change Theory (Schein, 1996) identifies three stages of change: (1) unfreezing; (2) changing; and (3) freezing or refreezing, and was selected for discussion here, because it reflects the necessary pre-change phases of unchanging or awareness raising as well as creating a positive milieu for change and finally focusing on refreezing or sustaining the change.

Figure 5: Lewin's Model of Unfreeze, Changing, Refreeze

Unfreezing

- In this stage, people come to understand that change is necessary and prepare to move out of their comfort zone.
- In order to make the change, people weigh the pros and cons of doing something in a different way.
- This decision-making process is influenced by internal factors (e.g. motivation) and external factors (e.g. deadlines).
- Creating an environment of psychological safety to enable people to take the risk to do things differently is important during this phase.
- Understanding the unfreezing process will help you create a picture of the future state and the ideal environment or situation for change.

Changing

- In this stage, people are 'unfrozen' from their old ways and start moving toward a new way of being. People are uncertain and sometimes even fearful, so this can be a very difficult stage.
- People need time to learn about the change and think it through.

Refreezing

- The re-freezing process occurs when changes are in place and stability is established. People become comfortable with new routines. Structures and processes to reinforce the new behaviour or routine are often needed because people tend to return to the former, familiar ways of doing things.
- Sustainability is discussed in Chapter 6.

Understanding the Change Process During Implementation

Think of new evidence or a practice recommendation you heard recently. How did you react at first? Did you have some concerns? Were you skeptical? Did you wonder whether what you had been doing could be wrong? Did you worry you might have to change? These kinds of reactions are all a part of unfreezing.

Schein (1996) examined unfreezing in detail and found that it contained three important phases: (1) disconfirmation; (2) learning anxiety; and (3) cognitive redefinition. These feelings and reactions to change are important to understand, in order to normalize the behaviour and provide strategies for support.

Disconfirmation

According to Schein (1996), "all forms of learning and change start with some form of dissatisfaction or frustration generated by data that disconfirm our expectations or hopes." Schein further noted the following:

- Exposure to new knowledge that is not consistent with current practice is rarely enough to convince us to change.
- We may ignore it, consider it untrue, believe it would not work in our situation or, for any number of reasons, decide we do not have to change.
- To be interested in changing, we must accept the new information and judge it to be valuable.
- For most of us, when we are pushed, we brace ourselves and even push back.
- When you bring new knowledge to people as part of BPG implementation, they may feel that they are being pushed. If people have little motivation to change and feel pushed, they may resist the change.
- Schein identified this reaction as learning anxiety.

Learning Anxiety

Learning anxiety is the feeling that if we begin to change:

- We are admitting that what we have been doing may be wrong or imperfect
- If what we are doing is wrong, then we are not being effective. This is a blow to our egos and may even threaten our sense of identity. Nurses, whose professional identity is often aligned with the provision of good care, may be vulnerable to this threat.
- Admitting that our practice needs improvement and embracing errors may be difficult.

Cognitive Redefinition

- Most nurses consider their work as embracing best practices. Indeed, in our formal education or through continuing education, we have been taught the "right" or "best" way to practice, with the attendant rationale regarding why we need to practice this way.
- Through cognitive redefinition, people redefine a practice change in a manner that maintains their values and makes it possible for them to see the change as positive.

The implementation team should consider how to create "psychological safety" for practitioners during the unfreezing stage. Otherwise, the new knowledge and recommendations may be denied or discounted. Support to normalize feelings related to change can be provided through educational sessions, opinion leaders, champions and managers. This will help people to remain focused on their goals, yet acknowledge the positive work that has been done to deliver care in the past. These concepts are applied in a case example at the end of this chapter.

Making it happen in your practice setting

Implementing a BPG in your practice setting has a greater chance of success if at least one team member has project management skills. Use your colleagues' project-planning resources to make a detailed plan of each step in your implementation and to plan your budget. Tailor your strategies to overcome barriers and build on the facilitators in your setting. The following pointers will also help you ensure the success of your BPG:

1. Use the results of the stakeholder analysis and the identification of barriers and enabling factors to plan your implementation strategies.
2. Enlist local champions and include those with the authority to help supply resources.
3. Consider strategies from those shown in the literature to be effective. Also consider barriers and facilitators in your setting when selecting strategies.
4. Select implementation strategies that align with available resources and supports.
5. Where possible, choose a starting point with a high chance of success to pilot your implementation.
6. Be open to adjusting implementation strategies to the practice reality. Enlist input and involvement and feedback from local stakeholders.
7. Provide ongoing monitoring and support during the early phases to help users over the learning curve and change process.

Implications to consider before proceeding to the next chapter

Stakeholder Implications

- Depending on the stakeholder analysis and the barriers and facilitators identified, a number of implementation strategies could involve specific target groups of stakeholders. At this stage, skills in stakeholder management include good communication systems, clear messages, as well as an ability to listen to and involve others. Bear in mind that keeping stakeholders engaged can be time-consuming, but will save time in the long run.

Resource Implications

- The selection of implementation strategies often depends upon the total amount of resources available for the guideline implementation. Alternatively, the identified implementation strategies may direct the resources required. There are usually fixed limits on the amount an implementation team and stakeholders can spend, with respect to both human and financial resources.

Action plan implications

- Add the selected implementation strategies to your Action Plan.

Resources: Recommended Websites & Web-based Resources

Audit and Feedback:
How to do a chart audit. Source: St. Michael's Hospital Knowledge Translation Program.(2008).
http://www.stmichaelshospital.com/pdf/research/kt/chartaudit.pdf

Feedback. National Institute of Clinical Studies (2006).
http://www.nhmrc.gov.au/_files_nhmrc/file/nics/material_resources/Feedback.pdf

Opinion Leaders:
Brief summary of the role of opinion leaders. St. Michael's Hospital Knowledge Translation Program (2008).
http://www.stmichaelshospital.com/pdf/research/kt/opinionleaders.pdf

Selecting Strategies:
Two-page summary of evidence for selecting strategies. National Institute of Clinical Studies (2006).
http://www.nhmrc.gov.au/_files_nhmrc/file/nics/material_resources/Selecting%20strategies.pdf

Recommended Readings

Andreason, A. R. (2004). A social marketing approach to changing mental health practices directed at youth and adolescents *Health Marketing Quarterly*, 21(4), 51-75.

Benjamin, A., (2008). Audit: How to do it in practice. *British Medical Journal, 336, 1241–1245.*

Morris, Z. S., & Clarkson, P. J. (2009). Does social marketing provide a framework for changing healthcare practice? *Health Policy,* 91(2), 135–141.

Scenario

Application of Change Theory Concepts: Implementing Recommendations for Prevention of Central Line Infections
A hospital implemented practice recommendations for prevention of central line infections, which were endorsed by the Canadian Patient Safety Institute. This necessitated changing procedures for cleaning the skin for dressing changes on central lines. The new recommendation required the use of chlorhexidine 2%/alcohol 70%, and cleansing the skin using a back-and-forth, up-and-down scrubbing motion.

For years, many nurses had been cleansing the skin the way they had been taught, to use proviodine. The rationale was that this allowed the nurse to go from "clean to dirty" by starting at the site of insertion and moving the swab in overlapping, concentric circles outward. This rationale was consistent with what is known about preserving sterility, by not dragging bacteria into the sterile field or contaminating the insertion site.

The new evidence showed that chlorhexidine is a better skin antisepsis than proviodine and that switching to chlorhexidine required a back-and-forth scrubbing technique to be effective. How could nurses be convinced that the back-and-forth scrubbing motion did not violate the principles of pulling bacteria toward the entry site? How could psychological safety be created?

The implementation team:

- Maintained a focus on chlorhexidine.
- Sent the message that the nurses were not wrong to scrub in concentric circles with proviodine.
- Shared the rationale that the scrubbing, friction and lifting of skin cells was part of the activation process for chlorhexidine.
- Reinforced that nurses had been doing the right thing, and going from clean to dirty, however with this solution the key principles related to friction and lifting that would enable chlorhexidine to work, and to change their practice would not mean they were doing the wrong thing. This would help create psychological safety. This way, nurses could redefine the new practice as being consistent with their previous practice and values, based on best evidence and begin to consider adopting the new practice.

Appendix 4.1 Principles of Social Marketing

As applied to BPG implementation, the principles of social marketing are:

1. Sustained behaviour change of the health-care provider/nurse is the primary goal for designing and evaluating interventions.

2. Social marketing uses research about the target audience (e.g. nurses, stakeholders) to understand their perspectives and to plan for, pretest, and monitor interventions. This can be thought of as listening to the target audience. Pretesting is essential.

3. There is careful segmentation of target audiences (e.g. nurses, patients, managers, etc.) to ensure efficiency and effectiveness.

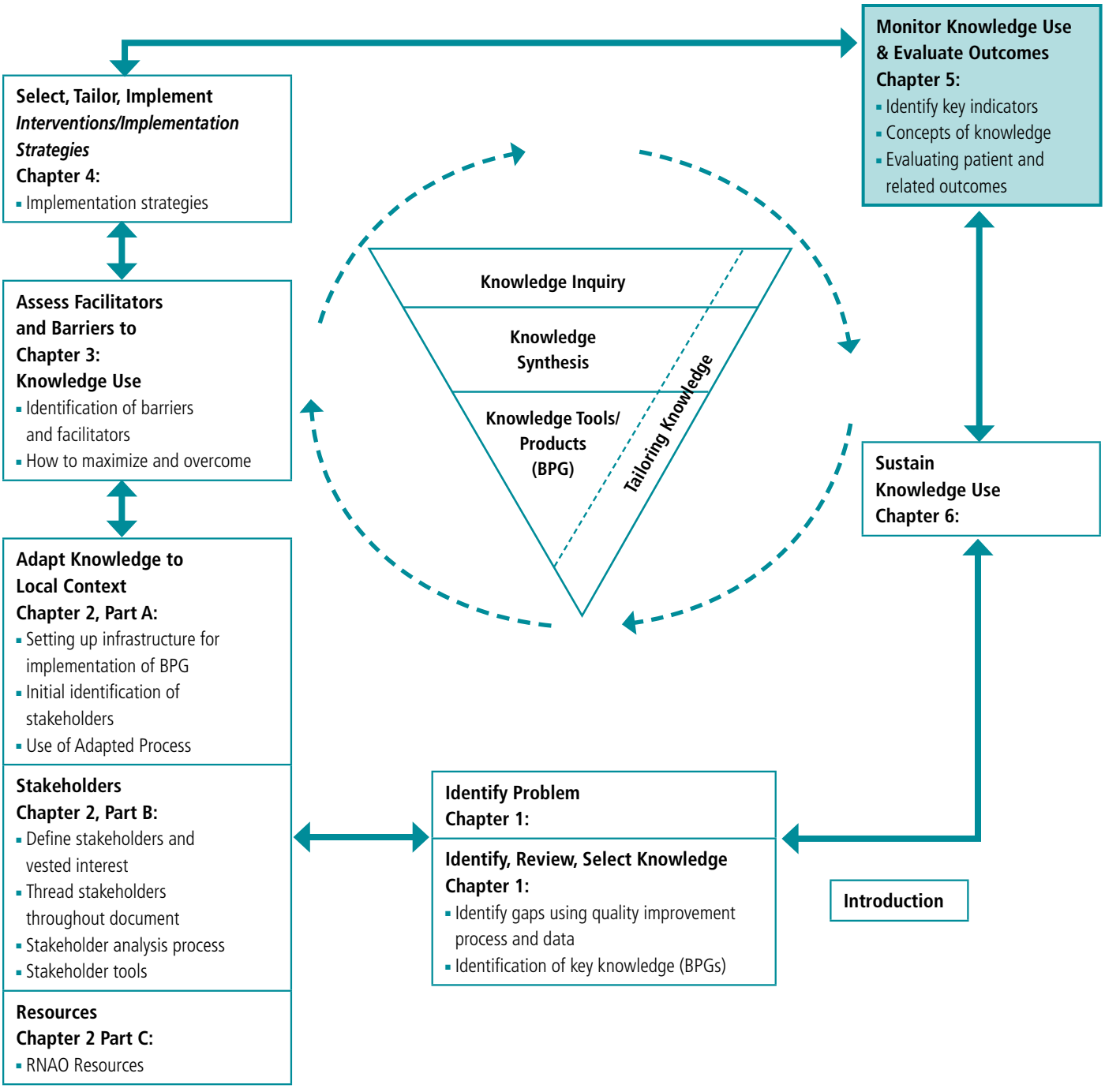
4. Tangible, certain, and direct benefits are more attractive but in BPG implementation, the benefits may be intangible, indirect, and uncertain, especially where values and beliefs are involved. It is important to recognize that changing behaviours comes at a cost to the nurse. For example, loss of comfortable or preferred behaviours, time to learn new practices, or the emotional investment inherent in learning and behaviour change. When the costs outweigh the perceived benefits, "unacceptable trade-offs can prevent new practice." (Morris & Clarkson, 2009) Applying social marketing to BPG implementation, there would be a focus on planning for "attractive and motivating exchanges with (nurses)." (Andreason, 2004) so that the benefits outweigh the costs.

5. There is more to this than advertising and communication. You will need to attend to:

    a) creating attractive "what's in it for me" packages (tailored to the nurse, considering motivation of the nurse)
    b) minimizing costs (e.g. inconvenience, time to learn a new skill, opportunity costs)
    c) making the exchange easy and convenient (e.g., providing pocket tools, reminders embedded in the documentation system)
    d) communicating powerful messages through media that are preferred and relevant to the target audience (e.g., considering whether the target audience reads their email before deciding to use an email campaign).

6. Careful attention to competition, the "factors that compete for people's attention, willingness, and ability to change." (Morris & Clarkson, 2009)

Chapter 5: Monitor Knowledge Use and Evaluate Outcomes



Review of previous chapter

Up until now the Toolkit has been focused on all those activities that will influence successful implementation of the selected BPG to address the identified clinical or management issue. Each of the phases of the knowledge to action framework have delineated specific evidence base strategies related to working with stakeholders, determining resources, defining barriers and facilitators and identifying and carrying out specific implementation strategies. Before, during and after the implementation of a BPG in a practice setting, it is important to monitor the use of the new BPGs recommendations introduced (i.e. the knowledge being used) and evaluate the outcomes or impact of the resulting change in practice.

What this chapter adds

This chapter focuses on two phases of the Knowledge to Action Cycle that are related and key to determining whether implementation interventions have been effective in encouraging uptake of the recommendations and had an impact. The two phases are:

1. Monitoring the adoption of the new knowledge introduced (i.e. adherence to BPG recommendations or clinical process changes).
2. Evaluating the outcomes resulting from implementing best practice.

The concepts of knowledge use and impact are reviewed and methods and strategies for monitoring knowledge use and evaluating impacts are presented.

This chapter answers the following questions:

- How has BPG implementation affected clinical practice?
- How has BPG implementation changed patient and other related outcomes?

Key Defintions

Conceptual knowledge use: Knowledge that has informed or influenced the manner in which practitioners and managers consider issues and attitudes (Beyer & Trice, 1982; Dunn, 1983; Estabrooks, 1999; Graham, Bick, Tetroe, Straus, & Harrison, 2010; Larsen, 1980; Rycroft-Malone & Bucknall, 2010; Weiss, 1979). This term is used when describing practitioners' understanding and internalization of knowledge and information.

Knowledge use: Use of the evidence underpinning practice; often categorized as conceptual knowledge use, behavioural knowledge use or strategic knowledge use (Graham et al., 2006). In clinical practice this is reflected in changes in nursing clinical practice and may also be called process outcomes.

Behavioural or instrumental knowledge use (Application of knowledge): Knowledge that has been applied in practice and, as a result, has influenced action or behavior (Beyer & Trice, 1982; Dunn, 1983; Estabrooks, 1999; Graham, Bick, Tetroe, Straus, & Harrison, 2010; Larsen, 1980; Rycroft-Malone & Bucknall, 2010; Weiss, 1979).

Outcomes or impact: The changes that occur as a result of implementing a best practice. They may occur at: a client or clinical level; a health-care provider level; or a unit, organizational or system level (Hakkennes & Green 2006; Graham et al., 2010).

Strategic knowledge use (Symbolic knowledge use): Use of knowledge or data (e.g. research results) to persuade others to support one's views or decisions. This may – or may not –lead to either conceptual or behavioural use of that knowledge by others (Beyer & Trice, 1982; Dunn, 1983; Estabrooks, 1999; Graham, Bick, Tetroe, Straus, & Harrison, 2010; Larsen, 1980; Rycroft-Malone & Bucknall, 2010; Weiss, 1979).

Common evaluation methods and Terms:

Audit and feedback: A summary of clinical performance that may include recommendations for action, gathered over a specified period of time, which is used to increase group awareness of their and/ or others' practice. Information may be obtained from medical records, computerized databases, or observations from patients/clients/ residents (Cochrane Effective Practice and Organisation of Care Review Group; 2002).
Focus group: Obtaining knowledge by interviewing a group of people about their experiences, attitudes or behaviour about a topic.
Interviews: Obtaining knowledge by asking individuals about their experiences, attitudes or behaviours. In qualitative research, questions are open-ended; in quantitative research; questions are typically highly structured with fixed-choice responses.
Observation: Obtaining knowledge through the senses (e.g. visual, auditory) or the recording of data using scientific instruments.
Surveys: Obtaining knowledge through collecting information, typically through the use of structured questionnaires with rating scales. Surveys may be administered in person, by telephone or via the internet (Dillman 2007).
Reliability: The extent to which a data collection tool consistently measures the same attribute that it is designed to measure, or the extent to which the results can be replicated.
Validity: The degree to which a data collection tool accurately measures that which it is intended to measure.
Sensitivity and specificity: Two frequently reported characteristics of tools and diagnostic tests. Sensitivity is defined as how good a test is at detecting *who may have* a condition or disease. Specificity is defined as how good a test is at telling who *does not have* the condition or disease.
Structure: What is needed to make a change (e.g. equipment, supplies, and facilities)?
Process: How the system needs to be changed to implement the practice?
Outcome: The results of an undertaking or initiative (Donabedian, 1988).

Here are the facts:

What is knowledge use?

Several models (Beyer JM & Trice HM 1982; Dunn WN 1983; Estabrooks C 1999; Graham I et al 2010, Larsen J 1980; Rycroft-Malone J. and Bucknell T. 2010, Weiss CH 1979) group knowledge use into three categories:

1. Conceptual knowledge use (understanding or enlightenment).
2. Behavioural or instrumental knowledge use (application of knowledge in practice).
3. Symbolic (persuasive or strategic) knowledge use (use of selective data to persuade others to accept recommended changes in practice).

It is important to understand these three types of knowledge use in order to effectively monitor the uptake of BPG recommendations. Table 10 below illustrates each type of knowledge and its role in BPG implementation monitoring.

Table 10: Knowledge use and Role In BPG Implementation

Type of Knowledge Use	Role in BPG Implementation	Example of monitoring knowledge use in BPG implementation
Conceptual knowledge (understanding and internalization of new knowledge)	Influences or informs the way clinicians or others think about issues. Represents the understanding, acceptance and internalization of knowledge. Influences the acceptance of BPG recommendations.	A knowledge test is administered before and after a BPG education session on pain management to determine whether participants understand or learned the recommendations and evidence supporting them (e.g. Knowledge and Attitudes Survey Regarding Pain) Ferrell & McCaffery, 2008).
Behavioral or instrumental knowledge (application of new knowledge)	Knowledge that influences actions or behaviors. Concrete application of knowledge in clinical practice or adherence to new BPG recommendations that should result in desired outcomes (e.g. Assessment of intensity of pain using a numerical rating scale).	Conducting a chart audit to determine if the BPG recommendations are actually being followed (Davies et al., 2008), e.g. an audit to determine if the patient's pain intensity assessment is recorded according to recommendations (e.g. using a 0–10 scale).
Symbolic knowledge use (persuasive or strategic use of knowledge)	Use of selected data to convince others to either do something new or to stop doing something.	Including data about the results on a patient satisfaction survey that indicated patients were dissatisfied with the way their need for pain relief was managed in order to help practitioners to adopt the recommendations in the Pain BPG.

What do we know about knowledge use?

Knowledge is a critical element in clinician adherence to evidence-based practice recommendations.

Knowledge use can:

- Occur at the individual, unit, organizational or system level (Dunn WN 1983).
- Create behavioral change (i.e. a practitioner becomes knowledgeable about a best practice, develops positive. attitudes toward it, develops intentions to want to follow it and becomes motivated to action).
- Be complex since clinicians may choose to follow some recommendations but not others.
- Be affected by structures and processes in the clinical setting (see Chapters 3 and 4).

Since knowledge use is multidimensional and complex it is essential to use a variety of strategies to monitor it.

Knowing about a BPG, viewing it positively and wanting to follow its recommendations do not guarantee its implementation.

Other factors may affect application of new BPG recommendations in the clinical setting, including:

- Intrinsic motivation (based on new or current knowledge, the individual believes that following the BPG recommendations will be beneficial).
- Extrinsic motivation (structures or processes in the clinical setting create preconditions where behaviour change results without the individual having to consciously rethink about applying the knowledge).

Table 11 depicts examples of structures and processes that can prompt behavioural change.

Table 11: Structures and Processes That Prompt Behavioural Change

Type of Support	Examples	Rationale for Use
Structure	• Policies and procedures • Reorganization of staffing or services • Documentation forms • Clinical pathways • Equipment	• Provides rationale for change in practice and guide the practice • Ensures sufficient staffing to carry out BPG recommendations • Includes prompts to perform assessments and specific interventions (e.g. If pain intensity should be assessed using a 0–10 scale, then including the scale on the daily flow sheet will support or prompt its use as a routine part of practice • Provides a guide to recommended clinical care • Facilitates recommendations (e.g. if monitoring oxygen saturation is a recommended practice, then ensuring sufficient functioning saturation monitors are available on a clinical unit will promote this action)
Process	• Mandatory nursing educational sessions for BPG implementation •Key indicators of BPG implementation are included on nurses' performance appraisals • Information about the results of patient satisfaction with pain management is shared with unit clinical managers and clinical staff on a quarterly basis	• Supports optimal delivery of an implementation strategy (education to all staff) • Indicates the importance of the BPG recommendations to clinical performance • Provides a forum for discussion of relevant outcomes and an opportunity to make changes to implementation strategies if required

Why is it important to monitor knowledge use and evaluate its impact?

Monitoring knowledge use provides:

- An indication of the extent to which BPG recommendations are known, accepted and applied.
- An indication of the extent to which the implementation interventions were successful in changing clinical practice.
  - Answers to the following questions:
  - Are the recommendations being used?
  - Is the implementation intervention working?
- Information about knowledge, attitudes, skills and adherence to recommendations that change over time as implementation interventions are introduced, as circumstances.
- Rationale for changes to implementation plans.

Evaluating the impact (outcomes) of BPG implementation:

- Focuses attention on what happens when BPG recommendations are applied is multi-dimensional since it considers outcomes from several levels including:
  - the client
  - the health-care provider; and
  - the health-care unit, organization or system.
- Answers the question: : "What – if any – difference does applying the recommendations make in clinical practice in particular to my patient's health and clinical outcomes?"

The measurement of knowledge use and its impact are closely linked. It is difficult to interpret impact (outcomes) without knowing the extent to which the knowledge was used. E.g. if patient pain scores are still high following implementation of a pain management BPG, monitoring would be required at several levels to answer the following process-, structure- and outcome-driven questions:

Process

- Did all of the nurses complete the pain education course?
- Did the nurses learn (internalize) the content? Was this assessed by a pre- and post-test?
- Do the nurses have the required skills to assess pain and provide appropriate interventions?
- Did the nurses follow the recommendations with appropriate patients?

Structure

- Is there a clearly defined policy and procedure to support the BPG recommendations?
- Were physicians available to prescribe the required medications?
- Were pain pumps available for those requiring continuous infusions?

Outcome

- How many patients had pain scores <4 on a 10-point scale?
- How often do patients report high levels of pain >6 on a 10-point scale?

Current literature notes that monitoring of knowledge use and outcomes does not occur consistently. Godfrey and colleagues (2010) and Hakkennes and Green (2006) found that most studies (89% and 100%, respectively) examined the application of knowledge (behavioural knowledge use) while only 18% and 47%, respectively, of the studies evaluated conceptual knowledge. Even fewer studies included outcomes at the patient, health-care provider or system levels.

CAUTION

It is important to consider the complexity and cost of monitoring knowledge use and clinical outcomes. Although multiple measures may be best, the realities of various clinical settings may dictate selective monitoring. For example, Ciachini and colleagues studied a strategy to implement the Osteoporosis Canada guidelines in a northern Ontario community (Straus, 2009). The primary outcome of this randomized trial was the determination of the appropriate use of osteoporosis medications (behavioural knowledge), rather than patient fractures (clinical outcome). The authors felt that there was sufficient evidence in support of use of osteoporosis medication to prevent fragility fractures to warrant measuring this outcome indicator as a proxy for patient fractures which was much more costly to measure.

Measuring knowledge use

Knowledge use is a complex process that occurs on a continuous basis (Rich, 1991) rather than a discrete event that occurs at a single point in time. Therefore, evaluating knowledge use is complex, and requires a multidimensional, iterative and systematic approach (Sudsawada, 2007).

Strategies that work

Conceptual knowledge use

This type of knowledge use can be measured by tests of knowledge and understanding (e.g. the extent to which clinicians acquire the knowledge and skills taught during training sessions). Godin, Belanger-Gravel, Eccles, & Grimshaw (2008) identified the following common outcome measures used in implementation studies:

- surveys of attitudes and intentions
- measures of attitudes toward a specific practice
- perceptions of self-efficacy while performing a specific practice; and
- intentions to perform practices.

Stacey et al. (2006a) conducted a randomized controlled trial of an intervention to implement evidence-based patient decision support in a nurse call centre. Part of the intervention included nurses taking a three-hour online tutorial. To assess the uptake of conceptual knowledge, the researchers incorporated a knowledge test into the tutorial to determine whether the nurses had acquired the relevant knowledge and skills to be able to provide decision support.

Approximately 50% of guideline implementation studies in nursing and allied health professions included measures of conceptual knowledge use, compared with less than 20% in physician studies (Hakkennes & Green, 2006; Godfrey et al., 2010.).

Behavioural knowledge use

Most knowledge utilization tools measure behavioural knowledge use (Estabrooks et al., 2003). Systematic reviews examining the effectiveness of interventions to influence the uptake of practice guidelines (Grimshaw et al., 2004; Harrison et al., 2009) found that measures of behavioural knowledge use or guideline adherence are included in more than 89% of practice guideline implementation studies.(Godfrey, Harrison, & Graham, 2010; Hakkennes & Green, 2006;).

These measures often rely on self-report and are subject to recall bias and social response bias. Recall bias occurs when a person may not accurately remember what they have learned; social response bias occurs when a person gives an answer that they think the questioner wants to hear.

Methods of measuring behavioural knowledge use

- •Measuring adherence to recommendations or quality indicators using administrative databases or chart audits.
- Observing service user and clinician encounters to assess the extent to which the evidence-based practices are used.
- Directly asking service users about their health-care encounter.

Stacey et al. (2006b) conducted an exploratory case study to determine call centre nurses' sustained use of a decision support tool. Eleven of 25 respondents stated that they had used the tool and 22 of 25 respondents said they would use it in the future. However, the authors identified that recall bias and a short follow-up period (1 month) without repeated observation were potential limitations to the study. Observation of the practitioner-patient encounter – where participants had a quality assessment of their coaching skills conducted during simulated calls – was also used to assess knowledge use (Stacey et al., 2006a).

Table 12 below lists examples of tools that have been developed to assess behavioural knowledge use, and identifies which category of measurement the tools incorporate and specific comments about the nature of the tool.

Table 12: Tools for Knowledge Use

Category of Knowledge Use Measures	Tool	Comments
Observation	Example: *Restraint prevalence tools* *Physical* restraint use is defined operationally to include such factors as lap belt, trunk restraint, limb restraint and bed rails. Evaluators need to consider if the patient can remove restraint independently or not. More than one observation is recommended to observe the patterns of restraint use during the day and the night. Restraint prevalence would be useful for the evaluation of recommendations in the RNAO BPGs *Caregiving Strategies for Older Adults with Delirium, Dementia, and Depression and Promoting Safety: Alternative Approaches to the Use of Restraints.*	A free, downloadable user guide, which contains observation and chart audit tools, is available (Davies et al., 2006.) An article with the psychometric properties (validity, reliability) of the tool is published (Edwards et al 2006). An article with the psychometric properties (validity, reliability) of the tool is published (Edwards et al., 2006).
Content analysis of questionnaire and interview data	Example: *Content analyses about facilitators and barriers* to BPG implementation. Data from interviews with staff, clinical resource nurses and administrators. Examples of ways to monitor the use of BPGs can be found in the following RNAO BPGs: pressure ulcers, adult asthma, pain management, smoking cessation and reducing foot complications for patients with diabetes.	A free, downloadable user guide, which contains sample questionnaires and related analyses for interviews, is available (Edwards et al., 2004). An article describing further details about the methodology for content analyses and qualitative thematic analytic results is available (Ploeg et al., 2007). A suggested reference for content analyses (Elo & Kyngas, 2007).
Scales	Phlebitis and infiltration scales for the assessment of complications of peripheral vascular access devices. Skinner's tool for measuring knowledge exchange outcomes. Landry's scale of knowledge use Champion and Leach's knowledge utilization scale.	Groll et al 2010 Skinner 2007 Landry et al 2003 Champion & Leach 1989

CAUTION

When implementing BPGs, it is important to consider the degree of knowledge use that is being aimed for. This should be based on discussions with relevant stakeholders, and should include consideration of what is acceptable and feasible, and whether a ceiling effect may be present (Straus et al., 2009). A ceiling effect occurs when there is little room for improvement, e.g. at the start of the project, 90% of nurses are already adhering to the recommendations; thus at best only a 10% improvement would be seen if the intervention strategy is effective.

Who will use the knowledge?

A key factor to consider during evaluation is which stakeholder groups will be using the knowledge. These groups include:

- the public or health-care consumers
- health-care professionals or clinicians
- managers and administrators; and
- policymakers.

CAUTION

Different stakeholders require different strategies for monitoring knowledge use. Table 13 below describes measurement strategies for policymakers and clinicians.

Table 13: Measurement Strategies for Policymakers and Clinicians

Target	Measurement Strategy
Policy makers	• Interviews • Document analyses (Hanney et al. 2002)
Cliniciens	• Interviews • Surveys • Audits • Analysis of clinical or administrative databases

Monitoring knowledge use

If the level of knowledge use is found to be adequate, strategies for monitoring sustained knowledge use should be considered. Stakeholder interviews can be helpful in establishing which methods might be most effective. If the level of knowledge use is less than expected or desired, it may be useful to reassess barriers to knowledge use and or modify the implementation strategies accordingly.

An example of monitoring of knowledge use can be found in the study described above by Stacey et al. (2006). A survey of nurses at a call centre identified that use of the decision support tool might be facilitated through its integration in the call centre database, incorporating decision support training for staff, and informing the public of this service.

Evaluating the impact of knowledge use

It is crucial to consider evaluation as a critical component when implementing BPGs. The tip box below highlights key considerations.

When planning the evaluation it is important to consider three different aspects:
1. Type of knowledge to be implemented (e.g. conceptual, behavioural, instrumental)
2. Focus of evaluation (e.g. patient/client, health-care provider, health-care system)
3. Type of indicator (e.g. structure, process, outcome))

When implementing BPGs, assessing level of knowledge use is important; however, the focus of BPGs is to summarize the available research and make recommendations towards improving health status and quality of care. Therefore, the key outcomes to evaluate are those at the levels of the client/patient, the health-care provider and the health-care system.

Prior to beginning an evaluation, it is important to consider whether ethics approval is required. Ethics review is required for all research on human subjects. Ethics review is not required if the research relies exclusively on publicly available information. Ethics review may not be required for: quality assurance and quality improvement studies; program evaluations; and performance reviews or testing within normal educational requirements. However, there are many grey zones. If you are planning to publish your results, it is recommended that ethics review take place, and consideration be given to voluntary informed consent procedures that ensure anonymity and confidentiality of data.

It may be prudent to contact the ethics protocol officer of your health-care organization or nearby university for advice. You can also access the Government of Canada's Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans at the following website: http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default. /

Alberta Innovates also has an ethics screening tool, which is available at the following website: http://www.aihealthsolutions.ca/arecci/screening.

It is often helpful to consider engaging an academic partner as a key stakeholder or resource for evaluation and monitoring. This engagement is recommended at the beginning of an implementation project that will involve evaluation.

Evaluation of impact should start with formulating the question of interest. The **PICO** framework has been found to be useful for this task (Straus 2009). Each question should consider all four PICO factors, e.g. when evaluating the implementation of a BPG regarding pain assessment and management, the team ask the following question: Did the pain resource nurse intensive education program (I) improve the pain knowledge (O) of the nurses (P) who attended the sessions, compared with those who did not attend the sessions (C)?

P- Population of interest (public, policy makers, health-care providers)

I - Implementation / intervention (knowledge translation strategy)

C -Comparator group (another group where strategy was not used) or if there is no comparator group, think about context)

O -Outcome of interest (health, provider, organizational or system)

To help identify outcomes to be measured, Graham et al. (2010) building on the work of Hakkennes and Green (2006) grouped impact measures of knowledge use into the above-mentioned three main categories. Table 14 below describes these outcome measurement categories in greater detail, and provides examples for use in evaluation of BPG outcomes,

Table 14: Outcome Measurement Categories and Examples

Impact/Outcome Category	Outcome Examples
Client/patient or clinical level	• Measures of an actual change in health status such as mortality, morbidity, signs and symptoms, functional status, quality of life, and adverse events • Other measures of impact on the service user/patient unrelated to health status such as service user/patient satisfaction
Health-care provider level	• Measures of provider satisfaction
System or organizational level	• Measures of change in the health-care system (e.g. wait-time, length of stay, health-care visits, readmissions) or expenditures

Another way of categorizing quality of care arises from Donabedian's framework (Donabedian 1988). This categorizes quality indicators into three main types including structure, process and outcomes. The next table describes in greater detail how this framework can be applied in the evaluation of knowledge use and its impact.

Table 15: Evaluation of Knowledge Use and Its' Impact

Type of Quality Indicator	Definition of Indictor	Indicator Examples Applied to Evaluation of Knowledge Use and its Impact
Structural	• Focuses on organizational aspects of service provision • Can be considered enablers of instrumental knowledge use	• Organizational adoption or endorsement of a practice guideline • Policy that clearly identifies the required practice • Documentation forms that prompt adherence to guideline • Purchase of equipment required for practitioners to adhere to guideline recommendations
Process	• Focus on patient care delivery processes • Analogous to instrumental knowledge use	• An organizational procedure for pain assessment and management (e.g. Pain will be screened on admission, if pain exists then a comprehensive assessment will be completed and reassessment will occur Q4H) • Pain management plan individualized for each patient
Outcome	Focus on improving client/ patient health outcomes	• Prevalence of pain according to severity (mild, moderate, severe)

Choosing Your Strategies

Measurement considerations

When considering BPG implementation (see Chapter 4), implementers should pose several questions to help guide the monitoring of knowledge use and clinical outcomes.

What is being measured?

You must determine whether you are going to measure knowledge use (i.e. conceptual, behavioural, symbolic), outcomes (i.e. impact on patient, health-care provider, unit, organization, system) or both. Key considerations include: costs (human resources and funding); time constraints; ease of access to data; and relevance to strategies.

For example if you are implementing the RNAO BPG regarding assessment and management of pain you will need to decide among multiple measures, including:

- Pre- and post-tests with your nursing education sessions to determine nurse knowledge acquisition (conceptual knowledge use)
- Chart audit of documentation related to pain management to determine adherence to recommendations (behavioural knowledge use)
- Prevalence study to determine the level of patients' pain across the implementation units and determine impact on patient health outcomes (outcomes)
- Patient satisfaction survey related to pain management to assess impact of implementation of the recommendations on them (outcomes)
- Nursing focus group to assess impact on workload and workload satisfaction (outcomes)
- Chart audit to determine use of pain medication by patients (behavioural knowledge use) and associated costs (outcomes)

How will we measure these outcomes?

There are different aspects of measures that need to be considered when selecting how to measure outcomes. Table 16 provides an overview of these aspects, with clinical examples.

Table 16: Overview of Outcome Measurement Aspects

Measurement Aspect	Definition	Example
Direct	• Outcome can be directly observed or measured	• Observing a nurse conduct a pain assessment • Measuring conceptual knowledge after an education session by administering a multiple choice test of the content taught
Indirect or surrogate	• Measures the outcome of a behavior or action	• Chart audit to determine if a nurse documented a pain assessment
Subjective	• Measures the subjective experience of the person	• Completion of a self-reporting tool, such as the Brief Pain Inventory • Patient interview • Focus groups
Objective	• Data that does not have a subjective bias or recall	• The number of self-administered doses of pain medication a patient received via a computerized pain pump that tracks the number of attempts and doses given

Methods for collecting outcome measures typically include audits, surveys, interviews and observation. Selection of outcome measures should be guided by consideration of two key factors:

1. Scientific merit (reliability, validity, and clinical sensitivity)
2. Practicality (resources needed, burden of administration)

Meaningful measurement requires consideration of these factors within the context of the BPG implementation, in consultation with the relevant stakeholders.

As there are multiple methods of evaluating knowledge use, consideration should be given to the type of evaluation method used, particularly with respect to its feasibility within a particular organization. Table 17 below describes examples of measures of knowledge use and impact, and how they correlate to Donabedian's framework, as well as strategies for data collection and possible sources of data (Graham 2010).

Table 17: Examples of Knowledge Use and Correlation to Donabedian's Framework

Construct	Donabedian's construct	Description	Examples of Measures	Strategy for Data Collection	Source of data
Knowledge use					
Conceptual (client/ patient or provider)	Process	Changes in knowledge levels, understanding, attitudes, intentions	Knowledge; attitudes; intentions to adopt practice	Self-report	• Questionnaires • Interviews with service users, patients or providers
Instrumental (client/ patient or provider)	Process	Changes in behaviour or practice	Adherence to recommendations (e.g. adoption of a new nursing practice or abandonment of existing practice; change in prescribing or test ordering)	Audit Observation Self-report	• Administrative or clinical database • Observations of service user/patient-provider encounters • Questionnaires, interviews with patients about provider behaviour
Enablers of instrumental use	Structure	Changes required to enable changes in behaviour	Organizational endorsement of guideline recommendations Purchase of required equipment Changes in policies and procedures (records and forms)	Self-report Document analysis	• Interviews • Documents
Impact of knowledge use					
Client/ patient impact	Outcome	Impact on service users/patients of using/applying the knowledge	Health status (morbidity or mortality, signs, symptoms, pain, depression); Health related quality of life; function Satisfaction with care	Audit, Self report	• Administrative database • Clinical database, • Questionnaires • Interviews

Construct	Donabedian's construct	Description	Examples of Measures	Strategy for Data Collection	Source of data
Provider impact	Outcome	Impact on providers of using/applying the knowledge	Satisfaction with practice Time taken to do new practice	Self-report Observation,	• Questionnaires • Interviews
System/ Organization impact	Outcome	Impact on the health system of using/applying the knowledge	Length of stay Wait times Readmission rates Expenditures and resource use Hospitalizations	Audit, Self-report	• Administrative database • Clinical database • Questionnaires, interviews with service users/ patients or providers

In summary, when considering monitoring knowledge use and evaluating outcomes it is important that the following steps are taken:

- Determine what type of knowledge is to be monitored
- Select the measurements and or strategies to be used to monitor knowledge use
- Consider the impact and outcomes of the knowledge use that require evaluation
- Use PICO to help guide your evaluation question
- Choose your measurement strategies
- Consider whether you need ethics approval
- Ensure you have sufficient resources and stakeholder support to conduct your monitoring and evaluation

Implications to consider before proceeding to the next chapter

Stakeholder Implications

- Consider carefully all stakeholders when planning for monitoring and evaluation, including the client/patient, the provider and the system. It is critical that data be available to address performance at all of these levels to ensure engagement in the knowledge translation process and to achieve the desired outcomes.
- A key stakeholder may be an academic partner.

$ Resource Implications

- Use evaluation measures that can be obtained without a significant additional need for resources from a time and budget perspective. If at all possible try to incorporate measures that can be obtained from already established systems such as clinical or administrative databases. However, do not underestimate the time required to collate and analyze the data.

Action plan implications

- Identify monitoring and evaluation strategies in your action plan. It is critical that these strategies are adequately resourced to ensure success.
- Consider if ethics approval is required, and consider partnering with an academic setting to facilitate ethics approval.
- Choose evaluation methods based on the type of knowledge to be implemented, the focus of evaluation and the type of indicator.

Recommended Websites & Web-based Resources

Government of Canada, *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*
http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/

Qualitative methodology

International Institute for Qualitative Methodology http://www.iiqm.ualberta.ca/

Quantitative methodology

Centre for Evidence-Based Medicine: EBM Tools http://www.cebm.net/index.aspx?o=1039

The Cochrane Collaboration: Training and Online Courses http://www.cochrane.org/training

World Health Organization: Data, statistics, and clinical trials http://www.who.int/ictrp/network/primary/en/index.html

Wikipedia Statistics http://en.wikipedia.org/wiki/Statistics

StatSoft electronic statistics textbook
http://www.statsoft.com/textbook/elementary-concepts-in-statistics/?button=1

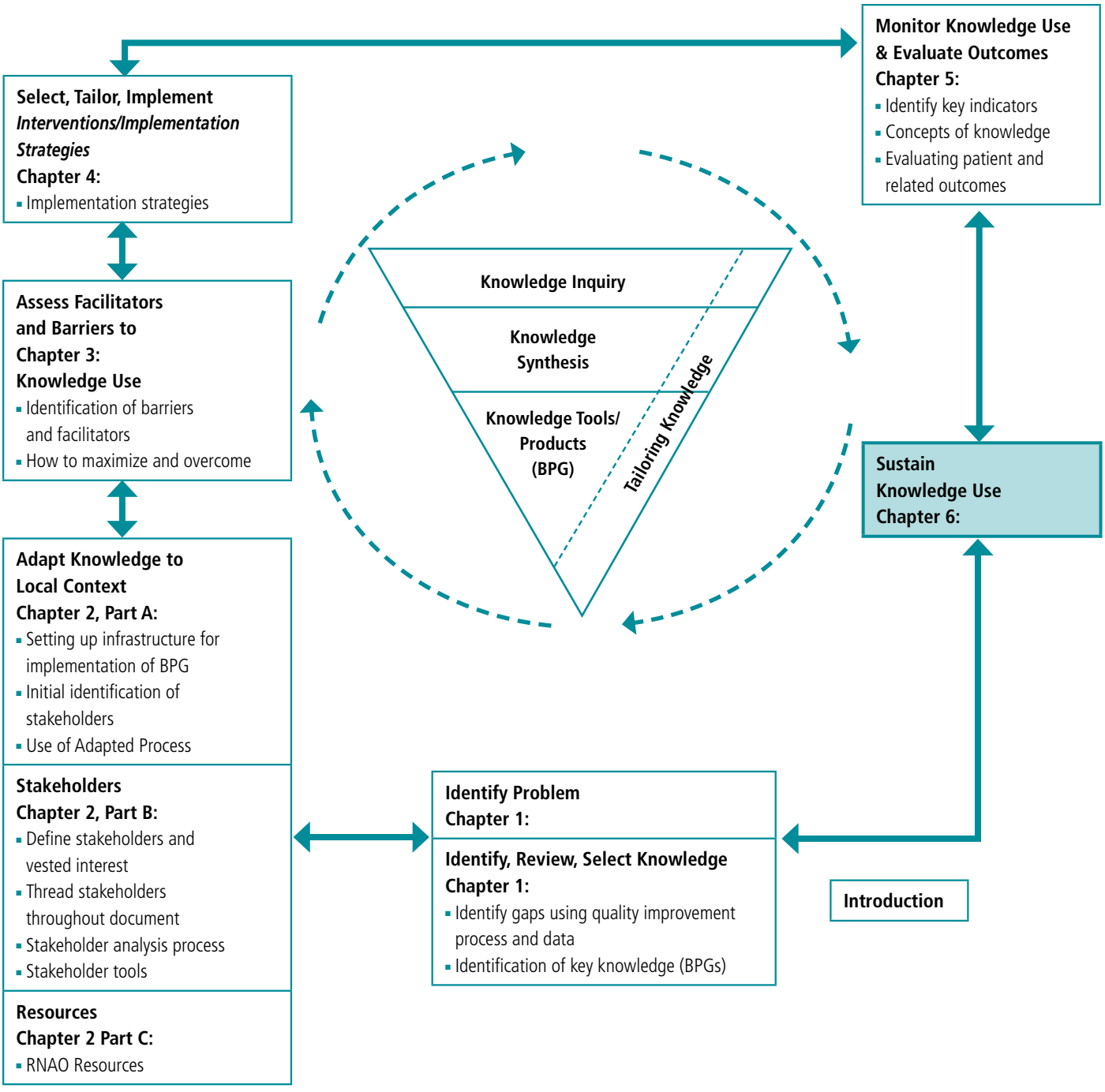
Mixed Methods

Warwick Medical School: Mixed methods for health research
http://www2.warwick.ac.uk/fac/med/research/hsri/primary_care/research_/centrepatexp/complexityhealth/mixed-methods/

Nursing Best Practice Research Unit http://www.nbpru.ca/

Patient Decision Aids http://www.ohri.ca/DecisionAid/

Chapter 6: Sustain Knowledge Use



Review of previous chapters:

In using the Toolkit, you have: identified a BPG and/or recommendations from a BPG that you would like to implement, begun to identify and collaborate with stakeholders; are conducting an environmental scan to identify facilitators and barriers and are choosing the implementation and evaluation strategies towards knowledge use and have identified the necessary resouces to support implementation.

You also need to think about sustainability planning early in the implementation process as well as sustainability over the long term once the initial implementation stage is done. A sustainability perspective is essential to ensure that the clinical practice changes are integrated into both current and future health-care workflow designs.

What is this chapter about?

This chapter adds information to help you plan for the long-term improvement of patient care outcomes and the delivery of health-care services based on effective implementation of best practice guidelines.

Sustaining health-care innovations and guideline implementation:

- Are related to deliberate decision-making by nurses and the health-care team to seek new research and selectively implement the results.
- Are dependent on supportive leadership, facilitative human resources and ongoing staff education through orientation and professional development programs.
- Require adaptability and integration of new knowledge into ever-changing and evolving practice environments.
- Are vital components of success to maintain improved, consistent health care in hospitals, community, public health and long-term care.

Sustainability

Sustainability is defined as the degree to which an innovation continues to be used after initial efforts to secure its adoption are completed (Rogers, 2003). A UK-based team led by Maher (2010) has systematically developed a model and diagnostic assessment system, they offer the following definition of sustainability: When new ways of working and improved outcomes become the norm. Not only are process and outcome changed, but the thinking and attitudes behind them are fundamentally altered and systems surrounding them are transformed in support of the change (Maher , Gustafson, & Evans, 2010).

What is already known about Sustainability?

- Changing clinical practice is not a simple and straightforward task.
- Leadership, organizational culture, training, facilitation and resources are important factors when sustaining evidence-based care.
- The extensive volume of concepts, trends and shifting practice processes for improving health care may be questioned by health-care providers and clients alike. It is important to prioritize change to avoid saturation due to the extensive volume of change.
- Embedding practice change requires systematic, thoughtful planning and action to ensure that changes are integrated into the organizational memory and knowledge reservoirs, e.g. policy and procedure manuals and documentation systems.

Key definitions:

Decay: Decreased application of BPG recommendations over time (Buchanan, Fitzgerald, & Ketley, 2007).

Discontinue: A decision to stop the implementation of a BPG recommendation. Many factors may affect this decision, including competing priorities and financial resources.

Institutionalization: The relative endurance of change within an organization, as it becomes part of everyday activities or normal practices (Davies, B. & Edwards, N. 2009).

Organizational Memory: The storage or embodiment of knowledge in various knowledge reservoirs within the organization. Examples include: formal staff education, orientation content, prompts/reminders embedded within clinical documentation systems and policy/procedure manuals, formal role expectations and performance indicators (e.g. identified resource nurse designation within practice environment) (Virani, Lemieux-Charles, Davis, & Berta, 2009).

Relapse: Reverting to previous ways of operating (Davies & Edwards, 2009).

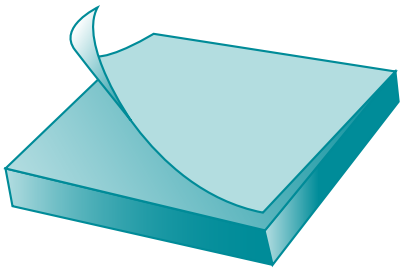
Routinization: When an innovation becomes entrenched into regular activities and loses its distinct identity. e.g. requiring all patients to have a falls risk assessment documented with a plan of care (Davies & Edwards, 2009).

Scaling up: The process through which new working methods developed in one setting are adopted with appropriate modifications as needed in other organizational contexts (Davies & Edwards, 2009). Extending the implementation of BPG to other sectors of health care in hospitals, community or educational settings.

Spread: The process through which new working methods developed in one setting are adopted, perhaps with appropriate modifications, in other organizational contexts (Davies & Edwards, 2009).

Sticky Knowledge: Knowledge is inherently sticky and difficult to move. "Stickiness is a product of the transfer process and can be predicted by examining a number of conditions related to the knowledge, its source, and the context of transfer and the characteristics of the recipient." (Virani, Lemieux-Charles, Davis, & Berta, 2009).

Making practice change "stick" in your health-care delivery setting



Sustainability Action Planning

A number of factors facilitate practice change and realistic sustainability monitoring within health-care settings. These nine factors were derived from the literature and ten years of experience in implementing both nursing and health-care guidelines. The factors are listed as focussed questions to help leaders and champions with sustainability action planning. A related worksheet for team planning is in Appendix 6.1.

Permission granted for reprinting 1 page of content below from page 169 of Davies, B., Edwards, N. (2009). The Action Cycle: Sustain knowledge use. In S. Strauss, J. Tetroe & I. Graham (Eds.), Knowledge Translation in Health Care: Moving from Evidence to Practice. Oxford: Wiley-Blackwell and BMJ.

Relevance of the topic

- Is there a well-defined need and priority for the topic being implemented?
- Is there consensus about what knowledge needs to be sustained and what is needed to create conditions for sustainability?
- How does the new knowledge fit with current priorities?

Benefits

- What are the anticipated outcomes of knowledge implementation from a biological, economic, psychological, organizational, social, political or other perspective?
- How meaningful are these benefits to other stakeholders?

Attitudes

- What are the attitudes (potential resistance) of the patient/client, their family, the public, health-care providers, and relevant decision-makers toward the innovation?

Networks

- What teams/groups can be engage to facilitate the sustainability of knowledge use?
- Are there people that can be engaged to cross disciplines, settings, sectors of the health-care system? (E.g. intraprofessional collaborative practice, academic programs, health-care organizations, community-based care, compliance officers)

Leadership

- What actions might leaders and managers at all levels of involvement and clinical roles take to support the sustainability of knowledge use?
- Are there champions of change?
- Who is responsible for continues implementation of innovation and making modifications as new knowledge is brought forward?
- Who will be responsible for ensuring that relevant outcomes are met?

Policy Articulation and Integration

- How will the fit between new knowledge and existing policies be assessed?
- How might the knowledge be integrated in relevant policies, procedures, regulatory and documentation systems? (e.g. electronic clinical decision support systems, workload measurement programs)

Financial

- What funding is required to implement, sustain and scale up knowledge?
- What flexibility in funding is necessary and available for reimbursement?
- Can cost-effective strategies be used?

Political

- Who are the stakeholders and what power or support might be leveraged?
- Who will initiate the scaling up process?
- What are the possible consequences with changes in the political climate?

Promising strategies for more sustainable evidence-based practice

1. Developing a "yes we can" attitude

A positive approach, even while facing ongoing barriers, is crucial. Long-standing barriers and inter-professional conflicts can lead to inertia. A stepwise positive approach is recommended toward collective goals for evidence-based practice (Marchionni & Richer, 2007).

2. Interprofessional reflective practice

Both individual and collective reflective thinking regarding what is required to achieve and sustain evidence-based practice is necessary. Decision-makers must understand the ongoing challenges faced in daily health care from the frontline care provider, patient and family perspectives. Care providers must understand the staffing and resource constraints that affect care and administrative decision-making. Together, administrators and care providers can use evidence-informed joint decision-making processes to align future care with best practice recommendations. Team meetings, unit councils and family forums are all examples of opportunities for discipline-specific as well as interprofessional planning and evaluation (Davies, Tremblay and Edwards, 2010).

3. Leadership

Leadership is vital to sustained guideline implementation. Gifford et al. (2006) found different patterns of leadership activities when comparing the results of organizations that had sustained guideline implementation versus organizations that did not sustain guideline implementation for at least two years (Gifford et al 2006).
Three strategies were identified in this grounded theory study include:

1. Facilitating individual staff to use guidelines;
2. Creating a positive milieu of best practices;
3. Influencing organizational structures and processes.

From an organizational perspective, there may be many priorities; thus, collective vision by clinical and senior leaders is important.

Evaluation Considerations for Sustained Evidence Based Guideline Implementation and Change

To ensure their sustainability, it is important to identify indicators that interrelate, as well as transcend, the micro, meso and macro levels of health-care delivery.

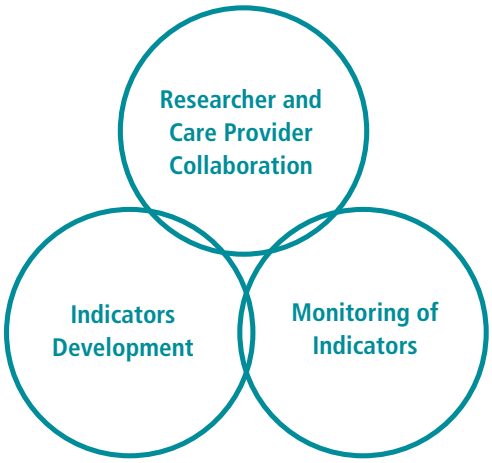
- At the **micro** level, the individual area of practice or clinical unit requires close evaluation. This may include use of unit protocols, order sets, resident/patient/family education tools and other facilitators of sustainability.
- At a **meso** level, other clinical practice units and/or departments within the same organization require consulttion and collaboration. One approach is to look for synergies among multiple departments seeking to sustain an identified best practice initiative, e.g. a site was implementing the RNAO pain guideline across the entire health-care facility, while other leaders were focusing on new systems for more efficient care in the emergency department; the pain and emergency project working groups met and developed joint action plans that included new medical directives, revised policies and training sessions for nurses with integrated perspectives.

- On the **macro** level of sustainability planning, other organizations, geographic knowledge networks and regional health integration networks need to be considered to enhance consistency and coordinated care for patients and their families.Communities of practice are interprofessional health care teams that transcend many practice environments and may be associated with specific populations (e.g. gerontology, First Nations individuals), programs (e.g. outreach services, restorative care) or health conditions (e.g. congenital disorders, diabetes, obesity). Monitoring targeted specific indicators versus larger system changes requires careful analysis to balance capacity of change so that the scope is manageable within your projected timeframe, responsibility and budget.

Monitoring targeted specific indicators versus larger system changes requires careful analysis to balance capacity of change so that the scope is manageable within the projected timeframe, responsibility and budget.

It is prudent to identify indicators that are identical to existing organizational, educational and practice benchmarks. These indicators validate the importance and degree of successful implementation and sustainability of the BPG process.

Literature validates clinical point of care experiences that the process for identifying indicators of sustainability does not proceed nor evolve in a linear fashion. There is interdependency between each of the three components identified within the following illustrative model. A key factor is strong collaboration amongst researcher and care provider team during the evaluation process. Indicators for decision-making may at the micro, meso and macro levels may evolve over time depending on relevance.

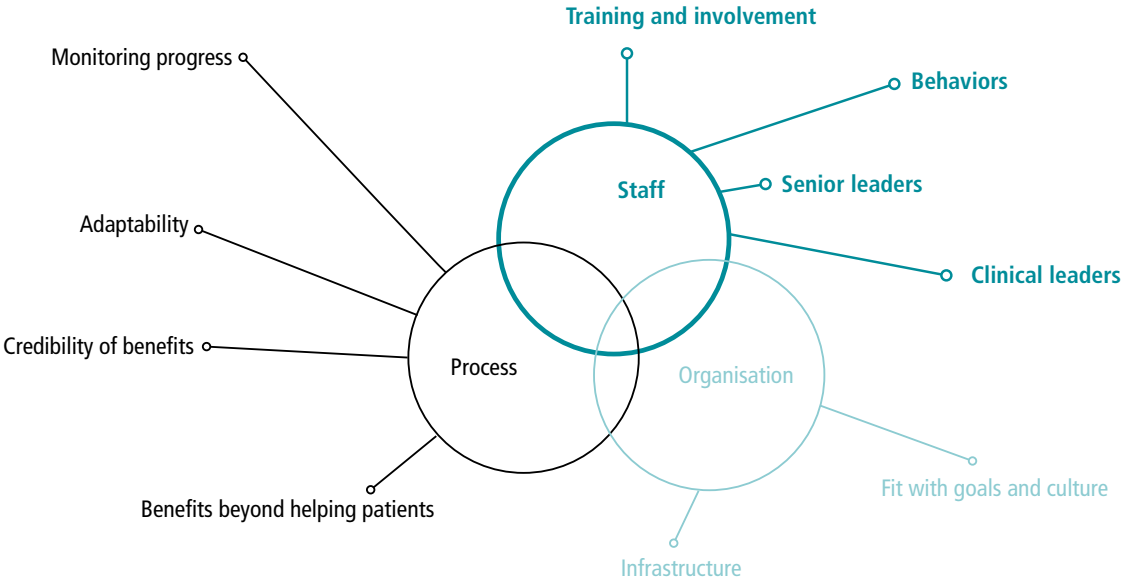


(Davies, B., Tremblay, D., Edwards, N. 2010)

Each circular aspect shown is interrelated and designed for continuous collaboration and participation considering the following:

- Select priority issues/policy questions
- Identify selected indicators
- Inventory of data sources
- Environmental scan of health assets and risks
- Evaluation of procedures
- Establish surveillance systems for selected indicators
- Data collection and analysis
- Accountability/communication
- Results and end user feedback
- Long-term vision for implementation
- and sustainability infrastructures

Recommended self-assessment model and tool: National Health Service sustainability model



Reprinted with permission. Maher et al., 2010.

The U.K. National Health Service (NHS) sustainability model consists of 10-factors that play an important role in sustaining change in health care. This model may be used for assessment by individuals or teams. A diagnostic questionnaire is available, with a scoring system for each factor. Detailed information outlining definitions, references and demonstration videos is available at the NHS website:
http://www.institute.nhs.uk/sustainability_model/general/welcome_to_sustainability.html

Two monographs are available from the above website: The Sustainability Model and Guide, which includes a detailed scoring system, and The Sustainability Guide, which provides suggestions related to each of the factors when difficulties are encountered. The NHS model is being tested in an ongoing study to implement several RNAO guidelines for improved client/patient outcomes (GICOM) over the course of two years – from 2010 to 2012 – in nine health-care settings in Ontario (Davies et al., 2011).

Criteria for selecting indicators to monitor progress towards sustainability in your practice setting

Relevance of the indicator to the priority policy or practice issue for stakeholders' long term objectives

Feasibility of obtaining data appropriate to the age and health status of the population receiving care. Relevant information can be retrieved in a reasonable time frame to inform timely decision-making.

Credibility of the information and trustworthiness by users

Clarity and ability to be understood by users

Comparability over time and across jurisdictions or regions (e.g. Local Integrated Health Networks (LHINs), benchmarking with other organizations, (e.g. Safer Healthcare Now!) http://www.saferhealthcarenow.ca/EN/Pages/default.aspx

Table 18 below describes potential indicators that affect sustainability at many levels of the health-care setting that should be considered when planning the level of sustainability of the implementation of any BPG. Each indicator is important to the overall objective of identifying how sustainability outcomes can be assessed and monitored continually to achieve the desired health-care delivery outcomes.

Table 18: Potenetial indicators for assessment of the sustainabilit of BPGs.

Potential Indicators for Assessment of the Sustainability of Best Practice Guidelines (BPG)			
Category	Structure *(What you need to have)*	Process *(How you go about it)*	Outcome *(What happens)*
Objective	Identify your sustainability outcomes.		
Organization/ Unit	• Philosophy, mission, and/ or culture to support necessary changes • Professional committee/structures, quality assurance, patient safety mechanisms, advisory personnel • Nursing care delivery system • Interprofessional team involvement • Physical facilities • Equipment • Synergy with partners and external influences • Key benchmarks unique to the organization	• Engagement and accountability of leaders from administration and clinical practice • Development/modification of policies and procedures • Interprofessional team rounds, unit council membership • Charting –Standardized documentation or tools. • Computer systems/e-records • Continual education or availability of education • Guideline added to staff orientation • Increased staff awareness, morale and marketing • Accountability within hiring, performance appraisals • Engagement of volunteers in knowledge of BPG outcomes (e.g. fall safety plans, patient education brochures) during patient/client/family interactions.	• Evidence-based philosophy, a strategic direction adapted by all. • Enhanced use of a common language, consistent terminology • Increased awareness of in-house resources i.e. referral clinics, interprofessional communications and consultations • More timely access to services • Achievement of targets for patient outcome improvement through visible results/exemplars (e.g. decrease in incident reports, improved staff/patient satisfaction with pain management) • Organizational accountability: Quality Assurance tracking, balanced scorecard methodology, • External accountability through LHIN agreements, accreditation indicators, changes in legislation • Achievement of condition specific goals (e.g. fall risk individualized patient care plans)

Potential Indicators for Assessment of the Sustainability of Best Practice Guidelines (BPG)			
Provider	• Number and qualification of staff • Ratio of staff to patients/clients • Roles, responsibilities, multi-disciplinary collaboration • Educational program	• Awareness of/attitude toward BPG • Knowledge/skill level • Leadership by identified champions/resource nurses • Marketing of strategy to health-care recipient	• Attendance at educational program • Adherence to BPG applicable recommendations • Standardized assessments completed • Completeness of assessments done • Number and range of appropriate treatments • Confidence level • Empowered to advocate for patients and families • Provider satisfaction • Increased awareness of community resources
Patient/client/ Family	• Patient/client characteristics (Demographics/level of risk) • Patient-centred approach • Involvement in decisions throughout continuum of care	• Patient awareness of/attitude to the BPG • Family, community acceptance • Patient/family knowledge Incorporated into admission, discharge and transition planning through family councils, team meetings and care conferences	• Physical, psychological, social, patient/client outcomes • Number of remission/re-admissions related to BPG related processes. • Satisfaction with care • Access to care • Level of patient/family confidence in discharge planning, community resources, self-management • Use of external resources, (e.g. CCAC, public health, home care)
Financial costs	• Costs of additional staff and physical resources required • New equipment, if required • Maintenance/reassessment of required equipment and/or supplies. • Costs of ongoing education, process updates. • Costs for documents, patient/client forms, chart and/or electronic patient record modifications.	• Costs of implementation strategies • Financial support for staff education • Patient/client education support (includes multi-lingual translation and varied multi-media formats) • Internet and web support	• Incremental costs of innovation, including product and drug costs • Information technology, software costs • Revenue/growth of service • Length of stay trend changes/ variations • Number of diagnostic tests, interventions • Visits to ER, readmission rates • Incident report tracking, as indicated • Financial support for staff to attend conferences for knowledge acquisition and /or dissemination

Sustainability Monitoring and Feedback Mechanisms

Sustainability has gained recognition due to increasing awareness regarding public economic investment and health-care provider accountability. Many mechanisms are now utilized to ensure transparency of quality improvement processes. These include, but are not limited to, the following:

Local: (Organization)

- Balanced scorecard indicators (tracking of specific health-care delivery outcomes), posted on individual hospital/organization public websites.
- Quality Assurance committees
- Specific performance audits
- Municipal regulations, directives and public health campaigns.

Provincial: (Regional)

- Public disclosure of health-care quality standards (e.g. Ontario Hospital Association)
- Ontario Local Health Integration Networks (LHIN) service accountability agreements (indicators in all sectors of health-care delivery)
- Ontario Ministry of Health and Long Term Care Standards (e.g. compliance assessments, Resident Assessment Instrument – Minimum Data Set [RAI-MDS] documentation)
- Practice requirements within professional regulatory bodies (e.g. College of Nurses of Ontario) pertaining to performance measurement evaluations (e.g. accountability to provision of evidence-based practice)

National: (Country)

- Health Canada: Mandates, health indicators, regulations and policies
- Accreditation Canada Standards: Required organizational practices
- Canadian Institute for Health Information
- Canadian Patient Safety Institute (e.g. Safer Healthcare Now!)

International: (Global)

- World Health Organization resolutions and regulations
- Guidelines International Network (clearinghouse for evidence-base practice documents)

Before proceeding to the next chapter, consider the following:

Stakeholder Implications:

- Stakeholders who will play a part in sustainability include: administrators, who will want to see whether the resources to implement the BPG were warranted; clinical leaders, who will want to promote the best patient care; and all those involved in the implementation of the BPG, including patients and family.

Resource Implications:

- The sustainability plan will depend on the amount of resources available. Resources include: infrastructure program budgets; vendor/supplier incentives or discounts supporting education bursaries or programs; collaborating/networking with other BPG teams; research grants; government funding opportunities; the health-care organization's foundation donors; bequests for education; and safety and quality patient care outcomes.

Action Plan Implications:

- Add the selected sustainability strategies to your overall project action plan
  - Do you know which BPG recommendations are crucial to your clinical program, and organization as a long-term strategy?
  - Are you considering the clinical outcome, setting, evolving new research and guideline revisions in your sustainability plan?
  - Have you determined the accountability of your sustainability plan at all levels of the organization?

Scenario

Consider sustainability criterion as tabled within a sustainability assessment document (see example in Appendix 6.2), and reflect upon the following:

- Impact and relationship of sustainability at multiple levels (micro, meso, macro)
- The role of initial stakeholders over time (from initiator to implementer to evaluator)
- The role of staff and patient/client to ensure sustainability of change; incorporating new evidence and continued evolution of practice context.
- The timing of interventions with respect to organizational priorities/balanced scorecard/service accountability agreements.

Recommended Websites:

Sustaining Knowledge Use: Canadian Institutes of Health Research (CIHR)

Brief overview with learning objectives in English and French
English http://www.cihr-irsc.gc.ca/e/41947.html
French http://www.cihr-irsc.gc.ca/f/41947.html

PowerPoint Slide Presentation in English and French
http://www.cihr-irsc.gc.ca/e/documents/kt_in_health_care_chapter_3.7_e.pdf
http://www.cihr-irsc.gc.ca/f/documents/kt_in_health_care_chapter_3.7_f.pdf

Safer Health Care Now: http://www.saferhealthcarenow.ca/EN/Pages/default.aspx
Canadian network affiliated with the Canadian Patient Safety Institute, with the goal of facilitating best practices in patient safety. Resources are available for providers, organizations, health quality committees and health ministries, and have been tested for reliability. Topics include hand hygiene, fall prevention and medication reconciliation. Measurement tools are provided.

Sustainability Model and Guide: http://www.institute.nhs.uk/sustainability
Produced by the NHS Institute for Innovation and Improvement, this website provides a guide and Toolkit to evaluate the sustainability of an initiative, based on three defining parameters: staff, process and organization. Each parameter contains detailed questions to score and assess the degree of engagement within specific sustainability measures. An overall assessment score reflects the level of sustainability and provides insight into areas that need further attention.

Sustainability: http://www.sustainability.com
This website addresses sustainability in the business market, and provides an independent think tank and strategy consultation service focused on the development of creative solutions to environmental, social and governance challenges.

Sustainability Index: http://www.sustainablemeasures.com/Sustainability/index.html
This sustainability index provides measures and tools for assessing the level of sustainability of economic, social and environmental issues.

Sustainability Institute: http://www.sustainer.org
A non-for-profit organization applying models of thinking, modeling and organizational learning within global settings.

Appendix 6.1

Our selected guideline for implementation is:

_____

_____

We are particularly interested in the recommendations addressing:

_____

_____

1. Relevance of the topic: What is the need from the client/patient's perspective?

_____

_____

2. Benefits: What are the benefits for client/patients and their families? Are these benefits meaningful to other stakeholders?

_____

_____

3. Attitudes: What are the attitudes of the clients/patients to this issue? What might the family members perceive (positive and negative)? What attitudes do nurses and other major stakeholders have about the actions recommended in the guideline? Are the recommendations a major change? How?

_____

_____

4. Networks: What teams or groups can be engaged to facilitate sustainability?

_____

_____

5. Leadership: Who is responsible from a project lead perspective (short-term, long-term)? Are there champions and peer mentors in your setting? What actions can unit managers and administrators take? What might senior administration do from a sustainability perspective?

_____

_____

6. Policy articulation and integration: Does the recommendation fit with the current policies? What might need to change? e.g. orders, policies, chart forms? Are reminder systems feasible?

_____

_____

7. Financial: What funding is required to implement your strategies and action plan? Can you think of cost-effective or synergistic strategies?

_____

_____

8. Political: What power or turf issues exist? What support might be engaged?

_____

_____

Appendix 6.2 - Sustainability Action Plan

Below is a **sample** of a continuous action plan template. The plan depicts the identified sustainability indicators utilized within a large acute care hospital to monitor the sustainability of simultaneous BPG integrations.

Mackenzie Health previously York Central is a designated RNAO Best Practice Spotlight Organization® and is actively involved in the development, implementation and evaluation of numerous RNAO BPGs. The sustainability action plan examples below have been provided by Mackenzie Health.

Sustainability

Comment on key structures, processes and staff roles that have been or will be developed or utilized to sustain BPG use in your organization at the conclusion of your BPSO ® candidacy. Please use the chart below to summarize your sustainability plans for the next two years. Please add additional rows, as necessary.

Prevention of Falls and Fall Injuries in the Older Adult

Year 1	BPGs	How sustained		
Goals	New/ongoing	Staff Roles	Structures	Processes
100% of new staff receive education of Falls Prevention Program	On-going	Clinical Educators/ Managers	Adherence to Mentorship schedules	Ongoing monthly schedules in place
70% of staff complete annual quiz on e-learning	On-going	Clinical Educators/ Managers	Adherence to professional development	Generate e-learning reports
70% of risk assessments completed as per HED audits	Ongoing 100% of new staff receive education of Falls Prevention Program	Clinical Educators/ Managers	Clinical Educators/ Managers	Adherence to Mentorship schedules Generate HED manual and electronic reports

Stroke Assessment Across the Continuum of Care

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
100% of staff hired to the Integrated Stroke Unit (ISU) will complete an orientation competency on stroke	On-going	Knowledge Transfer • Clinical Nurse Specialist (CNS) Completion of Package • Staff Nurses • Compliance • Unit Manger	Manual & competencies already created Modules now available on Moodle	Embedded in orientation package Audit at 3 months new employees
Staff hired to the: • ISU (100%) • CCU (100%) will complete electronic self learning on the Canadian Neurological Scale	On-going	Knowledge Transfer • CNS • Patient Care Coordinator (PCC) Completion of electronic education • Staff nurses • Compliance • Unit Manager	Self learning package on Moodle	Audit electronic completion within 1 month of hire
Patient & Family Education	On-going	• CNS • PCC • NursingAllied Health	Patient & family education worksheets Inter-professional stroke education series	Audit of worksheet upon patient discharge Maintenance of e ducation log by CNS or PCC
Prevention of catheter associated UTI's • Stroke Unit • Across organization	On-going New	Knowledge Transfer • CNS's & NP's • PCC's and CE's Support in Dissemination • Professional Practice • Infection Control Compliance • Unit Manager	Policy for the insertion urinary catheters in adults Moodle education	Annual completion of Moodle education Unit Visual management Monthly UTI and catheter rate reports
Tor-BSST swallowing screen	New	Knowledge Transfer • SLP Record of trained screeners and need to «refresh assessed «annually • CE	4 hour education sessions presented by the SLP 3 return demonstration by the trainees Policy for TOR-BSST screening	Annual review of screening technique Monthly aspiration pneumonia rates
Signs & Symptoms of Stroke	New	Knowledge Transfer • CNS, PCC, CE	Policy for Internal Stroke Protocol Electronic module on Moodle	Annual review of internal stroke "protocol

Stroke Assessment Across the Continuum of Care

Year 1	BPGs	How sustained		
Goals	New/ongoing	Staff Roles	Structures	Processes
			Embed into Hospital Orientation	

Reducing Foot Complications for People with Diabetes

Year 1	BPGs	How sustained		
Goals	New/ongoing	Staff Roles	Structures	Processes
1. To make recommendations for the e-learning component of this BPG to a) Be a part of the mandatory annual competency requirement completion for all nurses in areas with a diabetic patient population b) Be presented annually at the CKD Nephrology Day	New	Attendance at daily huddles and staff meetings Successful completion of e-learning models annually Attendance at the CKD monthly "BPG Article Review Club"	Develop diabetic foot risk assessment audit tool Monthly "BPG Article Review Club" Mandatory completion	Monthly chart audits for assessing the completion of diabetic patient foot risk assessment Yearly audit of e-learning site by each implementation unit educator to determine staff's completion compliance

Year 1	BPGs	How sustained		
Goals	New/ongoing	Staff Roles	Structures	Processes
To continue to support and maintain the BPG throughout the organization	Ongoing	Report ongoing concerns and need for refresher training	Implement a "Diabetic Foot care week" annually throughout the hospital	Organize and present various activities throughout the week to provide ongoing education and celebrate success

Assessment and Management of Foot Ulcers for People with Diabetes

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
1. To facilitate the continued use of the "train-the trainer" approach to ongoing knowledge dissemination and best practice implementation on current and subsequent units	Ongoing	Each best practice champions on each implementation units will be tasked with the responsibility of training groups of staff on their units in the assessment & management of diabetic wounds Mandatory annual completion of best practice competency learning activities on the organization's e-learning system by all champions (with at least 85% grade pass)	Collaborated efforts throughout the organization to continue workshops for identified best practice champions to continue to build on their best practice knowledge dissemination strategies	Organize a best practice champion's workshop at a designated time at least once per year

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
1 To continue to collaborate with IT departments to facilitate nursing documentation of diabetic wound care management electronically throughout the organization	Ongoing	Provide ongoing input and feedback to IT pursuant to the ease of use of all developed and implemented e-documentation tools for diabetic wound management	Incorporation of wound assessment forms as part of nurses e-documentation	Completion of wound care assessment and management electronically requirements as part of nurses required online documentation

Promoting Asthma Control in Children

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Development of a PPO, documentation and educational tools for ED	New and ongoing	Knowledge transfer Compliance	Organizational practice change Stakeholder involvement	Revision of current tools for ED specific
Roll-out of BPG in the ED department	New	Compliance Knowledge transfer	Organizational practice change Stakeholder involvement	Education of KTT team: introduction of tools, moodle and quiz
Create an asthma clinic for children	New	Leads to meet with leadership, plan and strategize	Stakeholder involvement	Revision of current ED admissions for asthma, readmissions and cost to the organization as well as looking at potential revenue generation for the organization and savings
HED chart auditing	Ongoing	Compliance Knowledge transfer	Stakeholder involvement	Provide quarterly feedback on HED documentation including asthma documentation
Asthma BPG embedded in mentorship program	Ongoing	Compliance	Organizational practice change Stakeholders involvement	Complete competency validation process on Moodle

Screen for Dementia, Depression and Delirium/
Caregiving Strategies for Older Adults with Dementia, Depression and Delirium

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
To integrate screening strategies into q shift assessments both for inpatients and ambulatory patients	Ongoing	Newly hired nursing staff: • Attend Mentorship when hired • Attend ongoing education on the units/ services as provided CNS for Senior Health will provide ongoing support for staff at point of care for admitted patients. She will also screen for depression Manager to follow up that all staff have attended mentorship sessions	Developed a policy for screening of delirium Imbedded delirium screening in the electronic documentation system Imbedded delirium screening in the ED assessments by having CAM auto print on all registered ED patients > 75 years Moodle unit developed including quiz for all new hires	Chart audits every quarter for completion of CAM screening, notification of MD of initial positive CAM and provision of family educational material. Will work with informatics to develop on electronic audit tool and will do manual audits of the ED Leadership team in Ed review metrics for TRST completion daily during Huddle. Team also decided that all nurses would complete 3D e-learning module as part of their yearly competency
Increase the family/ visitor knowledge of delirium and empower them to be a proactive participant in the care		Encourage the staff to provide patient/ families with educational material upon admission Quarterly work with Public Affairs to have posters placed in the elevators	Developed and have had approved several patient educational documents to provide knowledge to the visitors: Poster for use around the hospital You can Help Prevent Delirium Develop a poster to be placed on a rotational basis in the elevator discussing delirium and delirium prevention Currently working with public affairs to have information on delirium placed on the large TV's around the hospital in waiting rooms aimed at patients and family members	Materials are available in hard copies on each unit in binder and also available online Materials have been developed and quarterly reminder sent

Client Centered Care and Establishing Therapeutic Relationships

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Embed the discharge checklist completely into electronic charting (Target date: Nov 2012)	Client Centered Care and establishing therapeutic relationships	Continue to complete discharge checklist	Build our discharge checklists into our e-health software	Partner with IT group to build into our documentation software
Post-discharge follow up phone calls	Client Centered Care and establishing therapeutic relationships	Continue to increase staff capacity to increase number of phone calls	Continue workshops to increase capacity Patient relations department to participate as well	Increase capacity at the unit level as well at organizational level

Breastfeeding Best Practice Guidelines for Nurses

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Implementing policy	New	Compliance Knowledge transfer Improve awareness and knowledge	Organizational practice change Stakeholders involvement	Revision as needed
Developing documentation tools Develop pre-printed order	New	Compliance Involvement in creation and giving feedback	Implementation Monitoring Evaluation	Implement the paper version of tool to be used as blue print for the computerized documentation
Bi-annual nursing education and competency validation	New	Compliance Change behavior Change practice	Program core competency requirement	Involving lactation consultant and resource nurses

Healthy Work Environments: Professionalism In Nursing

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
100% of policy and procedure work plan on track	Ongoing	Manager for Quality/ Risk Professional Practice Leader, Nursing	Monthly Policy and Procedure review Committee Visual Management tools developed	Quarterly review
100% of Medical directives work plan on track	Ongoing	PPL, Nursing Clinical Practice Team members Chief Practice Officer	Visual Management tools developed	Quarterly review
100% of ethics work plan on track	Ongoing	Ethicist KTT, Ethics Facilitators	Monthly meetings	Generate e-learning reports, Quarterly review
Support ongoing forums to support understanding the meaning of self regulation and its implication for practice	Ongoing	KTT members Clinical Practice Team Members	Quarterly lunch and learn sessions for staff	Generate reports Sign in sheets
10% increase in staff satisfaction related to health workplace environment	Ongoing	Manager, HR Manager OD	Picker Staff Satisfaction questionnaire	Annual review

Healthy Work Environments: Professionalism In Nursing

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Implement Patient Care Redesign across all inpatient areas	Ongoing	KTT members Nursing leadership team	Unit Based KTT Establishment of PM for the project to ensure aligns with BPG recommendations Visual Management tools established	Weekly meetings that transition to monthly and quarterly Embed work as part of reporting for the monthly operations review with senior leaders Evaluate patient and staff satisfaction via Picker results

Developing and Sustaining Nursing Leadership

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Implement Patient Care Redesign across all inpatient areas	Ongoing	KTT members Nursing Leadership team	Unit Based KTT Establishment of PM for the project to ensure aligns with BPG recommendations Visual Management tools established	Weekly meetings that transition to monthly and quarterly Embed work as part of reporting for the monthly operations review with senior leaders Evaluate patient and staff satisfaction via Picker results

Embracing Cultural Diversity in Health Care: Developing Cultural Competence

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Diversity & Accessibility Council strategy reflects BPG	Ongoing—Embracing Cultural Competence	Manager, Employee Relations and Diversity Lead, BPG Cultural Diversity	Diversity & Accessibility Council BPSO Steering Group	Annual Diversity & Accessibility Strategy development and approval process
Review SickKids Cultural Competence Resources	Ongoing—Embracing Cultural Competence	Manager, Employee Relations and Diversity Lead, BPG Cultural Diversity	Diversity & Accessibility Council	Annual Diversity & Accessibility Strategy development and approval process Orientation sessions for new staff

Build working relationship with Toronto Region Immigrant Employment Council (TRIEC)	Ongoing—Embracing Cultural Competence	Manager, Employee Relations and Diversity and Relations Assistant	Implementation of the Mentorship program Utilizing TRIEC's resources such as existing online educational videos	Understand the areas in which a successful mentorship program for Internationally Educated Professionals with YCH Obtain level of interest from internal stakeholders Educate internal staff about the program Ongoing monitoring and support
Implementing the 11 diversity events	Ongoing—Embracing Cultural Competence	Manager, Employee Relations and Diversity and Relations Assistant	Identified the 11 that the committee will support Need to create the plan on how to implement	Communicate event Obtain champions/ leader for event Coordinate with Foundation for any donations Event Coordinating—i.e. supplies, materials, guest speakers, meeting space, etc. Recognition: appreciation of the efforts for the volunteers—i.e. presentation of Certificate of Appreciation from the Diversity and Accessibility Committee Posting information on Intranet with event highlights including pictures

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Complete and continue review of Practice Policies	Ongoing—Embracing Cultural Competence	Lead, BPG Cultural Diversity	Professional Practice Manual	Nursing Council for approval of any revisions
Expand "Review, Reflect, Renew" sessions to 2 other units	Ongoing—Embracing Cultural Competence	Clinical Educators	Unit huddles	Liaison with Educator and ad hoc or regular RRR element of huddle

Risk Assessment and Prevention of Pressure Ulcers

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Sustain all implemented recommendations hospital wide	Nursing skin/ wound assessment PU preventions according to BPG	Sustainability of "Wound Wizard" KTT team	Policies and procedures Patients education Staff education Develop and implement electronic incident reporting for all new PU Prevalence and Incidence study yearly	Wound Wizards education Ongoing education for frontline staff with focus on PU prevention Wound/ Skin Care Mentorship program for new staff with focus on PU prevention Staff will identify patients at risk for PU development and take active preventive measures by proper position and utilization of therapeutic surface

Assessment and Management of PU Stage I-IV

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Sustain all implemented recommendations hospital wide	Nursing skin/ wound assessment PU preventions according to BPG	Sustainability of "Wound Wizard" KTT team	Policies and procedures Patients education Staff education Develop and implement electronic incident reporting for all new PU Prevalence and Incidence study yearly	Wound Wizards education Ongoing education for frontline staff with focus on PU prevention Wound/ Skin Care Mentorship program for new staff with focus on PU prevention Staff will identify patients at risk for PU development and take active preventive measures by proper position and utilization of therapeutic surface

Nursing Management of Hypertension

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Implement 5 of 35 recommendations from BPG on 4 clinical units and ER	Nursing Management of Hypertension	KTT	Policies and Procedures Discharge Checklist	Clinical practice audit 3, 6 and 12 months post implementation Embedded into mentorship program Follow up with patients post discharge at 18 and 24 months post implementation

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Implement 5 of 35 recommendations from BPG on 4 clinical units and ER	Nursing Management of Hypertension	KTT	Policies and Procedures Discharge Checklist	Clinical practice audit 18 and 24 months post implementation Embedded into mentorship program Follow up with patients post discharge at 3, 6 and 12 months post implementation

Decision Support for Adults Living with Chronic Kidney Disease

Year 1	BPGs	How sustained		
Goals	**New/ongoing**	**Staff Roles**	**Structures**	**Processes**
Implement quality improvement initiative focusing on patient education specifically modality and permanent access education for patients	Ongoing	CPL new start CKD Leadership team MRNs Program coordinators Interprofessional	Monthly new start meeting Tracking tool developed	Review Monthly

Appendix 6.3 Worksheet:

Questions to Guide Assessment of Facilitators and Barriers

	Questions	Facilitators	Barriers
Evidence	• Review guidelines with a view to the end user. Are the recommendations clear and easy to understand? If not, how might you make them so? • Will the end users be able to access the evidence easily from point of care? If not, how might it be made accessible? • Can it be built into current documentation? • What might prompt use of the evidence? • Are tools needed? Is the tool suggested clear and easy to complete? Can you involve those who will be using them to build the tool if a new one is needed? • How can you assure there is no duplication in documentation?		
Potential Adopters	Leadership support is critical to successful implementation. It is important to assure this is in place prior to proceeding. • Will they support team member's time to be on the committee? • Will they support time for team members to receive education? • Will they support the process of acquisition of new equipment or supplies? • Are they able to influence change? • Will they be willing to role model commitment to this change? • Are they visible and accessible to the team members when they have concerns?		
	• Has the health-care team been exposed to evidence based practice? If not could some education about research be provided? Would a journal club work in this setting? • Are they able to access resources to help with clinical appraisal of research? For example, are librarian resources available? Could you link with academic partners? • What have their previous experiences been with evidence based changes in practice? What went well? What didn't go well? What can you learn from those stories to modify your approach? • Does the team work well together? Do they have a history of collaboration? If not, how might you build some skills doing small implementations? • Does the team have flexibility in staffing and scheduling to allow attendance at meetings and education sessions?		

	• Do senior nurses role model positive Clinical Leadership? • Who on this team might you target to help champion this implementation? Is someone passionate about these recommendations, this patient population, the potential outcomes that can be achieved? • Are there RNAO Best Practice Champions on this team(s) that could be enlisted to help?		
	• How is education delivered currently? How is it communicated? How well does it work? If it works well, could the education needed for implementation use this format? If not, is there another approach to education that might work well with this group, or these clients? • Is there motivation of those being educated to change?		
	• Is the client population knowledgeable about evidence based practice? If not, how might this is enhanced? • Is education targeted to the clients? • What factors should be taken into consideration? For example, are any senses diminished? Might they have trouble reading, seeing, hearing, and getting to the room? • What is the lowest level for literacy? • Where will they learn best? (during hospitalization, at home, in clinic?)		
Resources	**Human Resource constraints** • Time is one of the most mentioned barriers, e.g.: • Time to do the literature search and review • Time to serve on the committee to plan the implementation • Time to prepare the components of the implementation • Time to go to education sessions • Time to evaluate the outcomes • It is important to accurately estimate the time required to complete the project and assure there is support both in principle and financially from leadership • Can other departments in the organization help? Is there a QA or Risk Management department? **Funding** • There may be funding for back fill to create the time needed for the human resources needed. What amount would that be? • Equipment: Is there enough for implementation needs? Is new equipment required? What is the process for obtaining new equipment and what is the timeline to delivery? • What other avenues are available to for funding with and external to your organization? Is there a Foundation for your organization? Would this meet funding from professional organizations? Government? Others?		

Environment	• What other change projects are happening during the time frame of implementation – too many changes can overwhelm a team • What are the corporate priorities? Does this implementation complement the strategic goals? • What is the turnaround time for decisions in the organization? How far ahead do you need to be planning? • What is the timeline for producing a new documentation tool? Policy? Procedure? Who needs to approve? • Are there adequate rooms for meetings and education sessions? Do you need to go externally to educate? What will that cost? •What is the complexity of the client population? The greater the complexity, the greater the needs and scope creep can ensue. With greater complexity, the complexity of measuring outcomes can increase.		
Evaluation	• What kinds of data are already being monitored in the organization? Can you get access to that data? • Has the current practice been evaluated? Could this provide baseline data or should one be conducted? • Will evaluation require further resource support? For example, if audits are needed, who will do them, with what tools?		

Summary

The Toolkit for implementing BPGs has provided you with the following:

1. A methodology for assessing and identifying quality guidelines to implement.
2. Processes for identifying, analyzing and engaging stakeholders that can support various phases of BPG implementation.
3. An outline of how to conduct an environmental readiness assessment leading to identification of specific barriers and facilitators.
4. The current evidence on specific implementation strategies.
5. Possible strategies for planning and conducting evaluation of the implementation and its impact.
6. Resource requirements and strategies for developing a convincing budget to permit BPG implementation and evaluation.

As you plan a BPG implementation, you can bring together the suggested activities or actions from the six steps outlined in this Toolkit, in the form of an action plan. A template action plan is shown below. As the individual responsible for implementing a BPG, such an action plan will become your means of:

1. Identifying all of the activities and actions that need to be taken.
2. Identifying individuals, groups or committees that will carry out the activities.
3. Developing a critical path with specific timelines for completion of the activities.
4. Communicating the plan and the status of the implementation project to relevant stakeholders.
5. Monitoring the progress and developing contingency plans if required. You may also want to use the provided template as a checklist for ensuring that all key elements of implementation planning have been addressed. You will need to add specific actions as required.

As you implement your BPG, bear in mind that:

1. Your plan needs to be fluid or adaptable for unforeseen situations, such as when a new barrier is identified.

2. Your plan must involve key stakeholders throughout the planning exercise. You must ensure that they agree on the developed action plan. The implementation team must have a sufficient understanding of the action plan and should use this as a means of monitoring progress.

Last but not least!

Remember the following:

1. All milestones in your action plan should be noted, communicated and celebrated, e.g. when implementation actions are initiated, creating an event to launch the implementation provides a motivating milestone. Other milestones may include completion of education sessions, the start of a particular key intervention (i.e. the use of new pain pumps), or the completion of the formal implementation.
2. It should be made clear that BPG implementation is an ongoing activity and sustainability of its implementation is equally important. Identifying committees, groups or individuals who will continue to champion, monitor and address issues on an ongoing basis is crucial. Identifying policies and procedures, orientation programs, self-learning modules and equipment replacement programs are all methods of ensuring sustainability.
3. BPGs can become outdated: It is important to review the literature regularly for updates.
4. Change is a constant. However, making change happen is a big challenge! Have fun with your implementation projects!

Action Plan Template:

Instructions: Use this template to develop your implementation action plan. You will need to complete the columns and identify specific activities under each of the major activities identified in the template.

#	Activity	Target Date	Person responsible	Outcome/ deliverables	Progress
1.	Identification of project lead, champions and/or the group who will lead the identification and implementation of a BPG: a) Identify skill and role requirements b) Communicate/recruit interested individual or group c) Secure participation of project lead d) Ensure project lead has clear mandate and resources required to start the planning process				
2.	Identification of a BPG: a) Identify stakeholders who will participate in the identification, assessment and selection of a BPG b) Access the AGREE II instrument c) Ensure understanding and knowledge about the use of the AGREE II instrument d) Search and retrieve all available BPGs in the topic area of interest to the organization e) Conduct the appraisal exercise f) Present the data to the group involved in the appraisal exercise. Decide on a BPG based on its quality and content g) Communicate the decision to relevant stakeholders.				
3.	Identification, analysis and engagement of stakeholders: a) Define scope of implementation— extent of implementation b) dentify stakeholders— use team approach to identify. c) Using team, collect data about the stakeholders–use template provided. d) Organize the data and analyze— again use a team approach— strive for consensus. e) Determine strategies that will be used to influence, support and engage stakeholders in different capacities. f) Update the action plan based on strategies identified.				

#	Activity	Target Date	Person responsible	Outcome/ deliverables	Progress
4.	Insertion of stakeholder strategies and actions once identified.				
5.	Completion of environmental readiness assessment.				
6.	Identification and planning of specific implementation strategies: a) Identify the barriers and facilitators from the environmental assessment. b) Involve your relevant stakeholders, choose intervention strategies. Choose interventions based on available information, effectiveness, and fit with the organization and its members.				
7.	Update of action plan, based on implementation strategies identified.				
8.	Development of plan for evaluation: a) Identify available sources of evaluation support—expertise, data collection, etc. (may want to start with your Quality Council) b) Develop evaluation plan. c) Operationalize the plan.				
9.	Update of action plan based on results of the evaluation plan.				
10.	Identification of resources required for implementation: a) Use budget worksheets provided on the diskette. b) Involve implementation team and relevant stakeholders to ensure support for the completed budget. c) Develop strong argument for the budget. d) Identify ways to obtain funding from non-operational sources first – e.g. revenue streams, partnerships with specific vendors, etc. (Consider any conflict of interest) e) Present budget and sources of revenue to the responsible organizational management level.				
11	Identification of monitoring processes.				
12.	Plan for celebration, marking milestones.				

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Appendix A: Revising and Updating the Toolkit

The Registered Nurses Association of Ontario proposes to update the Implementation Toolkit as follows:

1. Following dissemination, the Toolkit will be reviewed by a panel of specialists (Review Team) in the topic area every five years following the last set of revisions
2. During the publication and revision, the RNAO staff will search for new systematic reviews and randomized controlled trials in the field. This review will be undertaken regularly
3. Based on the results of the regular review, staff may recommend an earlier revision period. Appropriate consultation with a team comprised of members from the original panel and other specialists in the field will help inform the decision to review and revise the Toolkit earlier than the five-year milestone.
4. Three months prior to the five-year review, the RNAO staff will commence the planning of the review process as follows:
    a. Specialists in the field will be invited to participate in the Toolkit Review Team. The Review Team will be comprised of members from the original panel, as well as other recommended specialists.
    b. The feedback received, the questions encountered during the dissemination phase, and the comments and experiences of implementation sites will be compiled.
    c. New knowledge in the field, systematic reviews, meta-analysis papers, technical reviews and randomized controlled trials and other relevant literature will be compiled.
    d. A detailed action plan with target dates for deliverables will be established.

The revised Toolkit will be disseminated, based on established structures and processes.

Appendix B: Search Strategy

The search strategy utilized during the development of this document focused on guideline implementation within healthcare. One strategy was a structured website search to identify best practices published on the topic of guideline implementation no earlier than January, 2003; the second strategy was a literature review to identify primary studies, meta-analyses, qualitative and quantitative studies, grey literature and systematic reviews published in this area from January 2002 to April 2011.

Step 1: Guideline Implementation Tool Search

One individual searched an established list of websites for content related to the topic area in January 2008. This list of sites was compiled based on existing knowledge of evidence-based practice websites, guideline implementation data bases, and recommendations from the literature. Presence or absence of implementation tools was noted for each site searched as well as date searched. The websites at times did not house guideline implementation tools, but directed to another website or source for guideline implementation tool retrieval. The tools were either downloaded if full versions were available or were ordered by email.

- Change Foundation: http://www.changefoundation.ca/
- Abstracts for Cochrane Reviews: http://www.thecochranelibrary.com
- Alberta Heritage Foundation for Medical Research Health Technology Assessment Publications: http://www.aihealthsolutions.ca
- Agency for Healthcare Research and Quality: http://www.ahrq.gov/
- American Nephrology Nurses Association: http://www.annanurse.org
- Annals of Internal Medicine: http://www.annals.org/
- Bandolier Journal: http://www.jr2.ox.ac.uk
- British Columbia Office of Health Technology Assessment: http://www.chspr.ubc.ca/
- British Columbia Council on Clinical Practice Guidelines: http://www.bcguidelines.ca/
- Canadian Coordinating Office for Health Technology Assessment: http://www.ccohta.ca/
- Canadian Health Network: http://www.canadian-health-network.ca/
- Canadian Institute for Health Information: http://secure.cihi.ca
- Centers for Disease Control and Prevention: http://www.cdc.gov/
- Centre for Evidence-Based Mental Health: http://cebmh.com/
- Clinical Evidence: http://www.clinicalevidence.org
- CMA Infobase: Clinical Practice Guidelines: http://www.cma.ca/
- Commission on the Future of Health Care in Canada: http://www.hc-sc.gc.ca
- CREST: http://www.crestni.org.uk/
- Database of Abstracts of Reviews of Effectiveness: http://www.crd.york.ac.uk
- Dialysis Outcomes and Practice Patterns Study: http://www.dopps.org
- Evidence-based On-Call: http://www.eboncall.org/
- European Observatory on Health Care for Chronic Conditions, World Health Organization: http://www.who.int
- Guideline Advisory Committee: http://www.gacguidelines.ca/
- Guidelines International Network: http://www.g-i-n.net
- Health-Evidence.ca: http://health-evidence.ca
- Campbell Collaboration http://www.gacguidelines.ca/
- Institute for Clinical Evaluative Sciences http://www.ices.on.ca
- Institute for Clinical Systems Improvement http://www.icsi.org

- Joanna Briggs Institute for Evidence-Based Nursing & Midwifery (Australia): http://www.joannabriggs.edu.au
- Medic8.com: http://www.medic8.com/
- Monash University Centre for Clinical Effectiveness: http://www.mihsr.monash.org
- National Electronic Library for Health: https://www.evidence.nhs.uk
- National Guideline Clearinghouse: http://www.guidelines.gov/
- National Institute for Clinical Evidence: http://www.nice.org.uk
- New Zealand Guidelines Group: http://www.nzgg.org.nz/
- United States National Institute of Health Consensus Development Program: http://consensus.nih.gov
- National Library of Medicine, Health Services/Technology Assessment: http://www.ncbi.nlm.nih.gov
- Nursing and Midwifery Practice Development Unit: http://www.riotinto.com/
- PEDro: The Physiotherapy Evidence Database: http://www.pedro.org.au/
- Periodic Task Force on Preventive Health Care: http://www.ctfphc.org/
- Royal College of General Practitioners: http://www.rcgp.org.uk
- Royal College of Nursing: http://www.rcn.org.uk/
- Journal of Issues in Nursing: http://www.nursingworld.org/
- Scottish Intercollegiate Guidelines Network: http://www.sign.ac.uk/
- SUMSearch: http://sumsearch.uthscsa.edu/
- The Qualitative Report: http://www.nova.edu
- TRIP Database: http://www.tripdatabase.com/
- Department of Medicine, University of California, San Francisco: http://medicine.ucsf.edu
- University of Laval Evidence-Based Practice Website Directory – no website found
- Virginia Henderson International Nursing Library: http://www.nursinglibrary.org

Step 2 – Search Engine Web Search

In addition, a website search for existing guideline implementation tools was conducted via the search engine "Google", using the following search terms:

- Guideline implementation
- Implementation
- Organizational Innovation
- Organizational change
- Implementation Research
- Implementation Dissemination

One individual conducted this search noting the result of the search, the websites reviewed, the date visited and a summary of results. The results of the search were then integrated into the established list of guideline implementation websites for content related to the topic.

Step 3 – Hand Search/Panel Contributions

Panel members and advisory committee members were also asked to review personal archives to identify guideline implementation tools not previously found through the above search strategies. Identified implementation tools by panel members where checked against the established list from guideline implementation websites and integrated into the list of guidelines implementation tools if they had not already been identified in the search and met the inclusion criteria.

The search strategies described above resulted in the retrieval of 34 tools on the topic of guideline implementation that met the following criteria:

- Published in English, international in scope
- Developed no earlier than 2003
- Strictly on the topic area
- Evidence-based (contains references, description of evidence, source of evidence)
- Available and accessible for retrieval

As part of the evidence review, the guideline development panel conducted a critical appraisal, of the 34 retrieved existing tools/documents related to the implementation of guidelines in healthcare, for breadth of application (generalizability across sectors, geographic contexts), strength of evidence base (existence of scientific evidence (content validity) and expert opinion (face validity), ability to implement with reasonable effort / cost consequences, and theoretical underpinning.

Step 4: Literature Review

A database search for existing evidence related to guideline implementation was conducted by a university health sciences librarian. An initial search of the MEDLINE, Embase, CINAHL databases for primary studies and systematic reviews published from January 2003 to November 2010 was conducted in January 2011 using the original search terms found in the Toolkit 2002 document along with the additional terms: knowledge creation, Program Development, Professional Development, Program planning, program development, program implementation, clinical indicators, internal consistency, benchmarking, nursing practice evidence based, case management education, decision making, clinical evaluation, managed care programs, attitude to change, clinical competence, sustainability of healthcare innovations, sustainability of evidence-based practice, adherence to guidelines, benchmarks, process outcomes, practice guideline utilization, professional compliance, outcome measures and evidence-base practice, outcome measures and guidelines, outcome indicators and evidence-based practice, outcome indicators and guidelines, outcome metrics and evidence-based practice, and outcome metrics and guidelines.

The members of the guideline development panel were also asked to review personal archives to identify key sentinel literature on the topic to ensure captured in the literature search. As directed by the consensus panel, supplemental literature searches were conducted where needed.

The search was structured to retrieve evidence applicable to the eight stages of the Knowledge-to-Action Framework:

1. Identify problem: Identify, review, select knowledge
2. Adapt to local context
3. Assess barriers to knowledge use
4. Select, tailor and implement interventions
5. Sustain knowledge use
6. Monitor knowledge use
7. Evaluate outcomes
8. Stakeholder Engagement

Search Results:

The search strategy described above resulted in the retrieval of more than 7,000 abstracts on the topic of guideline implementation. These abstracts were then screened by 2 research assistants in order to identify duplications and assess for inclusion and exclusion criteria as established by the panel. The panel members completed a relevance review of the included abstracts that resulted in a total of 290 papers, quantitative, qualitative and textual in nature that were included in the revision of the RNAO Toolkit: *Implementation of Best Practice Guidelines Second Edition*

Appendix C: Glossary

Audit and feedback: A summary of clinical performance that may include recommendations for action, gathered over a specified period of time, which is used to increase group awareness of their and/or others' practice. Information may be obtained from medical records, computerized databases, or observations from patients/clients/residents (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Behavioural or instrumental knowledge use (Application of knowledge): Knowledge that has been applied in practice and as a result has influenced action or behavior (Beyer JM & Trice HM 1982; Dunn WN 1983;Estabrooks C 1999; Graham et al 2010; Larsen J 1980; Rycroft-Malone, J. & Bucknall T 2010, Weiss CH 1979).

Barrier: Any real or perceived concept that interferes with a change intervention (W. Gifford Personal communication January 2011); Ferlie E. and Shortell, S. (2001).

Clinical Best Practice: Systemically developed statements that assist health-care practitioners and clients in making decisions related to an appropriate plan of care for specific clinical circumstances (Field & Lohr, 1990).

Conceptual knowledge use: Knowledge that has informed or influenced the manner in which practitioners and managers consider issues and attitudes (Beyer & Trice, 1982; Dunn, 1983; Estabrooks, 1999; Graham, Bick, Tetroe, Straus, & Harrison, 2010; Larsen, 1980; Rycroft-Malone & Bucknall, 2010; Weiss, 1979). This term is used when describing practitioners' understanding and internalization of knowledge and information

Decay: Decreased application of the BPG recommendations over time. (Buchanan, Fitgerald & Ketley. 2007)

Discontinue: A decision to stop the implementation of a BPG recommendation. Many factors may affect this decision, such as competing priorities and financial resources.

Educational meetings: Lectures, conferences, workshops or traineeships (Cochrane Effective Practice and Organisation of Care Review Group 2002). Meetings may include methods of learner involvement such as discussion and active participation (e.g. work group tasks, problem-based learning, etc.). (Registered Nurses Association of Ontario. 2002).

Educational materials: Published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications. The materials may be delivered personally or through mass mailings. (Cochrane Effective Practice and Organisation of Care Review Group, 2002)

Educational outreach visits: One-to-one visits by nurse-facilitators, pharmacists, study investigators or others to the health-care provider in a practice setting, to provide information with the intent of changing the health-care provider's practice. The information provided may include feedback on the provider's performance (Cochrane Effective Practice and Organisation of Care Review Group, 2002).

Facilitator: Factors that would promote or help implement shared decision-making in clinical practice (Legar, 2009).

Focus group: Obtaining knowledge by interviewing a group of people about their experiences, attitudes or behaviour about a topic.

Guideline Adaptation: A "systematic approach for considering the endorsement or modification of guidelines produced in one setting for application and implementation in another as an alternative to de novo guideline development or as a first step in the process of implementation, while preserving evidence-based principles." (Fervers, 2011, p. 229).

Institutionalization: The relative endurance of change within an organization, as it becomes part of everyday activities or normal practices (Davies & Edwards, 2009).

Interviews: Obtaining knowledge by questions individuals regarding their experiences, attitudes or behaviours. In qualitative research, questions are open-ended; in quantitative research; questions are typically highly structured with fixed-choice responses.

Knowledge use: Use of the evidence underpinning practice; often categorized as conceptual knowledge use, behavioural knowledge use or strategic knowledge use (Graham et al., 2006).

Local consensus processes: Inclusion of participating practitioners in discussions to ensure they agree that the chosen clinical problem is important and the suggested approach is appropriate (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Local opinion leaders: Providers identified or nominated by their colleagues as educationally influential. They can influence others to change behaviour (Registered Nurses Association of Ontario; 2002).

Marketing: Marketing: The use of personal interviewing, group discussion, focus groups, or a survey of targeted providers to identify barriers to change and subsequent design of an intervention that addresses the barriers identified (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Mass Media: Varied use of communications to reach great numbers of a targeted audience; mass media includes television, radio, newspapers, posters, leaflets, and booklets, alone or in conjunction with other interventions (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Managerial leadership: An organizational strategy, leadership is a multidimensional process of influence to enable nurses to use research-based evidence in clinical practice, and includes behaviours and activities of managers that exert direct and indirect influence on individuals, their environment, and organizational infrastructures (Gifford, Davies, Edwards, Griffin, & Lybanon, 2007).

Observation: Obtaining knowledge through the senses (e.g. visual, auditory) or the recording of data using scientific instruments.

Organizational interventions: Organizational interventions include revision of professional roles, revision of multidisciplinary teams, integration of services, skills mix changes, continuity of care, interventions to improve working conditions, communication and case discussion (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Organizational Memory: The storage or embodiment of knowledge in various knowledge reservoirs within the organization. Examples include: formal staff education, orientation content, prompts/reminders embedded within clinical documentation systems and policy/procedure manuals, formal role expectations and performance indicators (e.g. identified resource nurse designation within practice environment) (Virani, Lemieux-Charles, Davis, & Bert, 2009).

Outcome: The results of an undertaking or initiative (Donabedian, 1988).

Outcomes or effect impact: The changes that occur as a result of a change in clinical practice. They may occur at any of the following levels: client, clinical, health-care provider, unit, organizational or system (Graham et al., 2010; Hakkennes & Green 2006)

Patient mediated interventions: New clinical information (not previously available) collected directly from patients and given to the provider, e.g. depression scores from an instrument (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Process: How the system needs to be changed to implement the practice.

Relapse: Reverting to previous ways of operating (Davies, B. & Edwards, 2009).

Reliability: The extent to which a data collection tool consistently measures the same attribute that it is designed to measure, or the extent to which the results can be replicated.

Reminders: Patient/client/resident or encounter specific information, provided verbally, on paper or through electronic means to prompt health professionals to recall information and perform or avoid some action to aid care. Reminders could be incorporated in education, documentation, interactions with peers or computer aided decision supports systems (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Resources: The financial, human, or in-kind requirements necessary to achieve the objectives that are outlined in an action plan.

- Financial resources include the funding necessary to cover the financial costs of implementation activities (e.g. to purchase equipment, to fund travel).
- Human resources are the individuals needed to execute the implementation activities (e.g. project coordinator, information technology specialist).
- In-kind resources are non-cash forms of support, such as those provided by access to goods and services (e.g. the organization providing access to the internet and/or library services).

RNAO Nursing Best Practice Guideline (BPG): The RNAO name for the organization's unique brand of clinical practice guidelines. There are two BPG streams: 1) clinical, and 2) healthy work environment. This work is led by the RNAO, with funding from the Ontario Ministry of Health and Long-Term Care and support from Health Canada, Office of Nursing Policy (RNAO website, 2008).

Routinization: When an innovation becomes entrenched into regular activities and loses its distinct identity. E.g. requiring all patients to have a falls risk assessment documented with a plan of care (Davies & Edwards, 2009).)

Scaling up: The process through which new working methods developed in one setting are adopted, with appropriate modifications as needed, in other organizational contexts (Davies & Edwards, 2009). Extending the implementation of BPG to other sectors of health care in hospitals, community or educational settings.

Sensitivity and Specificity: Two frequently reported characteristics of tools and diagnostic tests. Sensitivity is defined as how good a test is at detecting *who* has a condition or disease. Specificity is defined as how good a test is at telling who *does not have* the condition or disease.

Social Marketing: The "application of marketing concepts and tools drawn from the private sector to programs designed to influence voluntary behaviour of target audiences to achieve social goals." (Andreason, 2004, p. 56).

Source guideline: : A guideline "selected to undergo assessments of quality, currency, content, consistency, and acceptability/applicability and upon which an adapted guideline may be based." (The ADAPTE Collaboration, 2009)

Spread: The process through which new working methods developed in one setting are adopted, perhaps with appropriate modifications, in other organizational contexts (Davies & Edwards, 2009).

Stakeholder: A stakeholder is an individual, group and/or organization with a vested interest in your decision to implement a best practice guideline (Baker, Ogden, Prapaipanich, Keith, Beattie, & Nickleson, 1999). Stakeholders include individuals or groups who will be directly or indirectly affected by the implementation of a best practice guideline.

Stakeholder Analysis: As it relates to the implementation of best practice guidelines, a stakeholder analysis is a method of generating information about stakeholders for the purpose of helping the implementation team understand stakeholder behaviour, plans, relationships and interests. This knowledge can help the team to determine the support, resources and influences that the stakeholder can bring to bear.

Strategic knowledge use (Symbolic knowledge use): Use of knowledge or data (e.g. research results) to persuade others to support one's views or decisions. This may – or may not –lead to either conceptual or behavioural use of that knowledge by others (Beyer & Trice, 1982; Dunn, 1983; Estabrooks, 1999; Graham, Bick, Tetroe, Straus, & Harrison, 2010; Larsen, 1980; Rycroft-Malone & Bucknall, 2010; Weiss, 1979).

Sticky Knowledge: Knowledge is inherently sticky and difficult to move. Stickiness is a product of the transfer process and can be predicted by examining a number of conditions related to the knowledge, its source, and the context of transfer and the characteristics of the recipient. (Virani, Lemieux-Charles, Davis, & Berta, 2009)

Structure: What you need to have in place to make the change (e.g. equipment, supplies, facilities).

Structural Interventions: A number of structural interventions are possible, including: changing the site of service delivery; changes in physical structure, facilities and equipment; changes in patient records systems; quality monitoring mechanisms; ownership, accreditation, and affiliation status; and staff organization (Cochrane Effective Practice and Organisation of Care Review Group; 2002).

Surveys: Obtaining knowledge through collecting information, typically through the use of structured questionnaires with rating scales. Surveys may be administered in person, by telephone or via the internet (Dillman, 2007).

Sustainability: The degree to which an innovation continues to be used after initial efforts to secure adoption is completed (Rogers, 2003). Maher et al. (2010) systematically developed a model and diagnostic assessment system, and offer the following definition: "When new ways of working and improved outcomes become the norm. Not only are process and outcome changed, but the thinking and attitudes behind them are fundamentally altered and systems surrounding them are transformed in support of the change." (Maher et al., 2010, p. 1)

Validity: The degree to which a data collection tool accurately measures that which it is intended to measure.

Appendix D: The ADAPTE Process Framework

The ADAPTE framework has been included for **those** practice settings that may require additional guidance for **adapting** guidelines to be used in a different cultural and/or sector context. Such an adaptation will not be necessary for all settings.

Core principles of the ADAPTE guideline adaptation process

(ADAPTE Collaboration, 2009)

- Respect for the evidence-based principles of guideline development
- Reliable and consistent methods to ensure the quality of the adapted guideline
- Participative approach, involving all key stakeholders, to foster acceptance and ownership of the adapted guideline
- Explicit consideration of context during adaptation to ensure relevance for local practice
- Transparent reporting to promote confidence in the recommendations of the adapted guideline
- Flexible format to accommodate specific needs and circumstances
- Accountability to the primary source guideline

Figure 1: Outline of the ADAPTE Process Framework

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Fervers, B., Burgers, J. S., Voellinger, R., Brouwers, M., Browman, G. P., & Graham, I. D. (2011). Guideline adaptation: an apporach to enhance efficiency in guideline development and improve utilisation. BMJ Quality and Safety, 20, 228–236.

The ADAPTE framework is comprised of three phases

1. The set-up phase concerns activities related to the preparation for starting a guideline adaptation process.
2. The adaptation phase concerns work to select and adapt a guideline for implementation.
3. The finalization phase concerns the external review and sustainability of the adapted guideline.

Below is an overview of how the ADAPTE framework (ADAPTE Collaboration, 2009) may be applied to adapt existing guideline(s) to the local context in which implementation is planned. The steps outlined below are based on the process outlined in The ADAPTE Process: Resource Toolkit for Guideline Adaptation, Version 2.0 (ADAPTE Collaboration, 2009). For more details regarding the ADAPTE process, or to access specific tools to facilitate these steps, please refer to the original source.

Phases	Tasks	Associated modules
Set up phase	Prepare for ADAPTE framework	Preparation
Adaption phase	Define Health Questions	Scope and purpose
	Search and Screen Guidelines	Search and screen
	Assess Guidelines	Assesement
	Decide and Select	Decision and selcetion
	Draft Guideline Report	Customization
Finalization phase	Extrenal Review	External Review
	Plan for future review and update	Aftercare planning
	Produce final guideline	Final procution

All activities and decisions during adaptation should be carefully documented, in order to ensure rigor and transparency of the adaptation process.

Phase 1: Set-up

The set-up phase concerns activities related to the preparation for starting a guideline adaptation process. This involves:

a) **Establishing an organizing committee or implementation team.** The implementation of clinical practice guidelines to enhance clinical practice requires significant time and resources. Establishing a team that can support and contribute to this process can facilitate efficiency and success in implementation. For clarity, establishing the Terms of Reference for each team member's role in the initiative and addressing any conflicts of interest should be considered.

b) **Selecting a guideline topic.** While there may be a number of clinical areas which may benefit from guideline implementation, it may be helpful to select a specific issue that will be addressed with this particular implementation project. Prioritization of topics may be based on a range of factors, including the current burden on clients and families, misuse of interventions, financial costs and the potential to improve quality of care and/or patient outcomes.

c) **Determining the feasibility of adaptation.** An important area to consider is the availability of relevant evidence-based clinical practice guidelines. A lack of guidelines to address the identified area of clinical may require a review of all available evidence to determine next steps with regards to changing practice.

d) **Identifying resources and skills.** Sufficient resources and skills are necessary to support the tasks involved in successful implementation of clinical practice guidelines. The implementation team should involve stakeholders and individuals representing expertise regarding the clinical topic area, policy implications, health service research and guideline methodology and/or implementation. Knowledge and skills relevant to the local context (e.g. clients, administrators, staff, etc.) are also valuable to ensure appropriate adaptation of knowledge to the planned setting for implementation. Chapter 2B in this Toolkit discusses how to evaluate and access the needed financial and in-kind resources for an implementation initiative.

e) **Developing a work plan.** A work plan can be helpful for communicating within the team and with other stakeholders the objectives and progress of the implementation project. Important target dates can be set based on the team's knowledge of events or deadlines occurring in the local context, which may be related to the implementation project (e.g. committee meetings, patient forums, etc.).

Phase 2: Adaptation

a) **Scope and purpose.** Based on the broad topic area selected by the implementation team, a specific scope and purpose should be clarified in order to define what health questions the team wishes to address. To help define the scope and purpose, you may consider the **PIPOH** mnemonic:

- Target **population**
- **Intervention** of interest
- **Professionals** to whom the implementation is targeted
- Expected **outcomes** desired (e.g. patient, system or public health outcomes)
- **Health-care** setting or context in which the guideline is to be implemented

b) **Search and screen.** A search strategy for clinical practice guidelines can be developed based on the defined scope and purpose of the implementation initiative. Inclusion and exclusion criteria will reflect the scope and purpose, as well as specify other parameters such as year of development and language of publication. A comprehensive search for guidelines may involve electronic bibliographic databases, guideline repositories, and websites of guideline developers. Relevant publications can be screened with the inclusion and exclusion criteria to identify guidelines that may best address the purpose and scope of the implementation project.

c) «**Assessment.** Assessment of the identified guidelines can help the implementation team make decisions regarding which guidelines are most appropriate for adaptation into the local context and the degree of adaptation that will be required. To enhance the reliability of the assessment, it is suggested that multiple assessors appraise each guideline. This step may involve the assessment of one or more of the following guideline characteristics:

- **Quality:** The quality of a guideline is determined by the confidence by which the process of development was conducted rigorously, that the recommendations are internally and externally valid, and that they are also feasible for practice (The AGREE II Collaboration, 2009). The AGREE II instrument provides a systematic approach to the quality appraisal of clinical practice guidelines, as described in Chapter 1 of this Toolkit.
- **Currency:** The assessment of the currency of a guideline refers to determining whether or not the guideline recommendations reflect the current knowledge and evidence in the field. Because of the rapid pace of health research, guidelines may be considered outdated in as little as a few years. After ensuring that you have the most updated version, the date of publication and/or the time period covered by the literature review can provide some indication regarding the currency of the guideline. However, this determination is best made based on clinical and research knowledge regarding the state of evidence in this particular field (Shekelle et al., 2001).
- **Content:** Particularly when more than one source guideline is being considered for implementation, it may be useful to assess the content by comparing similarities and differences in recommendations across guideline. Such an assessment can be used to identify all recommendations supported with strong evidence and/or all recommendations that the team may find particularly relevant to the local context. Recommendation matrices or tables may be useful for this purpose.
- **Consistency:** Guideline consistency refers to level of agreement between the available evidence and the resulting recommendations. A logical flow between the search and selection of evidence, its interpretation and the development of recommendations facilitates confidence that the guideline is needed based on the best available evidence.
- **Acceptability/applicability:** Any adaptation of knowledge to the local context depends on an assessment of that knowledge (i.e. guideline) in terms of its acceptability and applicability to the local context. Specifically, it is important to note whether the guideline recommendations adequately address the clinical need in this particular clinical setting (i.e. acceptable), and whether it is feasible to implement the recommendations given the expertise, resources, and policies present within the local context (i.e. applicable).

d) **Decision and selection.** After the assessment of relevant guidelines, a decision must be made regarding the guidelines and/or recommendations that will be selected for adaptation. Based on the team's assessment of guidelines, one of various degrees of adaptation may be desired (Table 1). Consensus processes are often used to help reach decisions.

Table 1: Examples of different degrees of adaptation

Degree of adaptation	Example
Adopt a guideline unchanged	Adaptation of a guideline on cervical cancer screening (Fervers, et al., 2011)
Selecting recommendations from different guidelines	One or more recommendations from several relevant and high-quality clinical guidelines were adapted and incorporated into an updated leg ulcer wound care protocol for community care (Graham, et al., 2005)

e) **Customization.** Once a decision has been made with respect to the guideline and/or set of recommendations that will be implemented, adaptation will occur based on the degree of adaptation decided upon. The adapted recommendations will be drafted in a manner that best fits the intended use in the local context, but still remains aligned with the source guideline and currently available evidence.

The following are issues to consider with respect to adaptation:

- available resources;
- knowledge and skill level of staff;
- scope of practice;
- time constraints; and
- legislation.

Phase 3: Finalization

a) **External review and acknowledgement.** Once a draft of the adapted recommendations has been developed, it is sent to a sample of local stakeholders for an external review. The main purpose of the external review is to gather information regarding the strengths and weaknesses of the adapted knowledge, including the feasibility and implications of implementation at the local level. However, the external review process may also act as a means of disseminating the work of the implementation team and an opportunity to generate interest and support regarding the project.

The stakeholders involved in the external review should represent all groups that will be affected by the local implementation of the recommendations (e.g. clients, nursing staff, interdisciplinary colleagues, administrators). Involving stakeholders with particular expertise in the content area may also help to ensure that the adaptation was appropriate and maintained the integrity of the original recommendations (Graham et al., 2005). Chapter 2B provides detailed information on identifying and engaging stakeholders in the guideline implementation process. The feedback resulting from the external review should be documented, discussed by the panel and, if necessary, addressed in the final document.

b) **Aftercare planning.** A plan should be outlined for updating the guideline. This plan should specify a target review date, or the conditions under which a review will be conducted (e.g. when the source guideline is updated). The responsibility for overseeing the plan and coordinating future guideline review should also be assigned within the team.

c) **Final production.** The final adapted guideline recommendations should be clearly presented along with documentation of the process used to arrive at the final recommendations. Source guidelines and all supporting documents used for the adaptation should be appropriately acknowledged in the final report.

Appendix E: Nursing Order Sets and NQuIRE®

What are nursing order sets?

RNAO's nursing order sets are an unprecedented, innovative addition to the BPG Implementation Toolkit. Nursing order sets make it easier to translate evidence into nursing practice by providing clear, concise, actionable evidence-based intervention statements that can be readily incorporated into various practice settings. For example, Practice Recommendation 2.0 in the Prevention of Falls and Fall Injuries BPG states: "*Nurses, as part of the interprofessional team, implement multi-factorial fall prevention interventions to prevent future falls*". The lack of specificity in this recommendation poses a challenge for individuals/organizations wanting to implement this BPG. The corresponding nursing order set remedies this situation by providing a list of interventions that clearly define what is intended by the phrase "*multi-factorial fall prevention interventions*". A subset of this nursing order set is provided below:

MULTI-FACTORIAL FALL PREVENTION PROGRAM **(Categories are derived from the Canadian Falls Prevention Curriculum-BEEEACH*)** **Selected one or more of the following fall prevention interventions based on the client's identified risk factors.** *Behaviour change, Education, Equipment, Environment, Activity, Clothing and footwear and Health Management.
ACTIVITY:
❑ Promote Slip Resistant Footwear
❑ Transfer And Ambulate With Assistance
❑ Promote Walking Using Device
❑ Transfer Towards Stronger Side

Why nursing orders are sets important?

RNAO's nursing order sets are important for several reasons. First, they aim to transform nursing practice by leveraging technology to promote knowledge translation and evidence-based decision making. Second, the order sets incorporate intervention statements that are based on international terminology standards, specifically: International Classification for Nursing Practice (ICNP) and Systematized Nomenclature for Medical and Clinical Terms (SNOWMED-CT). ICNP is uniquely developed by nurses to describe the work that nurses do using a consistent approach. The use of international terminology standards will also pave the way for standardization of nursing practice to facilitate comparative analysis of nursing data across health care sectors and geographical locations. In addition, with the advent of the electronic health and medical records, terminology standards will facilitate access and exchange of patient information in a standardized manner. Third, nursing order sets will make the nurses' contribution to patient outcomes more visible to the interprofessional team. Finally, RNAO's nursing order sets will facilitate the evaluation of BPG implementations by providing a mechanism to link specific evidence-based interventions to clinical outcome indicators. A case in point is the linkage that currently exists between the order sets and the indicators in the RNAO NQuIRE® database.

How might nursing order sets be used?

RNAO's nursing order sets are designed to be incorporated into an electronic health or medical record, but they may also be used in a paper-based or hybrid order-entry system. The RNAO has partnered with PatientOrderSet.com to facilitate this process. For health care organizations this will translate into significant time and cost savings benefits. The first twenty-seven nursing order sets were released in August 2012 to complement the fifteen most commonly implemented clinical BPGs. Order sets will be developed for the remaining clinical BPGs and disseminated periodically throughout 2012-2013. Health care organizations across the spectrum of care including acute care, home care, long-term care and community care will derive many benefits from implementing these nursing order sets.

For additional information please contact BNOS@rnao.ca.

What is NQuIRE?

NQuIRE is the acronym for Nursing Quality Indicators for Reporting and Evaluation®. NQuIRE® was designed for Best Practice Spotlight Organizations® (BPSO®) to systematically monitor the progress and evaluate the outcomes of implementing the RNAO Best Practice Guidelines (BPG) in their organizations. NQuIRE is the first international quality improvement initiative of its kind, and involves development and measurement of structural, process and outcome indicators related to each of the RNAO BPGs.

Why is NQuIRE important?

The utilization of NQuIRE is intended to provide a number of benefits for patients, nurses, organizations and health systems, including:

Nursing-Sensitive Indicators: It is the goal of NQuIRE to create BPSO-validated and endorsed nursing-sensitive indicators. These include existing nursing-sensitive process and outcome clinical indicators such as those for pain, falls, and pressure ulcers; as well as new nursing-sensitive process and outcome indicators derived from the wide range of clinical conditions addressed in RNAO's BPGs. NQuIRE also includes existing and new nursing-sensitive structural indicators. In collaboration with the BPSOs and other researchers, RNAO expects to advance the understanding of the interrelationships between structural factors and clinical processes that influence patient/client/resident outcomes. Our collective work will enable nursing to actively contribute to the safety and quality agendas and promote evidence-based policy decisions at the organizational and health system levels.

Comparative Reporting: NQuIRE enables data comparisons within the BPSO program for specific clinical populations, health sectors, organizations, and geographic regions, as well as promotes meaningful data sharing and benchmarking. With NQuIRE data, BPSOs can monitor their own progress in improving structural and clinical processes, quality of nursing care, and patient as well as organizational outcomes. NQuIRE provides internal reports enabling participating BPSOs to compare their indicator performance data with that of other units/programs/services/teams within their own organization. BPSOs that wish to share their aggregate data are part of the cross-BPSO comparative results analysis with other like BPSOs at the local, national and/or international levels that have also chosen to share their data. They are provided with performance reports of local, national, and international BPSO percentile distributions for indicators of interest in like organizations.

Evidence-Based Decision Making: NQuIRE data informs where and how RNAO's BPGs are enhancing nursing practice and patient outcomes, as well as organizational and health system performance. Such data will guide the RNAO BPG Program and facilitate evidence-based decision making to promote effective utilization of nursing resources and highlight practical areas for further investments in nursing best practices.

Research Opportunities: Through formal authorization, researchers will be provided with opportunities to use NQuIRE data to test nursing-sensitive indicators, refine reliable and valid measurement tools, and identify trends in nursing practice and patient outcomes.

How is NQuIRE information used?

Together with RNAO, BPSOs evaluate BPG implementation by tracking their quality indicators for the purpose of continuous quality improvement. With this information, BPSOs can inform where and how nursing is providing valuable benefits to patient, organization, and system outcomes, thereby ensuring effective and evidence-based decision making to optimize safe, quality health care.

For more information about NQuIRE, please visit http://rnao.ca/bpg/initiatives/nquire or e-mail nquire@rnao.ca