CAN-IMPLEMENT©: Planning for Best-Practice Implementation

Margaret B. Harrison
Joan van den Hoek
Ian D. Graham

Wolters Kluwer

THE JOANNA BRIGGS INSTITUTE

Thank you

for purchasing this e-book.

To receive special offers and news about our latest products, sign up below.

Or visit LWW.com

Wolters Kluwer

CAN-IMPLEMENT©: Planning for Best Practice Implementation

Margaret B. Harrison

Joan van den Hoek

Ian D. Graham

Lippincott-Joanna Briggs Institute Synthesis Science in Healthcare Series: Book 20

Publisher: Anne Dabrow Woods, MSN, RN, CRNP, ANP-BC
Editor: Professor Alan Pearson, AM, Professor of Evidence Based Healthcare and Executive Director of the Joanna Briggs Institute; Faculty of Health Sciences at the University of Adelaide, SA 5005 Australia
Production Director: Leslie Caruso
Managing Editor, Production: Erika Fedell
Production Editor: Sarah Lemore
Creative Director: Larry Pezzato

Two Commerce Square
2001 Market Street
Philadelphia, PA 19103

ISBN 978-1-4963-0811-5

Printed in Australia

The Lippincott-Joanna Briggs Institute Synthesis Science in Healthcare Series

Series Editor: Professor Alan Pearson AM

This series of concise texts is designed to provide a "toolkit" on synthesizing evidence for healthcare care decision-making and for translating evidence into action in both policy and practice. The series seeks to expand understanding of the basis of evidence-based healthcare and brings together an international group of scholars to describe, discuss, and debate critical issues in the field.

Incredible developments in the synthesis and use of evidence in healthcare over the last several years have occurred, but the accompanying science and emerging practices that underpin evidence-based healthcare are often poorly understood by policy makers and health professionals. This is unfortunate because several emerging and exciting developments have much to offer this group. First, new, deeper understandings of the nature of evidence and of ways to appraise and synthesize it have led to the development of more sophisticated methodologies for synthesis science. Second, the realization that the rapid increase in the availability of high quality evidence has not been matched by increases in the translation of this evidence into policy and/or clinical action has spurred on developments in the science of knowledge implementation and practice improvement.

The burgeoning publications in this area – particularly books on evidence-based healthcare – can go only so far in informing responsible and conscientious policy makers and healthcare practitioners. This new series, Lippincott/Joanna Briggs Institute, "Synthesis Science in Healthcare," is devoted to communicating these exciting new interventions to both researchers and clinicians who are on the front line of practice or influencing policy.

The books in this series contain step-by-step detailed discussions and practical processes for assessing, pooling, disseminating and using the best available international evidence. In all healthcare systems, there is growing consensus that evidence-based practice offers the most responsible course of action for improving health outcomes. All clinicians and health scientists want to provide the best possible care for patients, families, and communities. In this series, our aim is to close the evidence to action gap and make that possible.

About the Authors

Margaret B. Harrison, Professor Emerita, Co-Director, Queen's Joanna Briggs Collaboration (QJBC), Queen's University is the founding Director of the QJBC and a founding member of the international ADAPTE collaboration. She was Principal Investigator of the pan-Canadian Guideline Adaptation study that provided the foundation for development of CAN-IMPLEMENT©.

Joan van den Hoek, BNSc., is currently the senior project officer for the Queens Joanna Briggs Collaboration, School of Nursing, Queen's University. She coordinated the Canadian Guideline Adaptation Study that included multiple case groups contributing to the development of the CAN-IMPLEMENT© resource.

Ian D. Graham, Professor, Department of Epidemiology and Community Medicine, University of Ottawa, Senior Scientist, Ottawa Hospital Research Institute. He a founding member of the international ADAPTE collaboration and investigator on the Pan-Canadian Guideline Adaptation Study.

Contents

FORWARD

This book presents version 4.0 of CAN-IMPLEMENT©, a guideline adaptation and implementation planning resource. The resource was initially developed to assist groups to adapt cancer care guidelines originally developed outside their jurisdiction. Our intention was also to highlight the implementation planning activity which occurred during the work with available guidelines. With funding from the Canadian Partnership Against Cancer, five case studies were followed to understand the scope of activities and support needed to complete a guideline adaptation process. This research was published in 2013 (Harrison et al., 2013). As we continued with implementation research in cancer care, chronic wound care, and long term care activity, the resource evolved. Building on the experience of the cancer cases and additional studies on facilitation resulted in a number of enhancements. CAN-IMPLEMENT© is now in a generic form and not specific to cancer care. The implementation planning perspective and facilitation aspects have been expanded, and a an epilogue on the Joanna Briggs Institute framework has been added to incorporate an international viewpoint.

Organization of the Book

The book is organized around the major phases of activity undertaken in guideline adaptation. Implementation planning is incorporated throughout. Field notes, insights, tips, and checklists are featured. Important decision points and outputs are highlighted and links to relevant tools and additional resources are provided. Frequent progress checks help users assess the direction and status of their own initiative with guideline adaptation and implementation planning.

Target Audience

The approach we describe is intended for all those responsible for facilitating evidence-informed practice in healthcare settings including formalized facilitators but also those in quality and practice portfolios (Clinical Nurse Specialists [CNS], advanced practice nurses [APN], Nurse Practitioners [NP], educators, quality coordinators, managers and clinicians, nurses, and others in professional development/practice portfolios. These roles are often relied upon or even responsible through their function and core competencies for promoting and implementing evidence in their settings.

CHAPTER 1

INTRODUCTION

Background

While the importance of turning knowledge into action and using available evidence to inform practice is widely recognized, realizing the desired change presents significant challenges to most healthcare settings and providers. One of the most common evidence tools is a practice guideline (also referred to as best practice recommendations). As a source of readily available evidence, rigorously synthesized and interpreted by expert clinicians and methodologists, and transformed into practice recommendations, quality practice guidelines have the potential to improve both the *process* of care and patient *outcomes*. Over the past decade, a growing number of guideline entities have generated scores of guidelines. Despite large-scale initiatives across disease and health conditions to develop these knowledge tools, their uptake in practice is not apparent (Grol, 2001; Schuster et al., 1998).

Unfortunately, producing and having readily available and accessible quality guidelines is no guarantee that these recommendations will be implemented in healthcare practice or policy. To move forward with evidence-informed practice, emphasis must now be focused on guideline uptake and use rather than guideline development. Turning to available evidence, housed in appropriate guidelines, is a practical solution in which guideline adaptation becomes an initial step in creating change. The CAN-IMPLEMENT© process is one approach intended to support practitioners and frontline managers in adapting guidelines for local use (Harrison et al., 2013). CAN-IMPLEMENT© was initially developed and evaluated by the Guidelines Action Group of the Canadian Cancer Partnership Against Cancer (Canadian Partnership Against Cancer Corporation, 2014). Using a mixed-methods, case-study design, five cases were purposefully sampled from self-identified groups and followed as they used a structured method and resources for guideline adaptation. Cases received the ADAPTE Collaboration toolkit, facilitation, methodological and logistical support, resources and assistance as required (ADAPTE COLLABORATION, 2007). Documentary and primary data collection methods captured individual case experiences. Monthly summaries of meeting and field notes, email/telephone correspondence, and project records along with site visits, process audits, interviews and a final evaluation forum with all cases contributed to a comprehensive account of participant experience. We found guideline adaptation was a constructive step in beginning the path to evidence-informed practice. The process is one of engagement and building capacity in evidence use as well as developing local guidance. Local circumstances and context are considered in light of the recommendations and an alignment with the external evidence occurs.

We wish to convey that CAN-IMPLEMENT© resulted from the real experience of individuals and groups undertaking adaptation as a means to begin guideline implementation. It is not supposition about what might work. The approach we outline in the following chapters includes a rigorous methodology, facilitation elements and project management advice. Importantly, the approach integrates implementation planning across the entire process.

The aim of this book is to provide practical assistance in the implementation of evidence. Although focused specifically on guidelines, it can be transferred to other evidence tools such as care pathways or clinical protocols. The approach builds on the current state of knowledge (theoretical and empirical) with evidence-based practice and planned action theory in order to

create a how-to resource for practitioners, organizations and groups wanting to plan for guideline implementation. The book:

- outlines a general framework of planned action to guide knowledge use in practice settings (CAN-IMPLEMENT© V4).
- describes in practical, operational terms, how to initiate a process of knowledge use, the major phases of work, critical decision-points and the resources and tools needed.
- provides a planning tool to engage the necessary strategic alliances for decision-making and for methodological and practical support with adapting evidence in the form of guidelines.

Building a Foundation for evidence-informed practice through guideline adaptation

Guidelines are a common and widely available knowledge tool and may serve as a catalyst for evidence implementation. The use of guidelines is a concrete way to activate knowledge in practice. Quality guidelines reflecting the best available evidence offer the benefit of having external credibility for what ought to be done in local clinical practice. When guidelines introduce external evidence, they often provide the necessary authority to challenge potentially sub-optimal practices based on personal preferences or long held practitioner care patterns. However, the initial step of adapting and using an existing guideline to implement evidence-informed practice may present a complex and an often overwhelming process for both practitioners and managers. Work to date has largely focused on the theoretical and explanatory or descriptive aspects of knowledge translation (KT) and evidence-informed practice. The focus of this book is to provide guidance on adapting a guideline to align with your context and begin planning for implementation and sustainability.

CHAPTER 2

IMPLEMENTATION AND GUIDELINE ADAPTATION

This chapter highlights aspects of implementation and the role and function that guideline adaptation serves in a shift to evidence-informed practice. We present the frameworks we used but do not include an overview of the broad depth and scope of the theoretical or framework literature on knowledge translation.

Guiding Frameworks and Theory

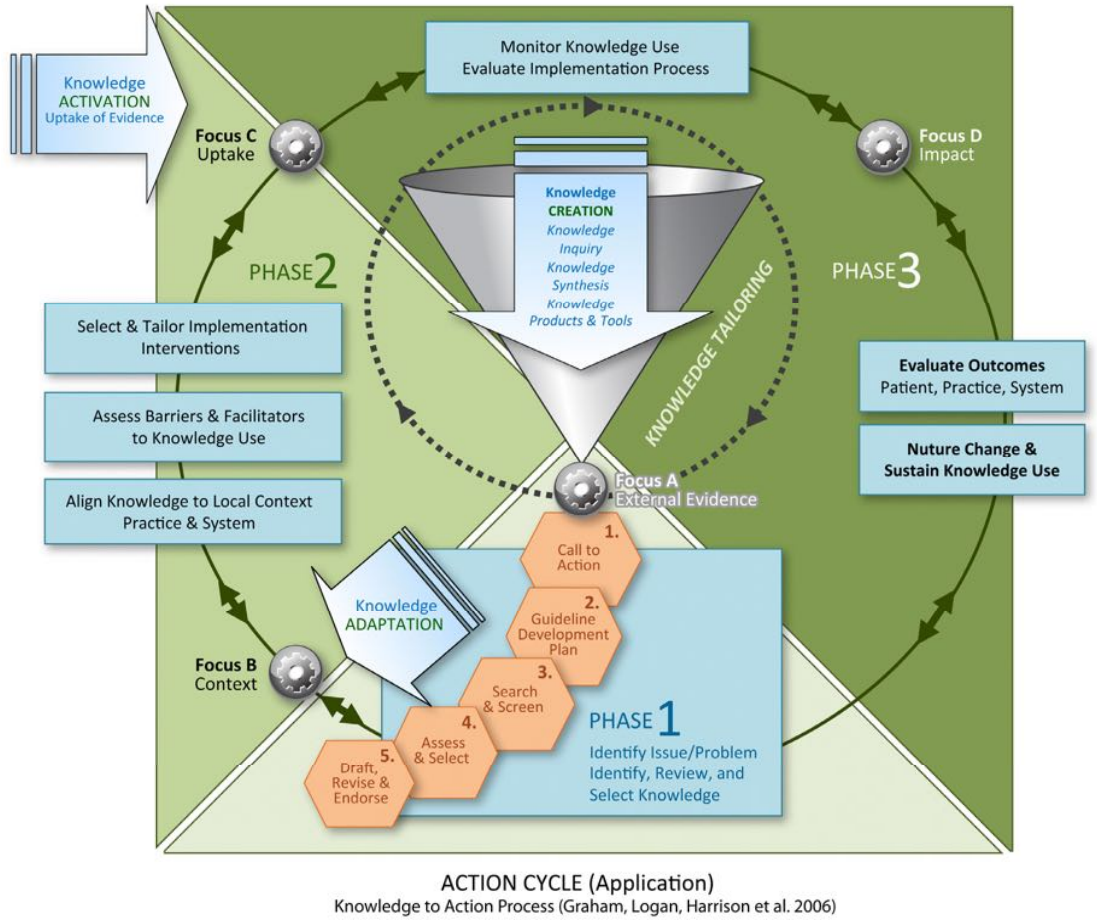
The Knowledge-to-Action framework and the Queen's University Research Roadmap for Knowledge Implementation form the theoretical basis for CAN-IMPLEMENT©. As noted, the CAN-IMPLEMENT© approach was developed, tested and grounded with experience in a Canadian study conducted over 4 years (Canadian Institutes of Health Research, 2014; Graham et al., 2006; Harrison & Graham, 2012; Harrison et al., 2013).

Knowledge creation and application is an iterative, dynamic and complex process. The planned-action framework, Knowledge to Action (KTA) cycle was derived from a synthesis of common elements in over 30 planned action theories and is comprised of two major processes: knowledge creation and planned action. Knowledge creation involves three stages to tailor and refine information for use: knowledge enquiry (*e.g.*, primary studies), synthesis (*e.g.*, a body of work, meta-analysis), and creation of knowledge tools or products (*e.g.*, guidelines) (Graham et al., 2006; Straus et al., 2013). Recognition of a gap in care serves as an important stimulus for action. Distilled knowledge is applied or set in motion when a care issue is identified, and this handover prompts a cycle of activity, sequentially or concurrently, requiring users to:

- identify and clarify the practice problem or issue(s) to be addressed;
- identify, review and select the knowledge (*i.e.*, knowledge synthesis or knowledge product such as a guideline) that provides a solution to the identified problem;
- adapt or customize the knowledge to the local context (*i.e.*, practice and system);
- assess local determinants of knowledge use (*i.e.*, barriers and facilitating factors);
- select, tailor, and implement interventions to promote knowledge use (*i.e.*, implement the change);
- monitor the uptake, evaluate the impact of using the knowledge, and sustain knowledge use.

Figure 1 illustrates the iterative, dynamic and complex process of knowledge creation and application. Knowledge creation and application are interconnected with fluid boundaries. Guideline adaptation may occur within the knowledge creation funnel when undertaken by guideline developers adapting an existing guideline(s) to create a modified/new guideline (i.e., a knowledge product or tool) for dissemination, e.g., a Canadian setting adapting guidelines developed in the United States and United Kingdom for use in their jurisdiction. Guideline adaptation also occurs as a planned-action process when implementing evidence, e.g., groups work on the quality appraisal of existing guidelines(s) and specific practice recommendations to use this evidence locally. Practice patterns, provider expertise, available resources, and patient population(s) are examined to actively engage in knowledge application and the initial steps in the action cycle.

Figure 1: Knowledge to Action Process with Integration of Guideline Adaptation and Implementation



ACTION CYCLE (Application)
Knowledge to Action Process (Graham, Logan, Harrison et al. 2006)

Gear buttons indicate a key shift in focus during the knowledge to action process

The theory and methodological foundation in CAN-IMPLEMENT© is also aligned with the international Joanna Briggs Institute framework for evidence utilization and implementation science (School of Translational Health Science and The Joanna Briggs Institute [JBI], 2014).

Guidelines in Context

Field, and Lohr (1990) explain the purpose of clinical practice guidelines as "… systematically developed statements to assist provider and patient decisions about appropriate healthcare for specific clinical circumstances"(p.38).

The National Guideline Clearing House (U.S.) now uses the 2011 definition of clinical practice guideline developed by the Institute of Medicine (IOM) (National Guideline Clearing House, 2014): "Clinical practice guidelines are statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options" (p. 4).

Over the past two decades, clinical practice guidelines have evolved from recommendations based largely on expert opinion to recommendations explicitly grounded in evidence. It is acknowledged, however, that clinical decisions are not determined by evidence alone. Decisions for individual patients integrate evidence with the experience and expertise of care providers, information about the clinical and environmental context, and patient preferences. As

Sackett and colleagues (1996) originally described nearly two decades ago, evidence-based decision-making is:

> …the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients (which) involves integrating individual clinical expertise with the best available external evidence from systematic research. (p.71)

In selecting a guideline or set of guidelines for local use, consider three defining characteristics in order to not waste time and effort. Quality guidelines at minimum include:

- a synthesis of the body of scientific/research evidence,
- an interpretive summary of the evidence, and
- specific evidence-informed recommendations explicitly linked to evidence.

Sometimes people use the terms g*uidelines* and *standards* interchangeably. They may be distinguished as follows:

- Guideline: A guideline is a set of recommendations about the most appropriate practice for a particular health condition, together with a summary of the evidence that supports the recommendation and a transparent description of the process used to develop recommendations, including how the evidence was interpreted and summarized.
- Standard: authoritative statements that set out the legal and professional basis of practice and represent performance criteria. "All standards of practice provide a guide to the knowledge, skills, judgment and attitudes that are needed to practise safely. They describe what each nurse is accountable and responsible for in practice" (College of Nurses of Ontario NO, 2009, p.4). CNO's professional standards include seven broad standard statements related to: Accountability; Continuing Competence; Ethics; Knowledge; Knowledge Application; Leadership, and Relationships: Therapeutic nurse-client relationships and Professional relationships. A nurse *demonstrates* Knowledge and Knowledge Application standards by providing, for example, a theoretical and/or evidence-based rationale for all decisions and "using best practice guidelines to address client concerns and needs" (CNO, 2009, p.8).

Guideline Adaptation

De novo guideline development, which requires an extensive search and synthesis of primary research data, is a resource intensive method of producing quality recommendations for care. Guideline adaptation has been proposed internationally as an alternative approach to *de novo* guideline development, the ADAPTE Collaboration (2009) describes guideline adaptation as:

> …the systematic approach to considering the use and/or modification of guideline(s) produced in one cultural and organizational setting for application in a different context. Adaptation can be used as an alternative to de novo guideline development or for customizing (an) existing guideline(s) to suit the local context. (p.9)

The ADAPTE process was designed to address specific health questions relevant to the needs, priorities, legislation, policies, and resources of the targeted setting. The aim of guideline adaptation is to (Fervers et al., 2011; Harrison et al., 2010):

- reduce duplication of effort while maintaining the validity of recommendations;
- encourage a participative approach involving key stakeholders in order to foster local ownership of recommendations and promote utilization;
- ensure consideration of (regional and local) contextual factors to ensure relevance for practice and improve uptake by targeted users; and

- improve guideline quality by: increasing knowledge and commitment to evidence-based principles by using reliable methods to ensure quality and validity of adapted guidelines, and promoting explicitness and transparency in documenting recommendations.

FIELD NOTE: *De novo* or adaptation approach

In the Canadian Guideline Adaptation Study, most initiatives undertook a combination or *hybrid* of adaptation and *de novo* methods. If the local practice issue and health questions were not entirely or precisely addressed by existing guidelines, if the evidence used to support the existing guidelines was weak or not sufficiently current, or if very few guidelines existed, groups pursued a more extensive search and synthesis of primary data. *De novo* development often required greater methodological skills and more time than the case groups anticipated.

Knowledge Translation: the intent and the reality

Guidelines fit within healthcare settings in both practice and policy domains, e.g., within professional practice and development activity, safety or risk management portfolios, or the organization of services. Quality guidelines offer the best source of readily available synthesized evidence interpreted and transformed into practice recommendations. As knowledge tools, guidelines are an important element for facilitating evidence-informed practice and have the potential to improve both the process of care and patient outcomes. There has been a proliferation of guideline development entities producing scores of guidelines (many on the same topic, often with variable quality).

To date, a great deal of effort has been dedicated to guideline development. Rigorous methodologies have been developed to translate evidence from research into practice recommendations. However, despite highly resourced health sciences research and large scale efforts across disease and health conditions to develop such knowledge tools, guideline uptake in practice is inconsistent. The transfer of research findings into practice is often a “slow and haphazard process”(Graham et al., 2006, p. 13). Straus and colleagues (2013) state,

> Failures to use research evidence to inform decision making are evident across all decision maker groups including healthcare providers, patients, informal carers, managers and policy makers, in developed and developing countries, in primary and specialty care, and in care provided by all disciplines. (p.6)

Activating Healthcare Knowledge: adapting and implementing guidelines

Once knowledge has filtered through the funnel (Figure 1), transfer to practice is typically activated by a specific practice issue or problem. Evidence-practice gaps are identified in many ways including inquiries into practitioner or patient concerns about variation in practice, performance data generated from a quality assurance evaluation, or the realization that new evidence has become available which would influence current practices. Recognition of a gap in turn prompts a cycle of application activity aimed at integrating the desired knowledge (e.g., evidence-based guidelines) within the targeted practice and system.

CAN-IMPLEMENT© offers a systematic approach to adapting and implementing guidelines for use in the local context. Adaptation and Implementation planning is managed in three phases;

the process is not necessarily linear and some activities may occur sequentially or simultaneously. The processes necessary to implement knowledge using guidelines are:

PHASE 1: Identification and Clarification of the Practice Issue/Problem which includes:

- Identifying the problem or issues to be addressed;
- Identifying, reviewing and selecting the knowledge (e.g., guidelines) to implement a solution to the identified problem;
- Customizing (adapting) the knowledge (e.g., guideline recommendations) for the local context.

PHASE 2: Planning for Solution Building which includes:

- Aligning the adapted knowledge to the local practice and system environment;
- Assessing local determinants of knowledge use (barriers and facilitating factors);
- Selecting, tailoring, and implementing interventions to activate and promote knowledge use (i.e., implement the guideline).

PHASE 3: Planning for Implementation, Evaluation and Sustainability which includes:

- Monitoring the uptake of the knowledge;
- Evaluating the impact of outcomes of using the knowledge;
- Addressing the sustainability of knowledge use.

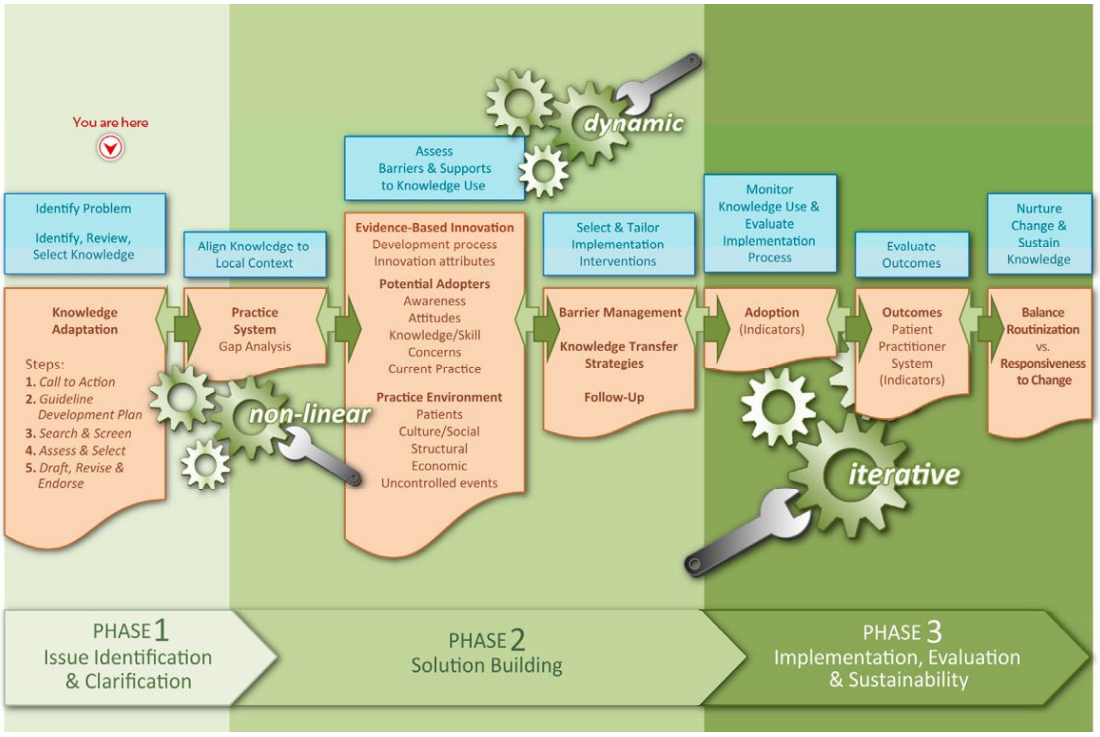
Individual steps for each phase, including objectives, tasks, outputs, key decisions and supporting resources are summarized in Tool P1S1: CAN-IMPLEMENT© Quick Reference Guide (see Appendix 1).

CHAPTER 3

STARTING THE JOURNEY

This chapter addresses the essential foundation for activating knowledge. In Phase 1: Identification and Clarification of the Practice Issue/Problem, groups begin a rigorous effort to identify, appraise and select existing knowledge/evidence to meet a practice gap within their specified population and context. This phase includes steps to:

- identify the problem or issues to be addressed;
- identify, review and select the knowledge (e.g., guidelines) to implement a solution to the identified problem;
- customize (adapt the knowledge (e.g., guideline recommendations) for the local context.



PHASE 1, Step 1: CALL to ACTION

The Call-to-Action step is designed to clarify the driving force behind a proposed guideline initiative and examine its organizational context. Time needed for this step will vary depending on the complexity of the initiative, number of agencies or jurisdictions that are involved, availability of members, and the need to locate expertise and funds, if necessary. In the Canadian Guideline Adaptation Study, it became particularly important for *new* groups to organize formally as legitimate guideline entities; this step took 4-6 months to complete. For local guideline initiatives with experienced committees and a well-established infrastructure, this step may require less time.

Action:

1.1 Clarify the motivation, purpose and scope of the proposed initiative

Groups should be prepared to explore and clearly articulate matters of authority, credibility, mandate, and jurisdiction. Questions to consider include:

- Will this be a local (e.g., one setting), regional or national implementation?
- Have all target users and stakeholders been considered?
- Are there any differences in priorities between relevant players and agencies?
- How will leadership and governance be determined?
- Who will assume responsibility for maintaining and updating the guideline?
- What funding and resources are needed? How will it be funded?
- What is the anticipated timeline for the guideline initiative?

Groups will also need to clarify assumptions about their current practice. For example,

- Has the problem/issue been clearly defined and supported by data?
- Is a guideline needed to respond to the specific practice challenge?
- Can the impact and outcome of recommended changes be measured against a performance baseline to assess the evidence practice-policy gap?
- Do stakeholders agree on the urgency or nature of the issue, or is an environmental scan needed to confirm concerns and priorities?

An important consideration is whether a guideline is the only or most appropriate solution to the problem, i.e., compounding service delivery or environmental factors might require further exploration or attention. Several criteria are suggested to prioritize topics for guideline adaptation (ADAPTE Collaboration, 2009) (see Table 2).

Table 2: Setting Guideline Priorities

- Care issue raised from quality or risk management processes
- Prevalence of a condition
- Existence of under use, overuse, or misuse of interventions
- Burden associated with a condition (e.g., a system, financial, or patient burden)
- Concerns about practice variation
- Costs associated with different practice options
- Likelihood that the guideline will be effective in influencing practice
- Potential for improving care quality or patient outcomes (e.g., survival or quality of life)
- Likelihood of existing, relevant, good-quality, evidence-informed guidelines

Other factors can influence the course of a guideline initiative. Consider, for example, if there is an organizational mandate or an educational agenda driving guideline development. What expectations exist at the institutional level and what is the level of support? Perhaps most importantly, does everyone share the same definition and understanding of the role and use of guidelines at your agency? It is important to recognize that care plans, protocols, position

statements, standards, or policy and procedure guides developed *without* explicit links between recommendations and evidence do *not* constitute clinical practice guidelines. The National Health and Medical Research Council (NHMRC) of Australia comment in their handbook,

> Clinical practice guidelines are often referred to as algorithms, clinical pathways, protocols and practice policies although these differ from clinical practice guidelines in that they are often much more prescriptive and not always based on evidence. (National Health and Medical Research Council, 1998, p.9)

Groups need to examine whether current practices and protocols are evidence-informed and distinguish the call for guidance, i.e., is a quality guideline needed – or an application tool – or both?

FIELD NOTE

"What do we mean by a guideline?"

This question often surfaces early. Chief concerns are the difference between guidelines, standards and protocols, issues around respecting individual clinical judgment, compliance and liability, and implications for institutional controls or impact on health service delivery. Our study groups were encouraged to pursue this discussion and clarify their position and purpose at the outset.

The (U.S.) National Guideline Clearinghouse outlines specific criteria for inclusion of CPGs at the NGC (Table 2) (National Guideline Clearinghouse, 2014).

Table 2: Defining Clinical Practice Guidelines (NGC)

- ✓ The clinical practice guideline was produced under the auspices of medical specialty associations, relevant professional societies, public or private organizations, government agencies at federal, state or local level; or healthcare organizations or plans. A clinical practice guideline developed and issued by an individual not officially sponsored or supported by one of the above types of organizations does not meet the inclusion criteria for NGC.
- ✓ Corroborating documentation can be produced and verified that a systematic literature search and review of existing scientific evidence published in peer reviewed journals was performed during the guideline development. A guideline is not excluded from NGC if corroborating documentation can be produced and verified detailing specific *gaps* in scientific evidence for some of the guideline's recommendations.
- ✓ The full text guideline is available upon request in print or electronic format … the guideline is current and the most recent version produced. Documented evidence can be produced or verified that the guideline was developed, reviewed or revised within the last five years.

Starting with an Orientation

An orientation meeting is highly recommended to help stakeholders discuss the goals and scope of the initiative, gain an overview of the guideline development methodology and tools, determine necessary expertise and resources, outline terms of reference, and begin to formulate a work plan. Consider structuring a half or full day forum to provide your institutional

leaders, content experts, methodological experts, project management support, and targeted guideline users a critical opportunity to clarify the practice issue and, importantly, to express their perceptions and expectations about guideline adaptation and implementation. If time permits, it may also be useful to schedule a tutorial and practice exercise for using the AGREEII quality appraisal instrument.

In summary, the Call-to-Action step is a strategic aspect of the guideline adaptation and implementation process. Planning change requires effective leadership and facilitation skills, including the ability to articulate a vision, inform, motivate and persuade stakeholders, solicit support, and foster team development. Clarifying these issues may take some time, involve extensive communication, and require several meetings. Discussions about the targeted practice issue, availability of resources, and identification of appropriate content experts are often initiated in Step 1 and continued in greater depth in Step 2. Participants wishing to learn more about implementing evidence-informed practice may want to access a variety of publicly available information listed in P1S1 Guideline Development and Implementation Planning Resources (see Appendix 2).

Check your Progress …

PHASE 1, Step 1: CALL TO ACTION

DECISIONS

- ✓ Has an evidence-practice gap been discovered?
- ✓ Is a guideline necessary and/or the best solution to the practice issue identified?
- ✓ Are the mandate, leadership, and infrastructure in place to conduct guideline development?

OUTPUTS

- ✓ Formation of a legitimate guideline development entity with definition of purpose, established jurisdiction and ownership
- ✓ Meeting notes: possibly inter-agency agreements or funding commitments

TOOLS

P1S1 CAN-IMPLEMENT© Quick Reference Guide (Appendix 1)

ADDITIONAL RESOURCES

P1S1 Guideline Development and Implementation Resources (Appendix 2)

PHASE 1, Step 2: PLAN - Establish guideline scope, working panel & work plan

Planning should be comprehensive and address multiple objectives, including:

- outlining the practice problem;
- defining the scope of the topic and specific health questions;
- determining the feasibility of guideline adaptation vs. *de novo* guideline development;

- forming a steering committee and working panel with terms of reference;
- assessing and sourcing the necessary skills and resources;
- preparing a detailed work plan.

Depending on the complexity of the topic and the number of care areas or settings involved, creating a solid framework for the initiative may take weeks to months. Dedicating sufficient time at the outset to create and communicate a detailed work plan will save time over the course of the initiative and prevent later misconceptions, misdirected efforts or unrealistic expectations.

Action:

2.1 Establish scope of guidance required and articulate clinical/health questions

Begin by considering the continuum of care and a specific aspect of care. The National Guideline Clearing House outlines several guideline categories, including: assessment of therapeutic effectiveness (including efficacy, acceptance); counseling (education, psychological support); diagnosis; evaluation (e.g., follow-up processes); management (integration of diagnosis, treatment and monitoring); prevention (health promotion, prevention of complications); rehabilitation; risk assessment (adverse events, exposure; screening (early detection); technology assessment; and treatment (procedures, practices) (National Guideline Clearinghouse, 2014). Once the topic and focus are selected, the intended scope of the local guideline should be clarified. Defining clear and focused health questions is critical to successfully completing the adaptation process and ensuring that the final adapted guideline is applicable in the targeted context. This is typically an iterative and collaborative process. The initial focus of the health question(s) may be honed over time as individuals become familiar with available evidence.

In evidence-informed practice, clinicians ask well-designed clinical questions to focus the search for relevant research literature (National Institute for Health and Clinical Excellence, 2012). PICO is the acronym commonly used to describe the four elements of a good clinical question: P-Patient, I-Intervention, C-Comparison (referring to comparative treatment options, if appropriate) and O-Outcome (Centre for Evidence-Based Medicine, 2014). Clinical questions typically fall into the following areas: screening, diagnosis, therapy, harm or etiology, prognosis, prevention and qualitative concerns. Most guideline handbooks include a section on developing questions.

In guideline adaptation, a similar tool is provided to help users consider these elements in detail and in the broadest range of healthcare issues. PIPOH (P-Population, I-Intervention, P-Professionals/Patients, O-Outcomes, H-Healthcare Setting) includes factors (Table 3) to help determine the relevant aspects of your selected topic (Fervers et al., 2006). The term *intervention* is used broadly in nursing; we may not always be dealing with a medical intervention but rather a phenomenon of interest such as an assessment of a patient's ability to self-care or family decisions about treatment or management options in the home.

Table 3 – PIPOH

Population of concern and characteristics of the disease or condition

Intervention(s) or phenomenon of interest, diagnostic test(s), etc.

Professionals/Patients to whom the guideline will be targeted (i.e., users)

Outcomes including patient outcomes (e.g., ulcers healed, symptom-free, improved quality of life); system outcomes (e.g., decrease in practice variation); and/or public health outcomes (e.g., reduced recurrence of a problem)

Healthcare Setting and context in which the guideline is to be implemented

By completing PIPOH, groups articulate the scope of their topic and useful discussion is generated in which panels begin to define inclusion and exclusion criteria for the search and selection of guidelines. However, completing PIPOH does not in itself complete specification of the health questions. Content expert(s) use the PIPOH descriptors to then draft the precise clinical questions the guideline is meant to address. A typical treatment question might evolve as follows:

- Question: Is education/counseling for diabetic foot ulcer prevention recommended for all people with diabetes?
    - Better Question: Can education/counseling for diabetic foot ulcer prevention delivered by homecare nurses be recommended as an alternative to specialist clinic-based assessment and teaching for early stage diabetes? Primary outcomes of interest include prevention knowledge, ulcer occurrence, and adverse event rates. Additional outcomes of interest are counseling time and resources needed. Other samples:
- Review question on risk assessment accuracy: What is the predictive accuracy of the Braden Scale for pressure risk compared to other risk assessments methods?
- Review question on service delivery: In patients with congestive heart failure, how effective is follow-up delivered in nurse-led clinics in improving symptom management?

Detailed, well formulated questions ensure that the most relevant guidelines will be yielded in the search. Use your PIPOH parameters, health questions, and any proposed limits to establish a summary statement for the scope of the intended guideline. A summary statement provides valuable direction for the literature search. It is advantageous to include a health sciences librarian in these initial discussions. CAN-IMPLEMENT© provides a summary statement worksheet, found in Tool P1S2: Defining Health Questions – Preparing for Evidence Search (see Appendix 3).

2.2 Determine feasibility of adaptation

A preliminary search for existing guidelines helps groups decide if adaptation is feasible. Guidelines are often not published in journals or indexed in bibliographic databases. Your search should therefore include guideline clearinghouses, country-specific databases, relevant specialty societies and web sites of organizations developing guidelines, e.g., cardiovascular, oncology, or pediatric interests (Table 4). A MEDLINE search using a standardized search strategy may locate additional guidelines. An internet search engine such as Google, AltaVista, or Yahoo may also be used to locate guidelines.

FIELD NOTE: How many questions are ideal?

The practice requirement/topic, the existing evidence and the time and resources available to the group determine the number of questions to address in the adapted guideline. Large disease management guidelines exist which address 35-100+ questions across the entire patient care continuum including screening, diagnosis, treatment, and supportive management. These initiatives require substantial resources and time to complete. It may be more beneficial for groups to focus their efforts on a limited number of questions while developing local capacity using the adaptation process. On average, 7-10 questions are good in an initial endeavor.

If no guidelines related to the topic area exist or if existing guidelines are not sufficiently current, you may decide to expand your search and look for systematic reviews or health assessments. A decision must be made by your group as to whether your organization has the skills and resources to proceed with a search and meta-analysis of primary evidence to create a *de novo* guideline. A quick scan of the content in existing guidelines could also prompt you to re-examine the scope of your topic and nature of your health questions.

Table 4: Searching for Evidence

Sources of guidelines; systematic reviews, health assessments
Registered Nurses Association of Ontario (RNAO) http://rnao.ca/bpg
Canadian Agency for Drugs and Technology in Health (CADTH) http://www.cadth.ca
Canadian Medical Association (CMA) InfoBase http://www.cma.ca/clinicalresources/practiceguidelines
Canadian Task Force on Preventive Healthcare (CTFPHC) http://www.canadiantaskforce.ca/
American Society of Clinical Oncology (ASCO) http://www.asco.org/quality-guidelines
Institute for Clinical Systems Improvement (ICSI) https://www.icsi.org/guidelines__more/
National Guidelines Clearinghouse (NGC) http://www.guideline.gov
Centre for Reviews and Dissemination Health Technology Assessment Database (NHS) http://www.crd.york.ac.uk/crdweb/
The Cochrane library http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME
Guidelines International Network (G-I-N): International Guidelines Library http://www.g-i-n.net/library/international-guidelines-library/
The Joanna Briggs Institute (Australia) http://connect.jbiconnectplus.org/Default.aspx

Continued

Table 4 *(continued)*

National Health and Medical Research Council of Australia (NHMRC) Clinical Practice Guidelines Portal www.clinicalguidelines.gov.au
National Institute for Clinical Evidence (NICE) http://www.nice.org.uk/about
NHS Evidence https://www.evidence.nhs.uk/
Scottish Intercollegiate Guidelines Network (SIGN) http://www.sign.ac.uk/guidelines/index.html
Haute Autorité de Santé (HAS) http://www.has-sante.fr/portail/jcms/j_5/sitemap
CHU de Rouen - Catalogue & Index des Sites Médicaux Franco phones (CIS Mef) http://doccismef.chu-rouen.fr/CISMeFBPThematique.html

2.3 Form Steering Committee and Working Panel(s)

Groups developing local guidelines usually structure the work at two levels: an organizing body called a steering committee and one or more working panels. Steering committees oversee the adaptation process. Responsibilities include determining the scope of the initiative, organizational and governance structures, consensus method, terms of reference, and development of an adaptation work plan. The number, size and composition of the working panels are usually determined by the steering committee**.** The scope of the initiative and size of jurisdiction (local or national) will shape how your group can operate most efficiently. For example, it may be useful to have distinct working panels dedicated to specific tasks. It might be practical for steering committee members to serve on working panels as well. The scope and jurisdiction of individual initiatives also influences the number of members on a panel. Adequate inter-professional and/or regional representation is important; however, to effectively manage participation, contributions and communication, you may want to limit working panel(s) to 8-10 members.

Panel Composition and Skills

The credibility of the guideline quality appraisal process rests on the credibility and skill of the working panel members. An inter-professional guideline development group is important if the guideline is intended to address issues that impact several provider groups (ADAPTE Collaboration, 2009, p.14). Involving a mix of disciplines ensures consideration of issues related to application of the guideline, the evidence behind the recommendations, and the impact on patients. Recommended panel attributes are outlined in Figure 2.

Involving a representative of relevant endorsement bodies in the process (e.g., hospital administration, professional body, home care authority, or partner organization), either as a member of the panel or as part of the external review process, may expedite implementation. Patient representation is also very important to ensure that guidelines reflect their needs and concerns. Patients may have different perspectives on healthcare processes, priorities, and outcomes from those of health professionals (National Institute for Health and Clinical Excellence, 2012; Scottish Intercollegiate Guidelines Network, 2011).

Figure 2: Panel Composition and Skills

(Modified from ADAPTE Resource Toolkit, 2009)

- ✓ *Clinical knowledge of the topic area* – to address issues related to application of the guideline in local practice and provide/interpret current views and the latest research in the topic area.
- ✓ *Policy and administrative expertise* – to identify the impact of the guideline on an organization and to anticipate resource requirements resulting from implementing the guideline.
- ✓ *Methodological expertise* (e.g., health services researchers) – to apply knowledge of research design and critical appraisal and play a role in coaching other panel members on issues related to the systematic and rigorous nature of the process.
- ✓ *Information retrieval expertise* – to access/navigate appropriate databases, conduct and document thorough literature searches.
- ✓ *Project Management skills* – to manage timelines, meetings and conference calls, and ensure that all documents are circulated.
- ✓ *Facilitation and leadership skills* – to encourage constructive debate, manage group process and decision-making, maintain motivation and direction, and ensure all panel members contribute and achieve panel aims. This role may be assumed by the Chair or shared with a designated facilitator/other panel members.
- ✓ *Implementation know-how and knowledge of implementation issues* – to develop a plan for putting the guideline into practice and spearhead the implementation.
- ✓ *Personal experience with the issue/topic area* – to ensure that issues related to patient/consumer needs are discussed and that salient outcomes such as quality of life are considered.

Groups are strongly advised to complete an inventory of available resources and skills, resolve gaps, and actively recruit the necessary expertise. A checklist is provided in the CAN-IMPLEMENT© toolkit P1S2: Conducting a Skills Assessment (see Appendix 4).

Terms of reference

Terms of reference are required for both the steering committee and working panel(s) and should include:

- Name of the Chair and/or name of the group and how the membership is constituted
- The scope of the work to be completed
- Location, means and frequency of meetings; availability and commitment of members to meet and/or to review documents
- How decisions will be managed and consensus achieved; how the decision-making process will be reported in the final document
- Designated roles and responsibilities for data management, documentation, and communications

- Designated roles and responsibilities for writing the guideline draft, final report, supplementary tools and/or implementation products
- Principles of authorship and potential publications, i.e., a publication on the organization's web site and/or a manuscript submitted to a journal for publication.

Management of resources is also an important element to include in the terms of reference. Consider:

- How will meeting costs (travel, accommodation, facilities, supplies) be managed?
- Does the group have access to a teleconference line, collaborative software, a virtual office space?
- Will participants be paid honorariums to cover time spent appraising guidelines?
- Will panel members who work overtime to participate in meetings be compensated?
- How will management and administrative personnel be compensated?
- Is there a need to contract methodological or consultative support?
- Does the group have access/license to use necessary bibliographic databases and data management software?
- Will there be costs associated with production, distribution and implementation of the guideline?

PLANNING TIP:

In PHASE 2: Solution Building, groups may decide to convene a new, separate, or expanded working panel to guide implementation action planning activities. It will be important to include members of the original guideline adaptation team to ensure continuity and clarity in communicating the evidence-informed recommendations developed in PHASE 1.

Role of Facilitation

Facilitation is emerging across healthcare disciplines as an essential component for advancing evidence uptake in practice. However, how facilitation works from a practical standpoint, and what we mean by facilitation from a conceptual perspective, is not entirely clear. It is a very broadly used term. Harvey and colleagues (2002) report that facilitation involves helping others to change practice with the purpose "ranging from a discrete task-focused activity to a more holistic process of enabling individuals, teams and organizations to change"(p. 578). Stetler and colleagues (2006) define facilitation as "a deliberate and valued process of interactive problem solving and support that occurs in the context of a recognized need for improvement and a supportive interpersonal relationship"(para. 4). Described are: specific skill sets (e.g., organizational, administrative, data management, communications), individual attributes (e.g., ability to motivate, persuade, lead, achieve consensus, empower individuals and teams), designated roles (e.g., advocate, expert, champion, coordinator, chair), and the provision of practical support (e.g., gap analysis, search and synthesis of evidence, preparation of reports, usability testing). In CAN-IMPLEMENT© PHASE 2: Building Solutions, in keeping with the Ottawa Model of Research Use, the task is to assess the evidence, the adopters, and the local practice environment to determine potential barriers and facilitators to guideline

implementation. It can be argued that even the strength of evidence is a facilitator in moving knowledge into practice, i.e., weak evidence generates challenge and debate (Logan & Graham, 2010); very strong evidence is less negotiable.

To gain a more comprehensive understanding of the nature of facilitation, a descriptive, mixed-methods study was conducted by our group (Dogherty, 2009; Dogherty et al., 2010; Dogherty et al., 2012). Dogherty's findings suggest that facilitation is a multifaceted process and a team effort rather than the job of a single person. Communication and relationship-building are key elements. Over the past decade, new components and themes have emerged in conceptualizing facilitation in the implementation or uptake of knowledge, specifically:

- Facilitation is now viewed as both an individual role and a process involving individuals and groups (e.g., it is not always simply a facilitator filling the role; groups or teams may engage in the process of facilitation);
- Project management and leadership are important components (e.g., someone must be accountable and responsible for initiating and seeing the change process through) with facilitators actually assuming the project leadership role;
- No specific approaches appear superior but adapting and tailoring facilitation to the local context is considered critical;
- There is a growing emphasis on the importance of evaluation and linking outcomes to action, e.g., providers observing positive outcomes as a result of implementing change.

Table 5 provides a synopsis of the broad range of facilitation interventions and strategies identified in the literature (Dogherty, Harrison, Graham, 2010). Examples are presented in a Plan, Lead, Monitor and Evaluate change continuum that illustrates how these strategies can support progress from the initial identification of a need for improvement to an evaluation of improved care outcomes related to the adaptation and implementation of evidence-informed recommendations. Dogherty has published a detailed account of how these facilitation activities were employed during the Canadian Guideline Adaptation Study (Dogherty et al., 2012).

In practice, facilitation is employed throughout the entire knowledge-to-action cycle by a diverse complement of agents, including guideline steering committee and/or working panel individual members and teams, clinical and institutional leaders and front-line staff, external consultants and dedicated internal coordinators. In CAN-IMPLEMENT© facilitation interventions such as effective communication, relationship-building, consensus-building, recognizing the importance of context, problem-solving, and project management are core tenets characterizing the operating environment in a guideline adaptation and implementation initiative.

To examine the current state of knowledge about facilitation as a role and process in evidence-informed practice within the nursing context, refer to the suggested reading list provided in Tool P1S2: Suggested Reading – Facilitation (see Appendix 5).

Table 5: Taxonomy of Facilitation Interventions/Strategies and Synopsis of Facilitator Role

Planning for change

- ***Increasing awareness***
  - Highlighting a need for practice change; selecting an area for change relevant to staff/recognized as a priority; emphasizing enhanced patient outcomes as opposed to poor practice as reason for change
  - Stimulating critical inquiry and assisting groups to develop/refine specific clinical practice questions
  - Assisting with/performing a formal/informal practice audit; interpreting baseline data and providing feedback/insight into performance gaps
- ***Developing a plan***
  - Assisting with development of an action plan
  - Helping identify and determine solutions to address potential barriers to evidence-based practice (EBP)
  - Goal-setting and consensus-building (shared decision making)

Leading and managing change

- ***Knowledge and data management***
  - Knowledge translation/dissemination (assisting with conducting literature searches, appraising and summarizing the evidence); helping to interpret the research and apply it in practice
  - Providing resources/tools for change
- ***Project management***
  - Identifying a leader; establishing and allocating roles/delegating responsibilities; advocating for resources and change
- ***Recognizing the importance of context***
  - Creating an open, supportive, and trusting environment conducive to change; helping to build in the structures/processes to support staff and help them overcome obstacles
  - Creating local ownership of change; assisting with adapting evidence to the local context; tailoring or adapting facilitation services to the local setting
  - Boundary-spanning (addressing organizational systems/culture), managing the different requirements of each discipline/role
- ***Fostering team-building/group dynamics***
  - Relationship-building; encouraging effective teamwork; enabling individual and group development; encouraging/ensuring adequate participation; empowering group members
  - Increasing awareness of and helping overcome resistance to change; consensus-building (shared decision-making)
- ***Administrative and project-specific support***
  - General planning; organizing/scheduling meetings; practical assistance; gathering information and assembling reports
  - Leading/participating in meetings
  - Providing skills training

Continued

Table 5 *(continued)*

Monitoring progress and ongoing implementation

- ***Problem-solving***
  - Problem-solving and addressing specific issues; making changes to the developed plan as necessary; networking
- ***Providing support***
  - Mentoring and role-modeling evidence-based practice (EBP); maintaining momentum and enthusiasm; acknowledging ideas and efforts; providing ongoing support/reassurance and constructive feedback; providing advice
- ***Effective communication***
  - Providing regular communication (emails, calls); keeping members informed

Evaluating Change

- ***Assessment***
  - Performing/assisting with evaluation; linking evidence implementation to patient outcomes and improved care processes
  - Acknowledging success, recognizing and celebrating achievements

FIELD NOTE: The Guideline Coordinator

In the Canadian Guideline Adaptation Study, most found it necessary to dedicate a local coordinator to manage data, documents, and communications. These individuals possessed a broad range of experience, skills and attributes to facilitate and organize all aspects of the work, not the least of which was strength in computer literacy. Specific skills included the ability to collect and consolidate data in spreadsheet or bibliographic reference management applications, design electronic surveys, organize web meetings and teleconferences, take accurate notes (including digital recordings/transcriptions). The coordinating person(s) worked closely with methods and content experts and the chair/lead(s) to ensure that steering committee, panel members and other stakeholders remained fully informed of the status of the initiative and received all information/documents they needed to participate effectively. In some cases the coordinator also contributed to developing a working draft of the recommendations. Coordinating tasks were occasionally shared with steering committee or panel members; however, in most cases, one individual was identified as the coordinator. Moreover, this individual often had responsibility for several guideline initiatives at an agency.

Conflicts of interest

All guideline development group members are advised to complete a written declaration of conflict of interest early in the process. It is especially important to be aware of the potential bias or vested interests of any member who may have been involved in the development of one of the source guidelines considered for the adaptation process. Conflicts of interest may include relationships with pharmaceutical companies or other corporations whose products or services are related to the guideline topics. Financial interests or relationships, ownership,

employment, contractual, creditor or consultative relationships may be considered a conflict of interest that requires disclosure. Most guideline appraisal processes include questions about apparent or perceived conflicts of interest. Failure to acknowledge conflicts of interest threatens the credibility and successful implementation of the guideline. When potential conflicts create concern, an agreement is required on how to deal with that concern. Policies vary and may include barring participation in any discussion and/or voting on recommendations. ADAPTE provides a generic Conflict of Interest template (ADAPTE Collaboration, 2009, p.58).

2.4 Determine Consensus Process

Groups will need to reach consensus at many stages in the process of adapting a guideline to their context. Typical agreement points in guideline adaptation include decisions about: jurisdiction and guideline priorities, scope of the selected topic and specification of health questions, terms of reference, appropriate stakeholders and endorsement bodies, the search strategy and inclusion/exclusion criteria for screening found guidelines, inter-rater AGREEII scores for appraising guideline quality, and the results of other assessments. Groups will need to come to agreement on the strength of the evidence supporting relevant recommendations and ultimately which recommendations they choose to accept or modify to meet local requirements.

Reaching consensus requires good facilitation and a well-defined, clearly communicated approach to decision-making. Importantly, all decisions should be documented to ensure a transparent process. The methodology for decision-making must be noted in the completed guideline. Groups may be familiar with both informal and structured approaches; however, a structured approach is considered to be more rigorous.

Informal Consensus:

At times your adaptation group may reach decisions through informal consensus. To be effective, each individual in the group must be able to freely present their views. This is particularly important for patient representatives who may feel reticent. Enough time should be allowed to debate assumptions in an open and constructive manner so that the group can agree (or not) to endorse the developed recommendations. If the entire group does not come to consensus on a particular area, any dissenting opinions should be reflected in the recommendation(s) statement.

Formal Consensus Methods

Delphi Method: this method is an anonymous technique involving two or more rounds of questionnaires. Factors, ideas, or recommendations to be considered by the group are suggested by each individual. Questionnaire statements are developed and sent to panel members to rate/provide opinions. Statistical and qualitative feedback is collected and summarized, and the results sent back to the participants. This step provides a chance to comment on the feedback of the group and may be repeated a number of times. More information on the Delphi Method is provided elsewhere (Linstone and Turoff, 1975; Murphy et al., 1998).

Modified Delphi Technique: the McMaster University Program in Evidence-based Care (PEBC) uses a Modified Delphi Technique that is described in their Handbook (Cancer Care Ontario (CCO) Program in Evidence-Based Care (PEBC) Handbook (Canadian Partnership Against Cancer, 2014; Cancer Care Ontario, 2012).

Nominal Group Technique (NGT): NGT aims to structure the interaction within a group of experts. Group members meet and are asked to rate or prioritize a series of questions, discuss these questions, then re-rate and prioritize them. It allows each person to express their idea(s); each person's opinion is taken into account (compared to traditional voting where only the largest group is considered). The RAND Corporation and UCLA developed a version called the

RAND Appropriateness Method which combines elements of the Delphi and nominal group process (Black et al., 1999; Brook, 1994).

Consensus Conference: Agreement is reached when a select group of people is brought together to reach accord about the recommendations. The group may consist of a working panel, the full guideline development group or a separate group of experts for external review.

Voting: There are many different ways to use a voting system to reach consensus in the development of recommendations. It is important to state the manner used in the guideline, i.e., show of hands, private ballot, majority rule, etc.

Further reading suggestions are provided in Tool P1S2: Suggested Reading – Consensus (see Appendix 6).

2.5 Write the Adaptation Work Plan

In this step, the aim is for the Steering committee to develop and communicate a detailed plan for completing guideline adaptation. A formal work plan documents the following:

- Introduction/Background
- Scope of Topic and Health Questions
- Steering Committee and Working Panel members, Declarations of Conflicts of Interest
- Steering Committee and Working Panel Contact Information
- Steering Committee and Working Panel Terms of Reference
- Funding and Resource Commitments
- Timeline for completion of the adaptation process and target date for completion
- Proposed meeting schedule.

Constructing and following a detailed work plan ensures that all critical elements are addressed and that the process is transparent. Decisions made by the steering committee and the multidisciplinary working panel should be documented at each step in the plan. A template is provided in the CAN-IMPLEMENT© toolkit, P1S2: Developing the Adaptation Work Plan (see Appendix 7).

IMPLEMENTATION INSIGHT

The Planning Step often identifies barriers to implementation. It is tactical to use and build on this early reconnaissance. For example:

1: Scope of Guideline:
In one Canadian Guideline Adaptation Study group, issues raised about care in early discussions prompted the organization to conduct a needs assessment survey to determine whether stakeholders felt the guideline scope was adequate.

2: Panel Composition:
Inclusion of relevant stakeholders including patients, policy makers, or information technologists (IT) is crucial when preparing for implementation. In another Canadian Guideline Adaptation Study group, engaging IT expertise early in the process allowed the group to begin work on the design of electronic protocols and templates while the clinical group worked on content. New documentation tools within the patient record system would be an integral component of successful implementation.

FIELD NOTE: Timeline

The timeline for relatively novice or newly organized guideline development groups can vary between 12-18 months. This may be longer than they anticipated but in our experience most groups acknowledged a steep learning curve and a gain in capacity. A typical timeline for PHASE 1 guideline adaptation activity evolved as follows:

P1 Steps 1-2	P1 Step 3	P1 Step 4	P1 Step 5
Topic Definition & Group Formation	Search & Selection of Guidelines	Appraisal & Selection of Recommendations	Drafting & Endorsing Guideline
2-6 months	**3 months**	**4-6 months**	**3-6 months**

Check your Progress …

PHASE 1, Step 2: PLAN

Establish guideline scope, panels(s) and work plan

DECISIONS

- ✓ Are the topic and health question(s) clearly defined, supported by data, understood and agreed upon by the group?
- ✓ Is guideline adaptation feasible (confirmation that guidelines are available)?
- ✓ If not, does the group include or have access to methodology, content expertise, and/or funding to appraise primary studies (RCT, qualitative and other research designs) and manage de novo development?
- ✓ Have all necessary support, skills, funding, etc. been identified and assigned?

OUTPUTS

- ✓ Definition and consensus of practice problem, including specification of clinical/health question(s)
- ✓ Collection and analysis of environmental scan/baseline data supporting the identified practice challenge
- ✓ Group formation including steering committee and working panels, necessary stakeholders, content and method experts, project and data management personnel
- ✓ Completion of skills inventory and sourcing of required expertise and resources
- ✓ Agreement on consensus process(es)
- ✓ Documentation, circulation and endorsement of the adaptation work plan including terms of reference, declarations of conflict of interest, proposed timeline, endorsement bodies

TOOLS

P1S2 Defining Health Question(s): preparing for evidence search (Appendix 3)

P1S2 Conducting a Skills Assessment – a Checklist (Appendix 4)

P1S2 Developing the Adaptation Work Plan – a Template (Appendix 7)

ADDITIONAL RESOURCES

P1S2 Suggested Reading: Facilitation (Appendix 5)

P1S2 Suggested Reading: Consensus Processes (Appendix 6)

PHASE 1, Step 3: SEARCH and SCREEN - Discovering relevant guidelines and evidence

This step identifies guidelines related to your specified topic(s). To locate relevant guidelines, a systematic and explicit search strategy directed at both the indexed peer-review literature and the grey literature is necessary. A preliminary scoping search of existing guidelines and systematic reviews (PHASE 1, Step 2) should indicate if guideline adaptation is feasible, or if a mixed approach using adaptation plus de novo development methods will be required. Using clearly defined inclusion and exclusion criteria will help to eliminate guidelines not relevant to the initiative.

Action:

3.1 Search existing guidelines, systematic reviews and emerging areas of evidence

A comprehensive search for guidelines should be undertaken to identify those most relevant to your adaptation context. You may decide to adapt a specific guideline or two rather than search for a large number of potential source guidelines, for example, it could be more expedient to explore a smaller number of quality guidelines from a recognized and reputable source such as SIGN or NGC (National Guideline Clearinghouse, 2014; Scottish Intercollegiate Guidelines Network, 2014) than to embark on an exhaustive search of all possible guidelines related to your topic. On the other hand, depending on the nature of your health questions and practice environment, you may find it necessary to extract pertinent recommendations from several related but not specifically targeted guidelines. For example, assessment and management of pain from chronic wounds may lead to examination of general pain guidelines as well as wound specific. This decision, as well as the reasons for it, should be stated in the guideline report.

We have recommended that panels work with an experienced health sciences librarian or information specialist to plan and document the search (Table 6). Involving librarians early in the question development stage enables them to understand the context for which the question is being developed and focuses their search to best suit the needs of the initiative. It also helps the working panel understand the benefits and limitations of the databases used. Taking advantage of a health science librarian's expertise in searching and citation management saves significant time and effort and ensures a process that is exhaustive, transparent and reproducible.

Table 6: Engaging a Health Services Librarian

- ✓ Is there a local health sciences librarian that is available to be an active member of the team?
- ✓ How much time will the health sciences librarian be able to commit to the team?
- ✓ Will there be a cost for including the health sciences librarian on the team? This would include costs for searching time but could also include costs for resource access.
- ✓ Does the librarian have access to databases that can be used during the guideline adaptation process?
- ✓ What is the health sciences library policy regarding the use of licensed resources such as databases and journals?
- ✓ Does the librarian have access to bibliographic management software tools?
- ✓ Does the librarian have experience in using bibliographic management software tools?
- ✓ Is training in searching bibliographic databases provided by the health sciences librarian?
- ✓ Is training in using bibliographic management tools provided by the health sciences librarian?

Guideline Sources

As noted in Step 2, guidelines may not be published in journals or indexed in bibliographic databases. Your search should therefore include guideline clearinghouses, country-specific databases, relevant specialty societies and web sites of organizations developing guidelines. A MEDLINE search using a standardized search strategy may yield additional guidelines. Finally, internet search engines such as Google, AltaVista, and Yahoo may also be used to locate guidelines. Sometimes, guidelines refer to evidence tables or supporting technical documentation that is published or posted elsewhere – be sure to collect all relevant information.

Search Methodology

A detailed Library Science Supplement has been included in this e-book series. Originally developed to complement CAN-IMPLEMENT© by the library scientists engaged to support Canadian Guideline Adaptation Study groups, this Supplement provides information to assist groups in planning and executing a systematic and transparent search. It addresses how to define key concepts (Table 7), access bibliographic databases, employ established search filters, and manage citations using bibliographic software applications such as Ref works, Reference Manager, and End Note. Planning checklists, sample searches and a glossary of terms are included.

Table 7: Developing Key Concepts		
Health Question		
Key Concept One	**Key Concept Two**	**Key Concept Three**
Synonyms	**Synonyms**	**Synonyms**
Alternate Spellings	**Alternate Spellings**	**Alternate Spellings**
Truncation	**Truncation**	**Truncation**

SEARCH TIP: Currency

Always check guidelines for currency (both the guideline publication date and the dates of the literature search and supporting evidence represented). If you retrieve guidelines that respond to your health questions but are outdated, you will need to update the evidence and perhaps even contact the source developer. Depending on the search results and your resources, you will need to decide if it is more efficient to conduct additional searches before or after you have determined if a guideline is a relevant, quality product. Often groups determine that there is little point in proceeding with an AGREE appraisal on a guideline that is out-of-date. Alternatively groups who find very limited numbers of guidelines may consider it important to review the older material as well as proceed with an evidence update.

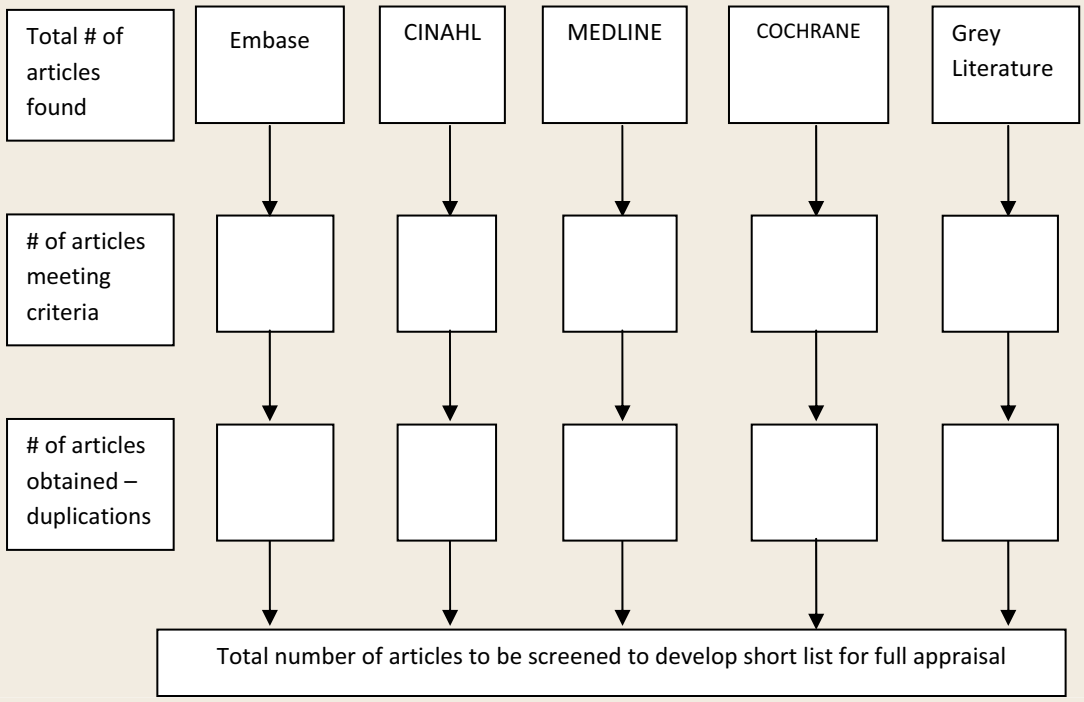
In *de novo* development, the search for primary evidence/studies is an iterative process. A single search will not necessarily yield information which addresses all the questions specified within the scope of the guideline. Different questions may be answered in different databases or may rely on different levels of evidence (Scottish Intercollegiate Guidelines Network (SIGN), 2011). A similar search cycle is required in guideline adaptation. When existing guidelines do not cover all required topic components, the panel must decide whether to modify the scope of their topic, change their questions to correspond with the source guideline questions, or modify the list of health questions. It may be necessary to expand the search to look for systematic reviews, health technology assessments reports, or current research articles that would enable them to write their own recommendations for those areas where no recommendations exist.

It is essential to track your process. Transparency of the search methodology and results is a key indicator in scoring guideline quality. A record of your search criteria and results (Table 8) must be included in the final report.

Table 8: Record of Search Criteria and Results (Sample)

All databases were limited to the following dates:

All databases were limited to the following language(s):



FIELD NOTE: Searching is an iterative process

In the Canadian Guideline Adaptation Study, cases refined their search, and sometimes their health questions, based on scoping searches and early outputs. After reading abstracts and screening results, reviewers met with their health sciences librarian to revise the search strategy if necessary and conduct additional searches. Changes included adjustments to the scope of the topic, individual health questions, keywords or limits of the search. This activity often spanned a period of several months as panel members met to clarify direction. Additional searches were sometimes conducted late in the process in response to strong stakeholder feedback, for e.g., inclusion of an additional question or adjustment to the population or clinical circumstances previously specified. Most cases worked from existing guidelines or systematic reviews, but conducted an evidence update to support their recommendations with the most current information available.

3.2 Screen search results and document selection decisions

Screening identifies a limited number of guidelines for further appraisal. Limits such as language (e.g., English/French only), publication period, and publication type (Guideline,

Systematic Review/Meta-analyses), help establish the initial scope of the search. Further Inclusion and Exclusion criteria (e.g., inappropriate population, intervention or healthcare setting, irrelevant content or publication type (primary study, newsletter, or communication) must be defined at the screening stage to assist reviewers to include or exclude resulting citations in a consistent manner. A preliminary assessment of the health questions covered by the retrieved guidelines will help eliminate those that are clearly not relevant to your defined key questions.

A systematic approach to screening and decision-making is necessary. The search results may be scanned first by title, then by abstract, and when appropriate abstracts are identified, by full article/guideline. For each result, reviewers indicate why the citation is included or excluded and ultimately, how the panel arrives at the guidelines selected for a detailed assessment. While some groups use one reviewer for the initial screen, others employ a multi-phase approach using two or more reviewers to compare and validate impressions. For example, one reviewer may have clinical expertise and the other, more methodological expertise. If a reviewer is unsure at any point, this decision is also recorded and the citation moves to the next stage where more information is provided, e.g., the abstract or article is retrieved. Reviewers may need to meet to achieve consensus on management of unsure items. For each guideline, the developing organization/authors, release date, the dates of the search used by the source guideline developers, and the country and language of publication should be documented. CAN-IMPLEMENT© provides a flowchart, P1S3: Summarizing your Screening Decisions (see Appendix 8).

If a large number of potentially relevant guidelines are found during the search, the Chair and panel must decide whether to reduce the number of guidelines by identifying and prioritizing the highest quality guidelines to be selected for a detailed appraisal. Depending on the length and complexity of a given guideline, a full appraisal using an instrument such as AGREEII (Brouwers et al., 2010) can take approximately 1.5 hours to read and score, a substantial time commitment if a large number of guidelines must be reviewed. If the panel decides to reduce the number of guidelines, the criteria for exclusion at this stage must be made explicit. Panels may also decide to retain guidelines based on other merits, such as format, application tools, or the presence of health questions and supporting recommendations which are not addressed in the higher quality guidelines.

IMPLEMENTATION INSIGHT:

Including content experts and practitioners in the identification and prioritization of guidelines enhances the quality of the adaptation process and ultimately, improves the uptake of the recommendations. For example, the evaluation and selection of a valid and reliable assessment instrument must be balanced with clinical sensibility. Practitioners may have tacit knowledge about the feasibility of using such an instrument in a clinic or in-patient setting and this must be weighed along with its psychometric properties.

FIELD NOTE: Prioritizing a high number of guidelines for detailed assessment

Groups need strategies to manage a high number of source guidelines. Each item yielded in a search must meet the fundamental definition of a guideline. In addition to screening for currency, relevance to topic and population, and language factors, our study cases agreed on **minimal inclusion criteria for a guideline**, specifying four descriptors: The document:

1. had been produced in the last five years
2. had been produced by a sanctioned legitimate group, not an individual contributor
3. must reflect a systematic literature search and synthesis of a body of scientific research(including references)
4. must provide clear, specific, and evidence-informed recommendations explicitly linked to evidence.

Citations which passed title and abstract screen were further checked at the document screen for these four criteria before advancing to the more time-consuming AGREEII appraisal. Citations meeting all four criteria were designated High Priority and selected for full AGREEII appraisal.

SCREENING TIP:

Reducing number of guidelines for detailed assessment using AGREEII (Brouwers et al., 2010)

Another way to reduce a potentially large number of guidelines before proceeding to full assessment is to use the rigor dimension of the AGREEII instrument to generate a comparison of rigor scores across guidelines (ADAPTE Collaboration, 2009). The panel could decide to rank the guidelines according to their score on rigor where guidelines scoring above 50% on the rigor dimension will be retained; or, they may keep all guidelines that score above the median score or above the 60th percentile. This decision is at the panel's discretion. As noted previously*, a poor score might not be sufficient in itself to eliminate a guideline at this stage.*

Note: The **Overall Assessment** item in AGREEII (e.g., Yes (recommend) vs. Yes, with Modifications) gives a general indication of whether or not appraisers consider it worthwhile to proceed with a detailed examination of the stated recommendations and evidence tables. If, after a full AGREEII appraisal, raters state No (they would not recommend) a particular guideline, that guideline could be eliminated from further consideration. Reasons for this decision should be discussed and documented.

Check your Progress …

PHASE 1, Step 3: SEARCH and SCREEN

Discovering relevant guidelines and evidence

DECISIONS

- ✓ Does the search yield current guidelines that respond to specified health question(s)? If not, expand, re-design and conduct iterative searches, as needed.
- ✓ Upon review of raw search output, is there a need to re-examine or refine the health questions? If so, re-evaluate questions, re-design and conduct iterative searches as needed.

OUTPUTS

- ✓ Design and execution of systematic search (including documentation of sources, key concepts/keywords, limits, raw output, etc.)
- ✓ Screening of search results/citations using clearly stated inclusion/exclusion criteria
- ✓ Documentation of search strategy and screening decisions/rationale (including screening protocol, # reviewers, consensus process,
- ✓ Short list of quality guidelines for full appraisal

TOOLS

P1S3 Summarizing your Screening Decisions – a Worksheet (Appendix 8)

PHASE 1, Step 4: ASSESS and SELECT: Appraising evidence and reaching consensus on recommendations

The aim of this step is to make an informed and transparent decision about which source guidelines are relevant and which recommendations can be effectively adapted by evaluating the quality, currency, content, consistency, acceptability and applicability of guideline recommendations. The scope of assessment will be informed by the context, the health questions, the available evidence, and the resources of the group.

Action:

A panel conducts two critical tasks:

1. A detailed assessment of the existing guideline recommendations and supporting evidence;
2. A consolidated review and consensus activity in order to accept, reject or modify recommendations for local implementation.

4.1 Assess guidelines/recommendations and supporting evidence

Assessing guideline Quality using the AGREEII Instrument

The Appraisal of Guidelines Research & Evaluation (AGREE) Instrument (Brouwers et al., 2010) provides a framework for assessing the methodological quality of clinical practice guidelines (ADAPTE Collaboration, 2009). The AGREEII instrument does *not* assess the clinical content of the recommendations. The 23 items in the AGREEII Instrument examine the methods used for developing the guideline and the quality of the reporting. A final Overall Assessment item allows appraisers to make a judgment on the quality of the guideline as a whole; raters indicate “Yes”; “Yes, with Modifications”; or “No.” The AGREE Trust released an updated version of the assessment tool in 2010. Interactive and downloadable PDF formats of

the AGREEII Instrument, on-line tutorials, and links to a score calculator and other supports are available on the AGREE Enterprise website (AGREE Collaboration, 2010). CAN-IMPLEMENT© provides further advice in tool P1S4: Managing the AGREEII Appraisal – Facilitator Tips (see Appendix 9).

Providing an orientation to AGREEII

Interested panel members (especially those assigned as raters) will benefit from an orientation session. Sample guidelines can be individually scored in advance followed by a meeting/teleconference to address any questions about the domains or scoring levels. To manage limited time, select relatively short and familiar guidelines and compare a high scoring guideline with a lesser quality guideline to highlight features of quality reporting. When raters differ on an item, there should be a discussion to resolve discrepancies and differing interpretations of the evaluation criteria or of the guidelines. This training exercise provides members with practice using the instrument, generates a common understanding of score interpretation, and provides the panel with an indication of how various guidelines are organized.

Assigning guidelines to AGREEII raters and tracking responses

Once your guideline raters have been selected (volunteered or appointed based on availability, skills), distribute the short-listed guidelines, i.e., those identified in Phase 1, Step 3, for a full appraisal. Each rater will require the AGREEII Instrument, a copy of (or links to) their assigned guideline(s), and any supporting material related to those guidelines (e.g., technical reports or evidence tables). Supplementary materials that are not included in a journal publication due to space constraints may be available on-line, or through communication with the author.

In the ADAPTE process (ADAPTE Collaboration, 2009) it is suggested that all panel members appraise all the short-listed guidelines. While this may present time/resource constraints for many panels, the approach offers several benefits, such as:

- Providing panel members with an in-depth understanding of the guideline content, thus generating a more informed discussion about recommendations;
- Providing a greater awareness of various aspects of guideline structure and content, including what constitutes a quality document;
- Encouraging a consensus discussion when review of the quality scores reveals a lack of agreement on specific items;
- Increasing reliability of overall quality scores when all members rank the guidelines.

PROJECT MANAGEMENT TIP: Tracking responses

In addition to preparing the necessary materials for each rater, it is important that the coordinator track guideline assignments, distribution of materials, and collection of completed scores and comments. Raters who volunteer their time and effort may need reminders to complete tasks within a timeframe that allows for consolidation of scores in advance of the consensus meeting.

*Note: If raters do not score **all** the AGREEII items, it is difficult to consolidate scores and accurately reflect individual domain averages. The coordinator may need to contact raters to clarify or complete individual responses.*

Consolidating and interpreting AGREEII scores and comments

Although AGREEII scores provide a gauge of the quality of specific aspects of the guideline, they are only one element in deciding whether or not to adapt a specific guideline. A panel may decide to consider only those guidelines with a high domain score for Rigor of Development. However, the panel might also be interested in considering guidelines with other merits, such as an ideal format, useful application tools, current use in the local context, or the inclusion of recommendations relevant to their local condition that other guidelines do not provide. A poor AGREEII score may not be sufficient in itself for eliminating a guideline.

It is useful to compile and display AGREEII scores in a spreadsheet to compare rater responses, calculate average domain scores or show level of inter-rater agreement per guideline. Appraisers should be aware that domain scores are distinct and *cannot be added for a total AGREEII score*. Individual scores and comments can be compared between raters. Consolidated scores (per guideline) will illustrate the relative strengths and weaknesses across the group of selected guidelines. Preparing a summary of rater comments per question, as well as their overall recommendations and rationale is also recommended. Several months may pass between completion of the AGREEII appraisals and the opportunity for panel members to meet. These summaries serve as an important memory aid and will facilitate later discussions.

TIP for Assessing Systematic Reviews

In the absence of guidelines, your group may decide to extend your search to include systematic reviews or health technology reports. There are also tools to appraise the quality of these forms of synthesized evidence, e.g., AMSTAR, an 11 point questionnaireexamines the methodological quality of systematic reviews (Shea et al., 2007).

Assessing guideline Currency

It is important to assess whether the guidelines identified are sufficiently current for adaptation. Evidence in rapidly evolving fields may be quickly outdated. Even in current sources, there is an inevitable delay between final search and publication of the guideline. Review the publication date of the guideline as well as the dates and period covered by the supporting literature search to determine if the most current evidence has been included. Some developers publish this information in the guideline itself or on their web sites. If the source guidelines are good quality but the literature is not up-to-date, the literature or evidence must be updated. A top-up search using the same search terms as the source guideline is recommended. The ADAPTE Collaboration makes several recommendations for updating evidence:

- Conduct a quick scan of the literature. Remember to document the search strategy and seek help from an information specialist/health services librarian if necessary. Perform a literature search of web sites most likely to provide up-to-date information and look for systematic reviews in particular as these provide a rigorous synthesis of primary evidence.
- Contact the guideline developer directly for further information on currency. Determine if there is a more recent version of the guideline, whether the developer intends to update the

guideline in the future, or if they are aware of any new evidence that might affect the guideline recommendations.
- Verify whether alerts on an intervention have been released by an agency such as the Federal Drug Agency (USA) or Health Canada Drugs and Health Products Advisories (MedEffects) (Health Canada, 2014; U.S. Food and Drug Administration, 2014).

It may also be helpful to survey appropriate experts for their knowledge of recent developments. If your panel discovers that new evidence could affect existing guideline recommendations or that a developer will be changing a guideline's recommendations substantially based on new evidence, the panel must decide whether or not to adapt the guideline in question. Some recommendations may not be affected by the new evidence, allowing portions of a guideline to be retained for adaptation. However, the panel must decide whether to update any recommendations affected by the new evidence, to write them *de novo*, or to wait for the release of the updated guideline.

Assessing guideline Content: preparing the Recommendations Matrix

By definition, a practice guideline provides recommendations that are explicitly linked to evidence. In *de novo* development, the search and appraisal of evidence from primary studies is a labor-intensive task requiring clinical and methodological skills. A significant advantage in adapting existing guidelines is that the supporting evidence has already been synthesized and graded. In this step of the adaptation methodology, the panel surveys and makes decisions about the strength of the supporting evidence presented in the selected guidelines. A table or matrix which compares similar recommendations across multiple guidelines and displays relative levels of evidence is instrumental to effectively guiding this discussion.

FIELD NOTE: Customizing the Recommendations Matrix

In the Canadian Guideline Adaptation Study, groups adapted the Recommendation Matrix to suit their information requirements. Some groups found it useful to extract and list the recommendations according to specified health questions, leaving open cells where a question had not been addressed. Depending on the needs of the panel, additional fields included: relative strengths and weaknesses, nature and availability of application tools, implementation issues, rater concerns and comments.

A Recommendations Matrix supports panel decisions by grouping recommendations from various guidelines together to compare similarities and differences, identifying all recommendations supported by strong evidence, enabling a comparison of the wording of recommendations to assist panels in drafting actionable messages, and providing a basis for a discussion about the clinical relevance of each recommendation.

Formatting the Matrix

To ensure that no recommendation is taken out of context, a clinician who specializes in the topic is in the best position to produce or review the matrix. While the structure and content of the matrix is flexible according to the needs of a particular initiative, a recommendation matrix table typically includes a list of recommendations down the left column with the names of the source guidelines across the top. Source guidelines may be ordered across the table by:

- Date (most to least current)
- Best fit or most complete response to specified health questions
- AGREEII quality scores on specific dimensions (e.g., rigor) plus overall AGREEII recommendation
- The strength of supporting evidence associated with each recommendation.

A matrix may also include recommendations from systematic reviews or health technology assessments. CAN-IMPLEMENT© provides a template for building a recommendations matrix, P1S4: Developing the Recommendations Matrix (see Appendix 10). These documents can become very large. Table 9 illustrates a partial matrix.

Table 9: Sample Recommendations Matrix (Partial)

	Guideline 1	Guideline 2	Guideline 3
Publication Year	2004	2004 + 2007 update	2004
AGREEII Rig or Scores	86	82	17
Overall Quality Assessment	Strongly recommend: 2	Strongly recommend: 1	Strongly recommend: 0
	Recommend with proviso: 2	Recommend with proviso: 3	Recommend with proviso: 2
	Would not recommend: 0	Would not recommend: 0	Would not recommend: 0
Strengths or Limitations	*Strengths:* • Patient input sought via Practice Guidelines Coordinating Committee with patient representatives • Choice of topic and rationale for guideline are described • Systematic methods used to search for evidence *Limitations:* • No evidence that guideline was piloted • Supporting tools like an algorithm not found • Methods used for formulating the recommendations are not clearly described	*Strengths:* • Relevance of issue and specificity of areas of study are identified. Overall objective clearly stated. • Stakeholder involvement from all relevant professional groups is clear in the 2007 update. • Target users of guideline are defined as clinicians involved in oral healthcare, oncology, investigators and policy makers. Importance of interdisciplinary approach noted in the 2007 update. • Systematic methods used to search for evidence clear and thorough in original article	*Strengths:* • Algorithms are very useful, provide a clear visual aid but somewhat incomplete • Algorithm lays out process for evaluation and steps to be taken regarding key review criteria for monitoring/audit purposes • Information provided if patient does not respond well to management recommendations • Recommendations are specific in reference to patients with differing levels of severity of diarrhea and patient group on irinotecan

Continued

Table 9 *(Continued)*			
Algorithms or Tools	Not provided	In original article (2004): Table provides summary of clinical practice guidelines – subdivided into Oral Mucositis and Gastrointestinal Mucositis. Updated version (2007) provides table - same format.	Algorithms provided; Management of Grades 1 and 2 chemotherapy induced diarrhea; Management of Grades 3-4 chemotherapy induced diarrhea. Both algorithms are decision tree based.
Health Question 1:	**What criteria are used to assess the symptom?**		
Is question addressed?	Yes ☒ No ☐	Yes ☐ No ☒	Yes ☒ No ☐
Answer to question (plus strength of evidence)	Criteria used are NCI-CTC diarrhea grading system. • "0"-Normal to "4"-Severe. • Number of loose stools per day • Incontinence • Cramping (Moderate to severe) • Presence of blood in stools (*NR)	There do not appear to be any criteria used to assess the symptom	• Using National Cancer Institute criteria for grading diarrhea on a scale of "0"-Normal to "4"-Severe. • Number of loose stools per day • Incontinence • Cramping (Moderate to severe) • Presence of blood in stools (*NR)
Source of recommend-ation (reference)	Reference list provided-linked to NCI-CTC diarrhea scale and Wadler et al.	See above	Reference list provided but not linked to the criteria to assess the symptom-other than NCI mentioned as the criteria used to assess diarrhea

Assessing the strength of evidence: classification systems

Clinical practice guidelines have improved in quality by adhering to principles such as systematically reviewing relevant evidence and grading the recommendations and the quality of the underlying evidence. Unfortunately, there is no common classification system for assessing the strength of evidence. Moreover, most of the available instruments and scales have been designed to rate evidence specific to questions of intervention effectiveness, and not all have been rigorously developed or tested for validity and reliability. Evidence related to appropriateness, acceptability or feasibility is rarely dealt with in existing taxonomies.

The methodological quality of randomized controlled trials (RCTs) is commonly evaluated in order to assess the risk of bias estimates of treatment effects. The Scottish Intercollegiate Guidelines Network (SIGN) Guideline Developers' Handbook provides extensive, detailed methodological checklists for systematic reviews and meta-analyses, randomized controlled

trials, cohort studies, case-control studies, studies of diagnostic accuracy and economic evaluations (Scottish Intercollegiate Guidelines Network, 2011). Davis, Goldman, and Palda (2007) describe various strategies for grading recommendations in the Canadian Medical Association Handbook on Clinical Practice Guidelines.

A grading system gaining acceptance internationally is the GRADE approach (Grading of Recommendations, Assessment, Development and Evaluation) (Guyatt et al., 2008). GRADE has emerged "as a response to the glut of competing grading systems, their limitations and the confusion resulting from a lack of a "common rubric"(Brouwers et al., 2008, p. 1025). GRADE is a two-step approach whereby the quality of evidence is evaluated (high, moderate, low, very low) and then a strength of recommendation is formulated (strong or weak). The quality of the evidence is judged relative to the specific context including benefits and harms, costs, and values and preferences. For detailed guidance about how to apply the GRADE methodology and a comprehensive list of publications, visit the GRADE working Group website (GRADE Working Group, 2014).

Guidelines have different purposes and deal with different clinical questions such as intervention, diagnosis, prognosis, etiology, screening, and, increasingly, supportive and palliative aspects of care, i.e., issues not studied through traditional experimental designs such as randomized controlled trial methods. Different questions require different evidence and different evidence hierarchies. There is a growing interest in the role non-experimental, quantitative designs (e.g., large scale cohort, observational studies, and program evaluation) and qualitative data in guiding healthcare practices. Systematic review methods are evolving to synthesize this evidence. For example,

- The Joanna Briggs Institute (JBI), a publisher of systematic reviews and leading international organization for the translation, transfer and utilization of evidence, uses the FAME system which focuses on **F**easibility, **A**cceptability/Appropriateness, **M**eaningfulness, and **E**ffectiveness. All quantitative and qualitative evidence may be used depending on the question. The JBI QARI (Qualitative Assessment and Review Instrument) is used to appraise qualitative research. See http://joannabriggs.org/.
- The Cochrane Collaboration, in cooperation with JBI, has started a Qualitative Research Methods Group and provides a database of tools. Further information is available at www.cochrane.org.
- The National Institute of Health and Clinical Excellence (NICE) also provides a methodological checklist for qualitative studies in Appendix H of their 2007 Manual, available online at: www.nice.org.uk.

Guidelines by definition are supported with evidence. However, some developers do not grade the evidence or publish the strength of the evidence supporting each recommendation in their guideline report. It may be necessary to contact the developer and gather the original evidence tables. If the evidence is available but not graded, it might be possible to identify and list the actual type of study data supporting each recommendation.

TIP: Contacting the source developer about evidence

As previously noted, it is important to collect relevant supplementary information in the search for guidelines. Evidence tables or technical reports may not be published with the guideline but should be available from the developer. If there is a question about the documentation or availability of supporting evidence, it is worth knowing this *before* the guideline is short-listed for full appraisal. It may be necessary to contact the source developer quite early in the process, i.e., at the initial screening stage.

Critical appraisal

ADAPTE (ADAPTE Collaboration, 2007, p. 29) recommends that a detailed review of source guidelines includes an assessment of the:

- rigor and transparency of the search strategy and selection of evidence which supports the recommendations;
- consistency between the evidence and how the developers have summarized and interpreted this evidence;
- consistency between the interpretation of the evidence and the individual recommendations.

Panels must determine if the interpretation of the evidence is valid and if the resulting recommendations are consistent with the selected evidence. Recommendations in the source guidelines that do not stem directly from the evidence should be eliminated. ADAPTE provides several tools to conduct these assessments. Groups we have worked with found that a good level of methodological expertise was required to complete these evaluations (ADAPTE Collaboration, 2009, ADAPTE Tool 13 and 14, available at http://www.g-i-n.net/document-store/working-groups-documents/adaptation/adapte-resource-toolkit-guideline-adaptation-2-0.pdf.

In cases where the evidence is weak or non-existent, the basis for the resulting recommendation should be explicitly indicated in the source guideline (e.g., based on expert consensus by the guideline development panel). When there are similar recommendations in multiple guidelines where the evidence is limited or weak, the sum of these recommendations represents in itself an expert consensus. The National Health and Medical Research Council (NHMRC) in Australia uses the designation Good Practice Point (GPP) for recommendations based on expert consensus opinion in the absence of an evidence base (Australian Centre for Posttraumatic Mental Health, 2007). They do not attach a formal level of evidence to expert opinion, the findings of expert working parties, or anecdotal information but state:

> In the absence of empirical evidence, or where there is only poor-quality evidence, guidelines may in some instances contain recommendations based on findings outside the levels-of evidence hierarchy. Such recommendations should be derived using a consensus approach. If a consensus approach is not possible, non-consensus practice statements can be issued, but there should be clear reference to all schools of thought and consumers should be made aware of the lack of consensus. (Australian Centre for Posttraumatic Mental Health, 2007, p.17)

Assessing Acceptability and Applicability of Recommendations

The terms acceptability, feasibility, and applicability are used to identify whether recommendations are suitable for use in local practice. The applicability of a guideline's recommendations in the target context and the degree to which a guideline will need adaptation depends on the differences in the cultural and organizational context. The availability and organization of health services, expertise, and resources must be considered as well as population characteristics, beliefs, and value judgments. These context variables are particularly important when adapting guidelines for culturally sensitive interventions or technological innovations (ADAPTE Resource Toolkit, 2009). In PHASE 2, groups will conduct a detailed analysis of existing practices and systems and develop an implementation action plan to align the selected knowledge/evidence with the local context. Key variables are noted in Figure 3.

Figure 3: Guideline Applicability

- ✓ Does the population described for eligibility match the population to which the recommendation is targeted in the local setting?
- ✓ Does the intervention meet patient views and preferences in the context of use?
- ✓ Is the intervention and/or necessary equipment available in the context of use?
- ✓ Is the necessary expertise (knowledge and skills) available in the context of use?
- ✓ Are there any constraints, organizational barriers, legislation, policies, and/or resources in the healthcare setting of use that would impede the implementation of the recommendation?
- ✓ Is the recommendation compatible with the culture and values in the proposed setting?
- ✓ Does the benefit to be gained from implementing this recommendation make it worth doing?

While the task at this stage sharpens the focus on assessing acceptability and applicability, the Steering Committee and Working Panel ideally have these questions in mind at the outset and during all points in the guideline adaptation process. ADAPTE includes a checklist to introduce several key questions to be addressed (available at http://www.g-i-n.net/document-store/working-groups-documents/adaptation/adapte-resource-toolkit-guideline-adaptation-2-0.pdf.

TIP: Checking Applicability and Acceptability

There are many ways to ensure that these questions are addressed. They may be proposed to the panel by the Chair as each recommendation is discussed at a consensus meeting. Another option is to ask panel members to consider these questions at the same time as they are appraising the guidelines using the AGREEII Instrument. The questions could also be presented to panel members in a survey with the results being used for discussion at the consensus meeting.

If the guideline addresses interventions across multiple points on the patient care trajectory (e.g., screening, diagnosis, treatment, supportive care), it is important to consider specifically who will be affected and in which contexts. It may be strategic to group recommendations and to check applicability with each relevant target group.

.

4.2 Decision and Selection: achieving consensus

The results of all these assessments provide an explicit basis for informed and transparent decision-making on the selection and modification of source guidelines. A variety of consensus methods were presented in CAN-IMPLEMENT©PHASE 1, Step 2. Your steering committee and working panel(s) may have used a number of different methods to reach agreement on issues up to this point in the process. It is particularly important to specify your consensus process for the selection and modification of the recommendations.

Ideally, the steering committee and working panel(s) convene in a face-to-face meeting for a thorough review of their findings to decide which recommendations they will approve for local implementation. If more than one site or setting is involved and face-to-face meeting costs are prohibitive, a teleconference format can also be used effectively, providing all participants have access to the necessary information and sufficient opportunity to contribute to decisions. Good preparation for the meeting is critical. In order to use the time well, meeting objectives, agenda and all supporting data/documents should be clear and comprehensive. The Chair must be prepared to facilitate the agreed-upon process for reaching consensus and ensure that all decisions are recorded. Groups should pay particular attention to any new evidence brought forward which may impact relevant recommendations. It is important that any modifications to the recommendations are documented and the rationale supporting the modification provided, along with supporting evidence and references.

Decision-making and selection options: (ADAPTE Collaboration, 2009):

1. **REJECT the whole guidelin**e: After reviewing all of the assessments, the panel decides to reject the complete guideline. The decision should be based on how the panel weighs the assessments (e.g., poor AGREE scores, guideline is out-of-date, or recommendations do not apply to the panel's context).
2. **ACCEPT a whole guideline and all of its recommendations**: After reviewing all of the assessments, the panel accepts the guideline as is.
3. **ACCEPT the evidence summary of the guideline**: After reviewing all of the assessments, the panel decides to accept the description of the evidence (or parts of it) but to reject the interpretation of the evidence and the recommendations.
4. **ACCEPT specific recommendations**: After reviewing the recommendations from one or more guidelines, the panel decides which recommendations to accept and which to reject (e.g., recommendations from one or more guidelines which need major modification would be rejected).
5. **MODIFY specific recommendations:** After reviewing the recommendations from one or more guidelines, the panel decides which are acceptable but need to be modified (e.g., new data may be added to the original recommendation or the wording might be changed to better reflect the panel's context.

CAUTION: Modification

Care must be taken when modifying existing guidelines and/or recommendations to avoid changing the recommendations to such an extent that they no longer represent the evidence upon which they are based.

FIELD NOTE: Addressing the evidence

Preparing the recommendations matrix for discussion and consensus was considered by groups we have worked with to be one of the most critical, time-consuming, and challenging aspects of the entire process. Extracting, interpreting, summarizing and prioritizing relevant content from the selected guidelines requires collaboration between lead(s), coordinators, content expert(s) and methodologist(s). This matrix forms the foundation for discussion at consensus meeting(s) and as such must be a thorough and precisely articulated representation that clearly compares all recommendations and supporting evidence, strengths and weaknesses.

The approach can vary depending on the topic, guidelines, stakeholders, resources, skills and experience of the group. One locally-based group crafted a 20-page document summarizing three multi-dimensional guidelines. In this case, front-line caregivers met on 4 occasions over several months to systematically address each recommendation.

In other instances provincial or nationally-based groups assemble small teams to summarize the comparative information, prepare a presentation and propose priorities for the steering committee. Following video-conference or face-to face meetings with stakeholders, decisions and issues were summarized. Sometimes a questionnaire followed to participants to raise any outstanding issues and obtain final consensus.

Based on these decisions, the panel can begin to write the local guideline which is adapted for their context and addresses all of their health questions.

Check your Progress …

PHASE 1, Step 4: ASSESS and SELECT

Appraising evidence and reaching consensus on recommendations

DECISIONS

1. Do consolidated assessments yield adequate evidence to respond to specified health questions and form recommendations?
2. Is the steering committee/panel prepared for the consensus meeting?

✓ *Guideline and other evidence appraisals complete; AGREEII scores and other data consolidated, distributed and made ready for presentation?*

✓ *Detailed Recommendations Matrix complete, including levels of evidence perrecommendation?*

✓ *Key stakeholder, content experts, panel and committee members informed and available?*

✓ *Chair ready to lead discussion/facilitate consensus; consensus process has been*

determined in advance and communicated?

- ✓ *Administrative support available to manage meeting and documentation at meeting, including all decisions and rationale?*
- ✓ *Funding in place* for travel and meeting costs, staff compensation or honorariums?

OUTPUTS

- ✓ AGREE appraisal and other assessments with consolidation of scores and comments
- ✓ Recommendations Matrix including documentation of relevant content and corresponding levels of evidence for each recommendation
- ✓ Consensus Meeting (face-to-face, teleconference, full day?)
- ✓ Decisions (accept, reject, modify) on all recommendations per health question with clearly documented modifications, rationale, and any outstanding issues

TOOLS

P1S4 Managing the AGREEII Appraisal – Facilitator Tips (Appendix 9)

P1S4 The AGREEII Instrument - Online Access and Support (Appendix 12)

P1S4 Developing the Recommendations Matrix – a Template (Appendix 10)

ADDITIONAL RESOURCES

P1S4 Recommendations Matrix (Appendix 11)

PHASE 1, Step 5: DRAFT, REVISE and ENDORSE Recommendations

In this step a draft document is prepared for external review and endorsement by your target users. Once the panel has agreed on the content of the adapted guideline, they must outline both the recommendations and their methodology in creating them. An internal review and revision cycle by the steering committee and working panel(s) typically precedes the external review and endorsement by the targeted users. The external review may include practitioners, patients, policymakers, decision makers, organization representatives, and managers. The purpose of this review is to:

- ensure that the intended users have an opportunity to provide feedback,
- allow managers and policymakers to consider the resources and other impacts of the guidelines,
- foster ownership and commitment by the intended users toward the guideline,
- begin preparing for implementation, and
- serve as the initial dissemination of the adapted guideline.

Action:

The key activities in this step include: writing the customized recommendations; circulating the draft for revision; conducting a structured review and revision process; obtaining endorsement from relevant stakeholders and agencies; consulting source developers; and appropriately referencing and acknowledging intellectual credits of the source documents.

5.1 Draft the customized guideline

Your guideline report must include sufficient detail so that the methodology is reproducible. It is vital that potential adopters are confident that the process used was rigorous and thorough. Producing a quality, adapted guideline establishes credibility for your panel and strong methodological capacity paves the way for your next initiative.

Complete and well-managed documentation throughout Phase 1 will assist the writer(s) in preparing the first draft. The health questions, recommendations and supporting rationale, evidence tables, any environmental scan data, the search strategy and screening decisions, panel composition, conflicts of interest, consensus process, external review and endorsement details, aftercare plan, and source acknowledgments, should be included in the document. ADAPTE provides a good list of what should be included (Table 10) (ADAPTE Collaboration, 2009) and CAN-IMPLEMENT© provides a detailed template which addresses each topic/section and includes quality indicators adapted from the AGREEII instrument, P1S5: Guideline Report Writing Template (Appendix 13).

Some groups use the AGREEII domains to assess the quality of the guidelines they review *and* as a framework to draft their own guideline. Guideline Development Handbooks from NICE, SIGN, CMA (Davis et al., 2007; National Institute for Health and Clinical Excellence, 2012; Scottish Intercollegiate Guidelines Network, 2011) provide additional templates and advice on formatting styles. The American Heart Association Manual (2010) includes a checklist and useful language for stating recommendations.

It is important that each recommendation is precisely defined, easily accessed and written in actionable terms. Each recommendation should advise a course of action, followed by an indication of the strength of the recommendation. Michie and Johnston (2004) describe the impact of the wording of behavioral instructions on the likelihood they will be followed and emphasize the need for defining target behavior in specific and concrete terms.

Table 10: Guideline Content (modified from ADAPTE Toolkit)

1. Overview material:
   - structured abstract that includes release date and print and electronic sources
   - name and institutional affiliation of adaptation panel
2. Introduction and background
3. Scope and purpose
4. Target users of the guideline
5. Target (patient) population
6. Health questions
7. Recommendations:
   - risks and benefits associated with the recommendations
   - specific circumstances under which to perform recommendations
   - strength of recommendations based on stated recommendation grading criteria (if used)

(Continued)

Table 10 *(Continued)*

- research gaps

8. Supporting evidence and information for the recommendations:
   - panel rationale behind the recommendations
   - presentation of additional evidence and/or the results of the updating process
   - how and why existing recommendations were modified
9. External Review and Consultation Process (to be discussed in next section)
   - who was asked to review the guideline
   - what process was followed
   - discussion of feedback and what was incorporated into the final document
10. Plan for scheduled review and update
11. Algorithm or summary document
12. Implementation considerations
13. Glossary (for unfamiliar terms)
14. References of all material used in creating the guideline
15. Acknowledgment of source guideline developers and permission granted (where necessary)
16. List of panel members and their credentials, declaration of conflicts of interest
17. List of funding source(s)
18. Appendix describing adaptation process:
    - guideline search and retrieval including the list of guidelines identified, whether they were included or excluded and why
    - guideline assessment including which assessments were undertaken in which order, a summary of results for each assessment (including AGREEII domain scores)
    - decision process followed by panel
    - results and decisions of each evaluation

Although one person usually has overall responsibility for preparing and editing the document, many members of the group may contribute portions of the guideline. Writing by committee can be challenging and requires prior agreement about the consistent use of terminology, evidence tables, author credit, etc. The writing style should be as consistent and as succinct as possible, keeping in mind the broad readership of the guideline (Michie & Johnston, 2004).

FIELD NOTE: Guideline format and usability

1. Panels we have worked with found it useful at the writing stage, to examine the guidelines already in use at their organization to consider style, format and need for a consistent approach. With a new focus on rigor and transparency, they sometimes discovered gaps and weaknesses in the quality of the reporting in their existing documents. Groups also encountered strong practitioner preferences and requirements, including brevity and ease of use. This became a valuable discussion and collaboration in terms of the applicability and acceptability of the adapted guideline. In one case, it was determined that several modifications to the previous format were required to improve both guideline quality and usability. Time was invested in formulating and gaining agreement on a new template for future guideline development at that agency.

2. In PHASE 2, groups examine specific barriers and facilitators to implementation. In one case, the need for accessibility of the recommendations and supporting tools was discussed at length. Care providers expressed concern that the guideline would be available in electronic format at the point-of-care but identified that not having access to a computer on the units would be an obstacle to effective implementation.

5.2 Conduct internal review and revise

The internal review process is conducted by the working panel and may include additional content experts or relevant stakeholders. It is an inherently iterative process and, if multiple writers are involved, a significant document management challenge. It is recommended that a structured protocol for updates (including specification of reviewers, turn-around times, file naming conventions, version dates, process for editing and documenting feedback, etc.) be established at the outset. It may be useful to post the document on a collaborative (virtual) workspace which allows file sharing and provides automated file naming and archiving.

Consider including a structured guide for feedback in order to document specific issues you seek to clarify or confirm. Ideally, consensus was achieved on all your recommendations in the previous assessment and decision step. Do not be surprised however, if during the internal review, significant questions or possible disagreements emerge regarding context, content or supporting evidence. It is at this stage, when all these decisions are written, that any misconceptions or oversights are revealed. You may need to revisit individual recommendations or details with the group.

5.3 Conduct external review and obtain endorsement

Gathering and responding to feedback

Once the panel has drafted the adapted guideline, it should be reviewed by each stakeholder group affected by the recommendations. The external review will determine if targeted users approve of the draft guideline. A broad range of questions will determine the clarity of the recommendations, their perceived strengths and weaknesses, and suggested modifications. It may be necessary to prepare different questions for each group of stakeholders. It is important to obtain information about their confidence in the adaptation process, whether they would use

the guideline in their practice, and how it may impact or change their current procedures or routines. Questions may reveal administrators' views about the acceptability of the guideline for the organization and about resource implications. A structured survey is helpful for this task. ADAPTE provides a useful survey template, tool 18 http://www.g-i-n.net/document-store/working-groups-documents/adaptation/adapte-resource-toolkit-guideline-adaptation-2-0.pdf.

FIELD NOTE: External Survey Results

One Canadian Guideline Adaptation Study pan-Canadian group conducted an extensive external review using a detailed stakeholder survey (a customized version of the ADAPTE template). They completed an analysis of the feedback, responded to concerns, and included a summary report of the review in the supplementary technical section of their guideline. They reasoned that making the views of the stakeholders explicit in their document enhanced the transparency of their process by indicating that issues had been acknowledged and resolved, and that this would ultimately improve the uptake of the guideline.

Electronic media can be used to collect comments. Feedback should be documented and discussed by the panel and any changes made to the adapted guideline should be described. If a panel decides not to modify a guideline, despite feedback received, the rationale and decision should also be documented

Consulting relevant endorsement bodies

To ensure widespread implementation, the adapted guideline should be formally endorsed by the professional bodies and organizations most closely connected to the guideline topic (e.g., a national college of family physicians might endorse guidelines related to primary care). As previously noted, it may be strategic to engage key organizations early in the process by including them in the steering committee or working panel(s). The endorsement of a guideline by relevant professional organizations has been shown to enhance the acceptability of a guideline to the organization's members (ADAPTE Resource Toolkit, 2009). Endorsement can be a simple recognition by the organization of the relevance of the guideline to its members or a more formal process to implement the adapted guideline as policy within the organization. For example, an organization with a nationally distributed membership might provide the guideline as a resource to its members or post it on its web site.

Consulting with source guideline developers and acknowledging source documents

All documents used in the creation of the draft guideline should be referenced in the final document. The panel will need to determine whether they need to seek permission to use any guideline recommendation or evidence table used in the adapted guideline. This information is usually available as part of the source guideline document under a *copyright clause.* The draft guideline may be sent for feedback to guideline developers whose recommendations have been used in the draft guideline.

5.4 Prepare final documents

Guidelines often include application tools for the practitioner and additional information for patients or other stakeholders. Algorithms, decision aids, quick reference guides, new patient documents, or medical records may be required. The introduction of a new instrument or procedure can present a significant implementation issue and should be addressed both early in the process and again at the guideline review and endorsement stage by those stakeholders who will be affected by the changes. For national guidelines, it is important to recognize that there may be variation in local context that will require some flexibility and further customization of the application tools, documents or methods. The importance of usability testing, an integral component of implementation action planning, is discussed further in PHASE 2: Solution Building.

IMPLEMENTATION INSIGHT

External review and endorsement of the adapted guideline at this stage is critical and could be considered an important prerequisite for effective PHASE 2 implementation action planning. Through this process, available resources as well as institutional/agency support and expectations, are revealed. The quality of the review and endorsement provides external leverage and credibility to the adapted guideline. In fact, part of the review could be a preemptive question about the reviewer's intent to implement the guideline.

FIELD NOTE: Application tools, an implementation issue

In one multi-site initiative a patient self-assessment tool was contained in their guideline. Implementation included patient use of specially designed computer kiosks at clinical facilities. Several issues were addressed: regional differences in the current use of other screening instruments; access to, training and support of the computer technology; linking of self-reports to patient records; regional differences in patient referral and management patterns based on assessment outcomes. A comprehensive dissemination and implementation strategy, including creation of a toolkit and training workshops, were developed to support these recommendations.

5.5 Sustainability: establishing a Renewal plan

To ensure best practices are implemented, the currency of guideline recommendations is crucial and must be maintained. Updating a guideline is a 2-stage process that involves 1) identifying new evidence and 2) determining whether that new evidence warrants updating the recommendations (Shekelle et al., 2001a; Shekelle et al., 2001b). Groups must undertake a systematic approach (using previous search strategies) to find evidence published since the development of the guideline. Consultation with experts is also beneficial as they may be aware of emerging evidence, new studies, or trials that are not yet published. If the new evidence has an effect on the recommendations such as outcome changes, resource or technology changes,

or changes in existing benefits or harms, then a guideline update is essential. The extent of the guideline update will depend on the results of the updated review of evidence. Actions to consider include:

- terminating the guideline;
- removing some recommendations but not the entire guideline;
- redoing the review to include new or emerging areas of interest;
- rewriting recommendations needing an update – taking care to ensure the validity of the guideline is not compromised.

A key decision in the guideline adaptation process is when to schedule a review and update. To remain current, the date should be based on a reasonable timeframe for the evidence synthesis. Setting an appropriate review date may be influenced by a number of factors, including:

- when the source guideline(s) is/are due to be updated;
- whether there is a relevant or critical timeframe when similar guidelines are reviewed and updated (e.g., some guidelines might be outdated in as little as 3-4 years, while in others the evidence does not change quickly);
- if there is an institutional or organizational schedule to synchronize with (e.g., other guideline or protocol review cycles).

It is also important to take into account whether or not a panel undertook an update of the evidence when developing the adapted guideline. The innate challenge with an adapted guideline containing recommendations from a number of source guidelines is that the source guidelines may become outdated at different times. It may be helpful to revisit your documents from PHASE 1, Step 4: Assessment in order to construct a table summarizing your questions, recommendations, source guidelines, literature search dates and guideline publication dates (Table 11).

Table 11: Renewal Planning

	Source Guideline (s)				Adapted Guideline				
Health Question (s)	Recommendation(s)	End date of literature search	Publication Date	Date/period of supporting evidence base	Guideline Posting Date	Scheduled Review Date	New evidence since posting date (references)	Final recommendation for renewed guideline	Comments
Q1									
Q2									

To ensure credibility, those responsible for the review of the adapted guideline and the process to be used should be clearly specified. In PHASE 1, Step 1: the Call-to-Action, issues of guideline responsibility, jurisdiction, and continuity were raised. Similarly, those responsible for its maintenance and upkeep should be clearly stated. There is an important administrative role in maintaining an ongoing contact point for inquiries and providing leadership to ensure that the

review process is managed and not forgotten. This represents an organizational challenge for guideline owners and requires time and resources that may need to be negotiated with decision-makers. The task is comparable to policy and procedure manual reviews and could coincide with important organizational events such as accreditation surveying.

TIP: Specifying the plan for review

If the intention is to publish a guideline or make it widely available, it is necessary to outline the schedule for its review and update in the methodology section. In a local initiative, this schedule may correspond with other internal review processes (e.g., usual time of updating policy and procedures). Specifying the renewal plan in the document is very useful to other developers wishing to incorporate your recommendations within their own protocol. Being explicit about the review demonstrates the rigor of the guideline process and improves subsequent quality appraisals of the guideline.

Check your Progress …

PHASE 1, Step 5: DRAFT, REVISE and ENDORSE

Recommendations

DECISIONS

- ✓ Are internal review and revisions complete?
- ✓ Are external review and endorsement complete?
- ✓ Is there a plan for a review and update of the guideline?

OUTPUTS

- ✓ Initial draft of adapted guideline
- ✓ Structured consultation/review process with target users, endorsement bodies and source guideline developers with documented feedback
- ✓ Endorsement
- ✓ Final guideline with supporting documents, tools, and appropriate acknowledgements
- ✓ Clearly articulated guideline ownership and renewal plan/schedule for maintenance/updating

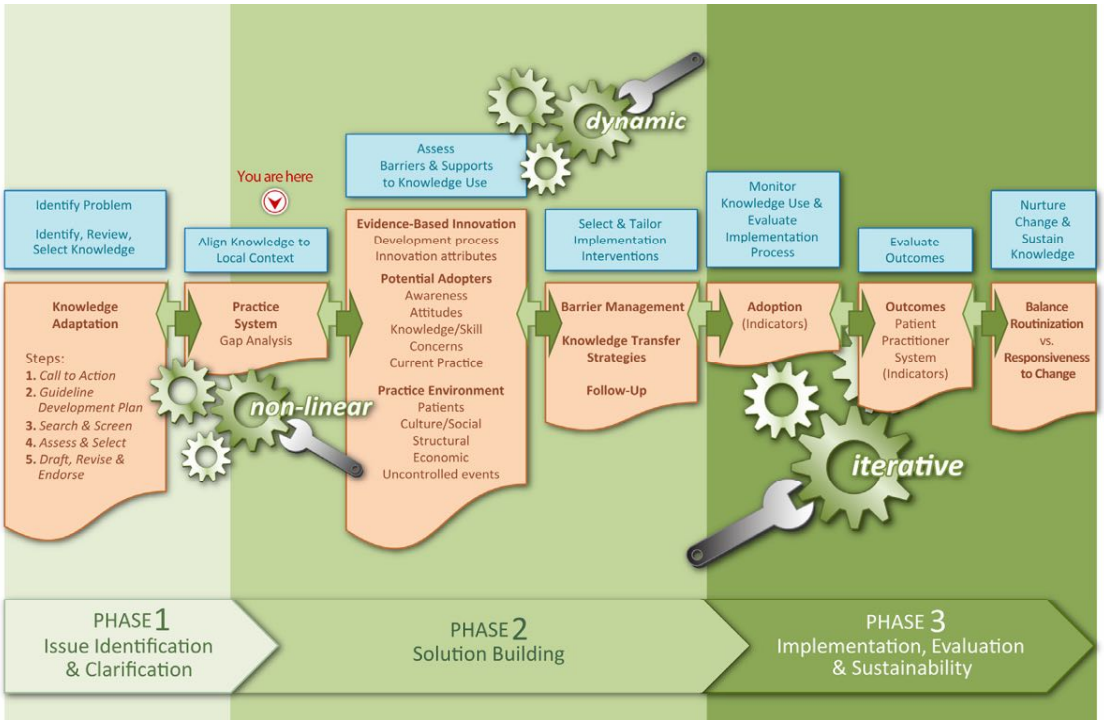
TOOLS

P1S5 Guideline Report Writing Template (Appendix 13)

CHAPTER 4

WORKING TOGETHER TO PLAN ALIGNMENT OF BEST PRACTICE EVIDENCE AND LOCAL CONTEXT

In PHASE 2: Solution Building, groups continue knowledge adaptation by aligning the agreed-upon recommendations (i.e., the adapted guideline) with the local context from both a practice level and system perspective.



Once a guideline has been endorsed and the aftercare issues finalized, the impetus shifts to implementation planning and putting the recommendations into practice. CAN-IMPLEMENT© PHASE 1, guideline adaptation, highlights implementation thinking in order to prepare for the effective management of this next stage. Using local data, groups now embark on a period of planned action to implement the recommendations in their unique environment. The role of the implementation team and the essential components of implementation planning are outlined in this section.

Action

Knowledge is a verb, not a noun (Gilbert, 2005).

This is an active period of collaboration between a guideline implementation task force and its many partners and stakeholders in pertinent local context(s). Using a planned action approach (Harrison & Graham, 2012), groups identify necessary authorities and resources, clarify the issue, and examine the innovation (adapted guideline), adopters (target users) and local practice environment for barriers and facilitators. They select, tailor, and test implementation interventions. The implementation plan includes an evaluation strategy for assessing guideline uptake and outcomes, activities which begin in this phase and continue as the main thrust of PHASE 3.

Aligning knowledge with local context – an overview

A structured approach, organizational commitment, skilled facilitation, and front-line participation are as important to implementation planning activities as they are to the task of adapting the evidence informed guideline(s). CAN-IMPLEMENT© provides a method and tools to facilitate knowledge activation. The methodology is grounded in the Ottawa Model for Research Utilization (OMRU) and the Knowledge to Action (KTA) frameworks (Graham et al., 2006; Graham & Logan, 2004; Logan & Graham, 1998; Logan & Graham 2010) and a Roadmap for evidence implementation (Harrison & Graham, 2012).

Working with knowledge about the practice issue, population, and best practices identified in PHASE 1, groups now focus on planning implementation of the best practice innovation for their particular context. The current organization and delivery of care are clarified by conducting formal and informal enquiries. These studies may include environmental scans, practice audits, comprehensive barriers and facilitators assessments, and knowledge, attitudes and practice (KAP) surveys with local practitioners to better understand the provider communityEach inquiry adds elements that contribute to decision-making and planning and builds on the previous data until a substantive picture of the local context becomes clear. In this way, planning itself becomes evidence-based (Harrison & Graham, 2012).

To achieve context alignment at both practice and system levels it is important to first conduct a gap analysis. This information will demonstrate how care is currently delivered versus how the evidence-informed care (new recommendations) will need to be organized and delivered. The disparity or gap may be small, or it may be significant, but understanding this gap provides the foundation for planning the necessary changes in practice. It provides specific information about the local practice setting and brings the parties together for problem solving using local data.

Central to translating knowledge into practice is the recognition and management of factors which may impede or enable a proposed change in practice. During the guideline adaptation process there were many opportunities to discover and discuss potential barriers and facilitators to the local uptake of the guideline recommendations. It is important to review your previous documentation, reflect on the challenges that were identified, and begin problem solving. Groups select and tailor barrier management and implementation interventions to respond to the specific innovation, adopter, and environment challenges revealed in their barriers and facilitators analysis. Knowledge dissemination and implementation strategies may include a combination of educational materials and activities, decision support tools, champions and opinion leaders, incentives or sanctions.

As barriers are systematically addressed, and evidence is built into organizational and professional practices, the new knowledge becomes activated. A comprehensive implementation action plan describes how use of the guideline will be measured, includes follow-up interventions which may be needed to boost uptake, and defines indicators for evaluating patient, provider and system outcomes.

An early decision to be made is whether to implement the entire guideline or to start with a limited selection of recommendations. What is possible or practical will depend on the size and complexity of the set of recommendations and the given practice setting(s). The nature of the practice issue itself can influence how a group proceeds, e.g., it may be useful to start with recommendations related to assessment and then pursue management aspects of care. A novice group may strategically choose to start small, e.g., with a demonstration project or controlled pilot site, to establish and test their implementation processes before proceeding with a large scale implementation.

Finally, a clear demarcation of the transition from guideline development (via adaptation) to implementation action planning is needed to explicitly signal that the knowledge product is complete and ready to use in the practice setting. Receiving endorsement (via the external review) confirms this message. A formal launch with fanfare can add credibility and positively influence expectations about implementation. Engaging organizational leaders and frontline practitioners in the launch is central. By acknowledging the work of the guideline panel or working group and articulating hopes for the next phase, the notion is conveyed that this is a *handover.*

Although key implementation tasks are presented in a logical order, the process is neither linear nor unidirectional. Many tasks may be conducted concurrently and each element impacts another in a process comprised of multiple feedback loops. Systematic assessment, monitoring and evaluating of each element guides the implementation planning effort.

FIELD NOTE: implementation planning … "a swirling vat"

Sometimes during the handover period, it is difficult to distinguish between implementation "planning" and actual implementation. The process was described as *"fragile, slow, and organic."* It was, at the same time, perceived as a very active period of communication and collaboration involving a mix of formal meetings scheduled with practitioners and strategic partners, and frequent, informal contact with many stakeholders. The discovery of barriers and facilitators was ongoing. However, as groups systematically identify and manage barriers and facilitators, they begin to incrementally adjust the practice environment. Decisions are made whereby the evidence is embedded in the structures and processes of the practice setting and system, e.g., revisions to patient assessment, documentation and reporting mechanisms, standard orders, and supplies. Typically a gradual increase in "readiness" to change practice is noticed, and planning becomes viewed not as a separate, isolated exercise but as an integral part of the implementation itself.

PHASE 2, Step 1: ALIGN KNOWLEDGE to LOCAL CONTEXT (Practice and System)

1.1 Identify authorities and resources, and develop an Implementation Work Plan

In PHASE 1, Steps 1 and 2 of the CAN-IMPLEMENT© model, strategic decisions were made about who to include on the guideline adaptation steering committee and working panel to ensure that principal stakeholders in your organization were aware of and involved in the proposed change(s) to practice. You may now need to secure the contribution, influence, or skills of additional participants to execute your implementation plan. Consider who else might be instrumental at the practice, executive, system or policy levels and what resources, organizational authority, supports, or health service partnerships might be needed. Recognizing inter-dependent relationships and fostering constructive alliances across departments will facilitate implementation progress.

Consider establishing an implementation core team that includes guideline development members, appropriate practitioners, patients, decision-makers and managers. There may be opportunities to link with established quality improvement, risk reduction and safety initiatives in the organization. If the incentive for developing an evidence-informed approach is a quality issue, e.g., an adverse event, including a quality or risk manager on the team would be tactical

in this next phase. Including original members of the guideline adaptation panel strengthens the implementation task force and enhances the efficiency of the handover. The tacit knowledge of the guideline group can be instrumental in developing a viable action plan. They understand the evidence, its strengths and limitations, and have already considered how it will transfer to the practice setting. This group is uniquely placed to maintain the momentum of the initiative and to provide continuity and clarity in communicating the recommendations.

Facilitation roles and responsibilities must be determined. Preparing the practice environment for change requires effective leadership, project management, and communications skills. As in guideline adaptation, there will be a challenging workload and, for many participants, a learning curve.

As in PHASE 1, it is important to document your strategies, decisions, findings, and progress. The CAN-IMPLEMENT© toolkit includes a generic template, P2S1: Developing the Implementation Work Plan (see Appendix 14).

FACILITATION TIP

"The best facilitation models often create environments where people feel involved in the decision-making process. By combining training and/or capacity building, the facilitator assists the stakeholders in navigating the change processes as a team. Values such as respect, neutrality and inclusion allow the facilitator to focus on the needs and goals of the team. Facilitators also play a role in demystifying evaluation and research. They support evidence-based decision-making, program planning and evaluation. Ideally, facilitators use participatory methods and have a broad base of knowledge and experience as adult educators and leaders of change."

(Department of Health and Community Services Newfoundland and Labrador, 2006)

FIELD NOTE: Role of Facilitation/Facilitator in implementation

In our experience groups assign or contract or second a dedicated guideline implementation facilitator for a period of time e.g. several months, to support the planning and implementation. In addition to excellent communications and project management skills, they considered a key qualification to have "*street credibility*" and sought candidates who had front-line skills and authority in the relevant care environment. In this respect, the incumbent also served as a 'champion' for change.

1.2 Conduct a Gap-Analysis

Aligning the new knowledge/evidence with your local context requires revisiting the practice issue to thoroughly explore and specify the proposed change(s) in practice, including:

- reach of the proposed implementation, e.g., patient numbers, single/multiple sites, across continuum of care;
- who needs to be involved, e.g., staffing levels, disciplines, departments, agencies;

- changes to delivery of care, e.g., equipment, training, referral patterns, policy/procedure.

To focus the action plan, it is necessary to first understand *the difference between current practice and the new recommendations*. In the Knowledge-to-Action framework, a 'Call to Action' is usually stimulated by increasing awareness of a local practice issue/problem. A group will first determine if their population and prevalence is similar to that described in the available evidence and then focus on the knowledge/evidence needed to improve care. Once a practice issue has been recognized and evidence-informed recommendations have been drafted for the local population and environment (as per CAN-IMPLEMENT©PHASE 1 Steps 1-5), a gap analysis is conducted to clarify exactly what and how much will need to be changed in the prevailing practice and system. The focus of inquiry becomes the practice environment. Combined with a detailed analysis of local barriers and supports, this information will assist the task force to tailor their implementation plan.

Depending on the genesis of a given guideline initiative, groups may have already collected, documented, and discussed many of the implications of change. If the demand for a guideline was based on a high priority gap or variation in practice, the identified gap is often supported by data from a clinical audit, environmental scan and/or other baseline assessments. Previous meeting notes and guideline development documents (e.g., PHASE 1, Steps 1 and 2) will contain valuable information about the targeted patient population, intervention, and healthcare setting. In CAN-IMPLEMENT© PHASE 1: Step 4, the feasibility of implementing the proposed recommendations was specifically addressed, adding further insight to current and desired practice(s).

Additional information can be gathered from a number of front-line and management sources by both formal and informal methods via interviews, focus groups, town hall sessions, surveys and questionnaires. Some facilities have well established clinical governance processes and means, e.g., dedicated, skilled staff and administrative databases, to conduct extensive clinical audits. For others, this task may present a resource challenge. However, a quick and simple chart audit on a representative sample of patients over a 3-month period could be sufficient to confirm the scope and variation in current practice compared to the guideline recommendations.

To conduct a gap-analysis, groups need to specify the local information (local contextual evidence) to collect in order to characterize the current practice. The extent and complexity of the enquiry will vary based on the individual healthcare context and the clinical recommendations. Kitson and Straus (2013) outline several strategies and provide examples for measuring the gap at population, organization, and provider levels.

FIELD NOTE: Gap-Analysis – what information do we need?

Practice data can be collected in several ways, including chart audits, administrative databases, informal and informal meetings with stakeholders, and surveys. A practical approach is to meet with front-line staff to fully understand the nature (and variation) in existing practices. These early discussions can help teams to design key indicators and measurement strategies for subsequent evaluation of the guideline uptake and patient, practice and system outcomes. For example with a wound care topic, there are many parameters to question, including:

patient wound	e.g., onset, size, severity, time to heal, complications?
treatment/ intervention	e.g., specific dressing materials, ointments, drugs, procedures?
patient experience	e.g., convenience, compliance, level of comfort/pain, Quality of Life, self-care, # visits or calls?
practitioner experience	e.g., RN and other providers scope of practice, referral patterns, provider skills/education, medical orders?
system aspects	e.g., patient records, use of clinics or homecare services, nursing time, number of treatment, supply costs?

PHASE 2, Step 2: ASSESS THE INNOVATION, ADOPTERS and PRACTICE ENVIRONMENT for BARRIERS and SUPPORTS

2.1 Assess the innovation, adopters and practice environment for barriers and supports

Identification of barriers and facilitators to implementation has become a familiar construct of change management. Although typically a list of barriers to implementation is not difficult to generate, a structured, comprehensive approach is advised. What may be perceived at the outset as a simple adjustment to practice can creep quickly into more systems in the organization as the full extent of the change necessary becomes clear. Several tools and techniques exist to assess barriers and facilitators (Francis et al., 2012; Kajermo et al., 2010; KT Clearinghouse, 2013; National Institute for Health and Clinical Excellence, 2007b; National Institute of Clinical Studies, 2006; Rycroft-Malone et al., 2004; Shiffman et al., 2005). For a review of strategies to identify barriers and facilitators see Legare and Zang (2013). An approach that may be helpful is to use the framework described in the Ottawa Model of Research Use: OMRU (Graham & Logan, 2004; Logan & Graham, 1998; Logan & Graham 2010). In OMRU, barriers are identified from three different sources and solutions are approached by grouping and categorizing information into innovation, (guideline), adopter (practitioners, managers, patients/families) and environment issues (Table 12).

Table 12: Types of Barriers

Innovation	Adopter	Practice Environment
☒ *"There is a lack of data and direction on outliers (extreme cases)".* ☒ *"We don't have an (assessment) tool for that."* ☒ *"What is the cost breakdown?"* ☒ *"But that means we'll have to complete three reports instead of one".*	☒ *"My doctor doesn't agree."* ☒ *"Part of orientation (will be) education of wound guidelines."* ☒ *"How do you measure (staff and patient) knowledge?"* ☒ *"The nurses are over-surveyed."*	☒ *"Home Care does not use the same dressings."* ☒ *"What happens if the nurse who regularly does the dressings is sick?"* ☒ *"Electronic accessibility is important; not having a computer in the room is an obstacle."* ☒ *"This will impact patient flow."*

(excerpts from meeting notes: Canadian Adaptation Study Cases)*

Innovation

In this element, groups consider both the attributes of the evidence-based recommendations and the process used to develop the guideline. Factors thought to positively influence adoption of the guideline include the target audience's perceptions of the credibility of the developers, inclusion of potential adopters in the development process, an explicit and transparent process that includes a rigorous search of the literature, objective methods to synthesize the evidence, and freedom from conflicts of interest (Logan & Graham, 1998). The ADAPTE and CAN-IMPLEMENT© methods for guideline adaptation were deliberately designed to address these conditions.

Other barriers or facilitators include: perceived compatibility of the recommendations with existing routines, the degree of complexity or convenience, and relative advantages of the change. e.g., costs or risk/benefit ratios (Carlfjord et al., 2010; Graham & Logan, 2004; Logan & Graham, 1998). Interestingly, it has been suggested that stopping an existing practice may be more challenging than introducing a new one. Cabana (2009) states"…guidelines recommending the elimination of an established practice, such as screening for lung cancer with chest x-rays, may be more difficult to follow than guidelines that recommend a new practice."

Adopters

As intended users begin to express their views and concerns about the innovation, barriers related to the target audience itself may be revealed. It is important to understand the characteristics of the adopters to determine their awareness, knowledge, skills, attitudes, expectations, motivation, and skills. The task force needs to be conscious of current practitioner behaviors and routines (National Institute of Clinical Studies, 2006). Some of this information is easily observed or obtained via survey; other aspects, such as adopter attitudes and expectations, may require skilled facilitation to encourage an open and honest dialogue. The Knowledge Translation (KT) Clearing House (KT Clearinghouse, 2013) lists many examples of barriers to knowledge use and describes adopter factors under the category Attitude & Motivation, including potential lack of support due to:

- perceived scientific value of the evidence
- perceived rigidity of the guideline

- perceived threat to professional autonomy
- perception that recommendations are not cost-beneficial
- a lack of confidence in the individuals who are responsible for developing or presenting the guideline or perceived bias of the author(s)
- perception that implementation will not lead to improved outcomes for either the patient or the healthcare process.

The Registered Nursing Association of Ontario (2012) provides a detailed analysis of the potentially positive or negative influence of various stakeholders on guideline implementation and offer tools and strategies to identify and engage key internal, external and interface stakeholders.

It is important that all your adopters have sufficient and safe opportunities to express their views. Don't forget your patients – they are a critical guideline user group whose input is sometimes neglected. Patient knowledge, perceptions and expectations can significantly impact acceptance of new practices. As adopters their interests and concerns must also be assessed and addressed in the implementation plan.

Practice Environment

Barriers in the practice setting have been widely reported, although research on the role of organizational context in the implementation of best practice guidelines "has been limited by the lack of a consistent definition of the term" (Marchionni & Ritchie, 2008, p. 268). Most studies describe the importance of *culture* and *leadership* and identify multiple social, organizational, economic and political variables. Logan and Graham summarize environmental influences as:

> Factors that should be considered include those of a structural nature such as the decision-making structure: rules, regulations and policies; the physical structure of the setting, and workload. Cultural and social factors can also affect the success or failure of an innovation. These include the cultural and belief systems in place in the setting, local politics and personalities, leadership, peer influences, and endorsement of the change by local champions. Other factors such as economic considerations like the availability of equipment and supplies; the remuneration system; medico-legal concerns; and specific organizational/system factors can all promote or inhibit adoption of the innovation. (Graham & Logan, 2004, p.97)

The Australian National Institute of Clinical Studies provides these examples of environmental barriers (National Institute of Clinical Studies, 2006, p.2)*:*

- in the social context: "local opinion leaders may encourage the use of forms of care that have not been shown to be effective, such as screening for ovarian or prostate cancer"
- in the organizational context: "burdensome paperwork or poor communication may inhibit provision of effective care"
- in the economic/political context: "reimbursement systems may promote unnecessary services or discourage best practice."

A few words about Evidence-Based Culture

Stetler and colleagues (2009) examined the organizational infrastructure and level of evidence-based practice observed at role model and beginner sites. They identified key contextual elements in receptive and non-receptive practice environments and provide many examples of differences in operations between early and more mature efforts at embedding or institutionalizing evidence-based practice (Stetler et al., 2009). Stetler's findings are consistent

with the features of evidence-based culture highlighted in a recent report from Children's Mental Health Ontario (Barwick et al., 2005, p. 100) which states:

> …evidence-informed care is more likely to be successful in an evidence-based culture. Such a culture includes leadership in the form of change managers or champions, involvement of stakeholders at all levels of the system: particularly bi-directional face-to-face communication between researchers, decision-makers, and clinicians, and involvement of families and other consumers. Organizations that have a high need for change and specialized training, who experience higher levels of pressure for change, are appropriately resourced (offices, computer access, linkages to academia) and staffed by knowledgeable practitioners who are adaptable, take responsibility for staying up-to-date, practice reflectively, and enjoy a sense of efficacy, and influence in their practice are also part of an ideal change culture. The evidence-based culture has an organizational climate characterized by clarity of mission and goals among staff, staff cohesiveness and autonomy, openness of communication and openness to change, and lower levels of job stress. In addition, careful attention is needed in staff selection, training, coaching, and in continuous quality improvement feedback systems at all levels of an organization.

FIELD NOTE

Guideline implementation is "not a project ... it's about changing to how we should be"

Canadian Adaptation Study Case task force members had many lively discussions about how research and guideline activity were perceived and managed in their respective organizations. They were sensitive about the language used to describe work in progress. They spoke about the need for creating an evidence-based culture where using best evidence was not regarded as a distinct and time limited "project" or "initiative" related to a specific guideline managed by a dedicated department and coordinator, but as a "cross-cutting program of evidence-informed practice" and a "way of life." They debated the merits and challenges of balancing a traditional, academic driven research agenda with engaging front-line staff in practice/service driven research. Prevailing attitudes (positive and negative) about what comprises research, who does/should do research, nature and credibility of evidence, and organizational practices germane to the implementation of evidence were expressed in these important discussions.

Gathering Information

A good way to begin your assessment of barriers and facilitators is by reviewing documentation from earlier steps, e.g., PHASE 1, Step 4: Assessing Feasibility and PHASE 2, Step 2.1 Gap Analysis. It may be necessary to arrange focus groups or interviews with key informants, use direct observation, or conduct surveys to gather additional information. Forums can include open-ended techniques like brainstorming or follow a more structured approach such as Nominal Group or Delphi techniques to identify and investigate issues.

FIELD NOTE: gathering information about barriers and facilitators

One of the Canadian Adaptation Study Cases structured a formal event to launch implementation planning and initiate assessment of barriers and facilitators. Key stakeholders were invited to a two day workshop. Invitees received a summary of the guideline in their information kit prior to the event. The meeting agenda included presentations outlining the practice gap, health questions, contents of the guideline, and the adaptation methodology. Participants were then placed in work groups to answer these questions:*

1. Knowing the guideline recommendations for best practice, what do you see as the biggest challenges in integrating this into your practice?

2. What do you think will facilitate uptake?

Key challenges were identified by participants and these issues were summarized and returned to the working groups for validation. The conversation then shifted to identifying strengths and building solutions. Information from these discussions formed the basis of the group's implementation action plan. Planning was dynamic; a planning record was continuously updated and served to focus task force activities through the period of *context alignment* in the months ahead.

* Participants were also asked a third question: "*How will we know that this has made a difference; what indicators are most important from your perspective?"* Defining how guideline use and impact will be assessed is discussed in PHASE 3.

Groups may also discover several implementation opportunities. These include possible assets, expertise or enabling characteristics associated with the innovation, adopter or practice environment. Awareness of such strengths and confidence in these capacities will help groups build effective solutions to identified barriers.

FIELD NOTE: Identifying 'facilitators' to evidence uptake

Examples of facilitating factors:

- presence of a positive, patient-centered, and collaborative working relationships between nursing staff and other staff involved in the care facilitated productive discussions regarding role clarity and changes in scope of practice for each discipline;
- a strong institutional commitment (backed by resources) to improve electronic records management aligned with the recommendations;
- the endorsement and encouragement of respected, external sponsors (e.g. professional association, related clinical body e.g. pain society, strengthens a campaign for a local or regional adaptation and uptake new evidence e.g. symptom management protocols.

Activating guideline recommendations – drafting your implementation plan

It is very useful to have a structure to discuss and synthesize all the local information on gaps, barriers and facilitating factors. Table 13 illustrates a simple format we've used with groups and can be modified to your needs. Once a review of the elements for each recommendation is completed, stakeholders are able to begin addressing possible actions. The last column listing potential solutions becomes the basis of your implementation plan. This template is provided in the CAN-IMPLEMENT© toolkit, P2S2: Activating Guideline Recommendations (see Appendix 15) – a template for implementation planning. A variation of this construct summarizing identified barriers according to Innovation, Adopter or Practice Environment was used effectively by another group. An excerpt of their data is included in Additional Resources, P2S2: discussion of Potential Barriers and Facilitators (Wound Care Example) (see Appendix 16).

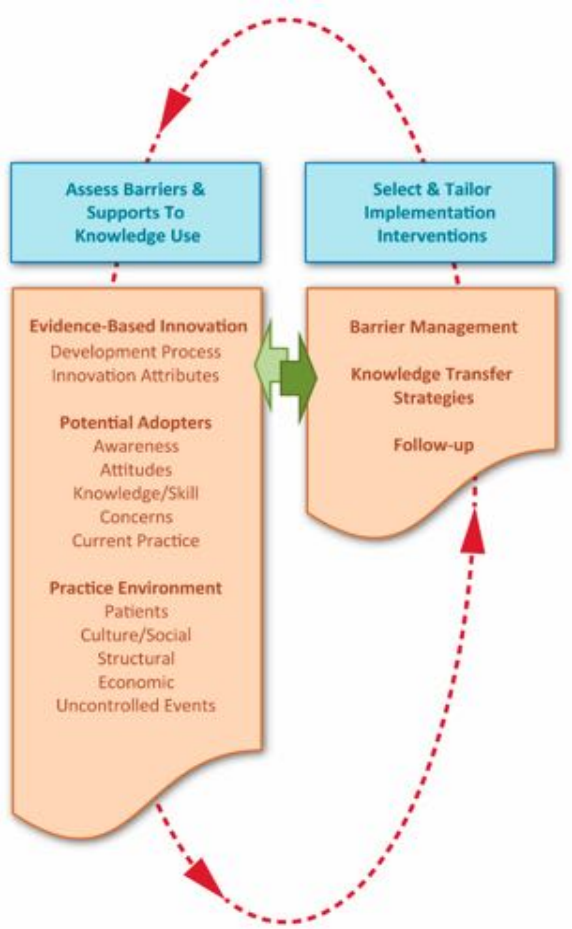
Table 13: Activating Guideline Recommendations – a template for implementation planning

Recommenda-tion(s)	**Current Practice**	**Gaps**	**Barriers and Facilitating Factors**	**Actions – Potential Solutions**
from adapted guideline Example: wound care	*from audit, focus group, observation …*	*description of difference between recommended practice and the guideline recommendation*	relative to each recommendation, the environment, or the adopters *What would aid or prevent implementation of a recommendation?*	*using the information from columns 1-4, tailor strategies*
1. Head to toe skin assessment every 12 hours	Variable, depends on assigned nurse , usually done 1 X daily	Inconsistent timing of assessment	Lack of time on day shift	Consider conducting the assessment on evening shift
2.				
3.				

PHASE 2, Step 3: SELECT AND TAILOR IMPLEMENTATION "INTERVENTIONS"

In this step, the implementation task force brings together applicable barrier and facilitator information and constructs solutions or 'interventions' to mitigate the obstacles and leverage the strengths identified.

3.1 Select and Tailor Implementation Interventions



Implementation 'interventions' may include a variety of methods to address specific barriers (barrier management), communicate the change (knowledge transfer) or augment an existing implementation plan to bolster uptake (follow-up). Groups are advised to select interventions which address individual circumstances. Ploeg et al. (2007) advise … *"best practice implementation strategies should address barriers related to the individual practitioner, social context and organizational and environmental context, and should be tailored to different groups of stakeholders (i.e., nursing staff, project leaders and administrators*" (p. 210). This is typically an iterative process, as some elements, e.g., communications, decision aids, documentation or scheduling systems, will require a period of testing and revision. (Ploeg et al., 2007)

Dissemination and implementation strategies have been widely studied and reported in the nursing and medical literature (Davis et al., 2007; Davis & Taylor-Vaisey, 1997; Graham et al., 2013; Grimshaw et al., 2004; Grimshaw et al., 2012; Grol & Grimshaw, 2003; Grol & Wensing, 2004; National Health and Medical Research Council, 1998; National Institute for Health and Clinical Excellence, 2012; Oxman et al., 1995; Registered Nurses' Association of Ontario, 2012; Scottish Intercollegiate Guidelines Network, 2011; Straus et al., 2013). As yet, there are no definitive or well-tested methods for implementation. Although an area of emerging research, there are some helpful approaches and summaries about implementation interventions that groups may consider described below.

The Knowledge Translation Consultation Service at St. Michael's Hospital in Toronto classify interventions to *"bridge the knowledge-to-action-gap"* into passive, active, professional, patient, and organization directed activities (St. Michael's Hospital, 2014) (Table 14).

Table 14: Implementation Interventions	
Passive educational interventions	guideline documents, workshops, lectures and conferences
Active educational interventions	opinion leadership, educational outreach visits, development of 'quality circles,' active self-study materials or websites
Professional interventions that bring information close to the point of decision making	reminders and decision support (informatics), audit-and-feedback
Patient-directed interventions, including health literacy and clinical decision making interventions	patient decision aids, improved access to patients' own information
Organizational interventions	a top-down approach to revise professional roles and develop special-purpose multidisciplinary teams directed at implementing quality management, change management, organizational evidence-based practice guidelines, and organizational knowledge creation and synthesis

The Canadian Medical Association and Registered Nurses Association of Ontario provide further advice on a broad range of dissemination and implementation strategies:

- https://www.cma.ca/En/Pages/clinical-practice-guidelines.aspx
- http://rnao.ca/bpg/resources/toolkit-implementation-best-practice-guidelines-second-edition

Despite extensive effort in a very active knowledge translation research community, the relative effectiveness of individual or multiple interventions has proven difficult to measure and studies yield mixed results (Davis & Taylor-Vaisey, 1997; Grimshaw et al., 2004; Grimshaw et al., 2012; Grol & Grimshaw, 2003; Hakkennes & Dodd, 2008; Hakkennes & Green, 2006; Oxman et al., 1995; Richens et al., 2004; Wensing et al., 2006). Analysis is complicated by the lack of a consistent framework or taxonomy of the many methods employed (Leeman et al., 2007). Differences in local context influence both the selection and success of guideline dissemination and implementation strategies. The Rx for Change Database (Weir et al., 2010) comprises synopses of reviews of the effectiveness of KT strategies directed at professionals and consumers. Grimshaw and colleagues (2013) recently provided an overview of research findings. Table 15 outlines a broad range of potential activity.

Table 15:
Summary of effectiveness of disseminating strategies drawn from the Rx for Change Database and (ref Grimshaw et al.)

KT strategy	Definition	Target of strategy	Effectiveness	Considerations
Distribution of educational material	Distribution of published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications	Professionals	50 reviews identified. Of these, 4/4 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective. (Rx for Change Database) 12 randomized trials, 11 non randomized trials-median absolute improvement: 4.3% (range -8% to 9.6%) (3)	Costs related to printing and distributing materially-generally low cost
Mass media	Varied use of communication that reached great numbers of people including television, radio, newspapers, posters, leaflets, and booklets, alone or in conjunction with other interventions; (ii) targeted at the population level	Professionals	4 reviews that examined the effectiveness of mass media interventions were identified. Of these, 1/1 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective. (Rx for Change Database)	Cost may be low to considerable if required to buy print/air time, may require engagement and collaboration of media
Access to reviews and tailored messages	Providing reviews, providing access to systematic reviews via online registry, providing access to registry + tailored messages	Policy makers and senior health service managers	1 review with 1 randomized and one non randomized trial. None of the interventions showed a significant effect on global evidence-informed decision making, tailored messages plus access to the online registry of systematic reviews showed a positive significant effect on public health policies and programs (3)	Main cost is setting up and maintaining registry and the process for selecting, appraising knowledge and tailoring and disseminating messages

Continued

Table 15 *(continued)*

Educational Meetings	Healthcare providers who have participated in conferences, lectures, workshops or traineeships.	Professionals	70 reviews identified. Of these, 2/6 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to generally effective whereas 3/6 reviews had mixed results. (Rx for Change Database) 81 randomized trials, median absolute improvement: 6.0% (inter quartile range 1.8% to 15.3%) (3)	Main costs are for developing teaching materials, instructors, and release time for learners
Educational outreach (academic detailing)	Use of a trained person who meets with providers in their practice setting to give information with the intent of changing the providers' practice.	Professionals	69 randomized trials, median absolute improvement: prescribing behaviors: 4.8% (inter quartile range 3.6% to 6.5%) (3) Other behaviors: 6.0% (inter quartile range 3.6% to 16.0%) (3)	Main costs are for developing teaching materials and for the detailers
Providing information or education	Strategies to enable consumers to know about their treatment and their health. Interventions include those to educate, provide information, or to promote health or treatment. Interventions can be provided to individuals or groups, in print or verbally, or face to face or remotely.	Consumers	4 reviews identified. Overall there is insufficient evidence to support the use of interventions that provide information or education as a single component to improve adherence, knowledge or clinical outcomes - they are generally ineffective (Rx for Change Database). Written information - 25 randomized trials, insufficient evidence to say whether written medicines information is effective in changing behaviors related to medicine taking (3)	Costs relate to development of materials and instructors- typically low cost
Acquiring skills and competencies	Strategies focusing on the acquisition of skills relevant to medicines use. Interventions aim to assist consumers to develop a broad set of competencies around medicines use and health, such as medicines management or monitoring; or training consumers in the correct use of treatments or devices to deliver treatment	Consumers	There is some evidence that strategies which focus on the acquisition of skills and competencies may improve adherence, medicines use and clinical outcomes, but results are mixed. (Rx for Change Database) Self-management programs-17 randomized trials, small (clinically insignificant) short-term improvements in pain, disability, fatigue and depression were found. Positive effects on confidence to manage and self-rated health were found. There was no effect on quality of life or use of health services (3)	Costs related to development of training materials, instructors, and professionals if ongoing contact with consumer involved

Continued

Table 15 *(continued)*

Local opinion leaders	Use of providers nominated by their colleagues as 'educationally influential'	Professionals	18 randomized trials, median absolute improvement: 12.0% (inter quartile range 6.0% to 14.5%) (3)	Costs related to identifying the opinion leader, training of the opinion leader and the opinion leader's time
Local consensus processes	Inclusion of participating providers in discussion to ensure that they agreed that the chosen clinical problem was important and the approach to managing the problem was appropriate.	Professionals	8 reviews that evaluated the effectiveness of local consensus process were identified and none were assessed as being of high quality or a key review. (Rx for Change Database)	Costs mainly related to professionals' time to be able to participate
Linkage and exchange	Connecting and developing of relationships between researchers and knowledge users for the purpose of collaboration or exchange	Policy makers and senior health service managers	1 review including 16 studies. Two factors emerged with some frequency as being important to policy makers' use of research evidence: interactions between researchers and policy makers in the context of policy networks such as advisory committees and in the context of informal relationships; and research that matched the beliefs, values, interests, or political goals and strategies of elected officials, social interest groups, and others. (3)	Costs mainly related researchers' and policy makers' time to engage, knowledge broker if one is involved, cost of research that may be conducted for policy makers
Consumer system participation	Strategies to involve consumers in decision making processes on medicines prescribing and use at a system level, such as in research planning, formulary and policy decisions.	Consumers	A single review indicates there is some evidence that medicines information materials developed with consumer involvement can increase knowledge and side-effect recognition, without increasing anxiety — they are generally effective. (Rx for Change Database)	Costs relate to consumers' time to participate
Reminders	Patient or encounter specific information, provided verbally, on paper or on a computer screen, which is designed or intended to prompt a health professional to recall information.	Professionals	59 reviews that evaluated the effectiveness of general reminders were identified. Of these, 2/2 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective. (Rx for Change Database) 28 randomized trials, computerized reminders-median absolute improvement 4.2% (0.8% to 18.8%) (3)	Cost varies across delivery mechanisms

Continued

Table 15 *(continued)*

Audit and feedback	Any summary of clinical performance of healthcare over a specified period of time.	Professionals	35 reviews that evaluated the effectiveness of audit and feedback were identified. Of these, 2/2 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective. (Rx for Change Database) 118 randomized trials, median absolute improvement 5% (inter quartile range 3% to 11%) (3)	Costs of data collection, analysis, and dissemination. Maybe less expensive is systems permit electronic mining of health records
Patient mediated	New clinical information (not previously available) collected directly from patients and given to the provider e.g. depression scores from an instrument.	Professionals	14 reviews that evaluated the effectiveness of patient-mediated interventions were identified. Of these, 1/2 high quality/key reviews with a sufficient number of studies to draw conclusions found this intervention to be generally effective. (Rx for Change Database)	Cost related to development of instruments/tools, data collection and analysis
Facilitating communication and decision making	Strategies to involve consumers in decision making about medicine. Interventions that aim to help consumers make decisions about medicines use, such as interventions for consumers to express their beliefs, values and preferences about treatment and care; communications with consumers about medicines use and related issues	Consumers	18 reviews were identified, 15 of high quality. While some individual strategies are promising, the evidence on strategies facilitating communication and / or decision making is mixed overall (Rx for Change Database) Decision aids - 86 randomized trials, improved knowledge and accuracy of risk perception; reduced the proportion of people who were passive in decision making; resulted in higher proportion of patients achieving decisions informed and consistent with their values; reduced the number of people remaining undecided; reduced decisional conflict; decreased the choice of major elective surgery in favor of conservative options (3) Personalized risk communications - 22 randomized trials, weak evidence, consistent with a small effect that personalized risk communication increases uptake of screening tests. (3) Communications before consultations - 33 randomized trials, increased question asking during consultation. They may also increase patient participation in consultation and improve patient satisfaction. (3)	Costs are variable and related to development and testing of decision aids, risk screening tools, development of process and staff to administer decision aids, council about risks or coach about communicating with professions. There may also be costs related to sustaining these strategies.

The OMRU model classifies interventions in 3 ways to reflect the different types of barriers (Graham & Logan, 2004):

- **Barrier Management** includes interventions aimed at the organization and system level.
- **(Knowledge) Transfer Strategies** are designed to ensure the adopters are aware of the innovation and have the skills required, e.g., decision support tools, education, communications, champions.
- **Follow-up interventions** are like 'booster shots' to augment earlier activities, particularly if the implementation period is lengthy as in the introduction of large scale or complex changes and to ensure continuity when there are changes in leadership, the implementation team or staff re-assignments.

FIELD NOTE: Examples of Implementation Interventions from Canadian Guideline Adaptation Study Cases

1. To prepare the practice setting for change, the task force actively engaged national and regional leaders and practitioners in reviewing new care protocols as part of achieving consensus on the recommendations - and as part of a strategic communications plan.

2. To keep target users informed of progress, the guideline Chair and steering committee members submitted abstracts and made presentations regarding the development of new care protocols at key professional conferences (e.g., national nursing association for specialty) They ensured any publications appropriately acknowledged regional input thereby paving the way for future regional endorsement.

3. To strengthen physician buy-in, the task force identified supportive MD champions and conducted joint presentations at specialty Medical rounds and section meetings. For this audience, they specifically emphasized the rigor of the guideline development process and consensus re: available evidence.

4. The task force worked with partners to manage a range of system and practice barriers, including a re-organization of dressing cart supplies as well as cart availability/access, purchase of new drugs and materials, purging of old inventory, streamlining and standardizing of patient information sheets (MD, RT, and RN) and MD orders.

The OMRU classification of interventions facilitates a systematic approach to building solutions. Groups find that most barriers require an integrated combination of solutions aimed at both the practice and system level, e.g., a guideline which changes the management of wound care may involve the cost and procurement of new prescriptions and dressing supplies, adjustments to patient referral patterns, changes in clinic schedules, revisions to professional scope of practice, skills training and education for practitioners and patients, a communications strategy, and a means to monitor the delivery of care across multiple regional sites.

Facilitating Collaboration

"[To create a culture of collaboration, the inherent challenges in historical and current forms of healthcare delivery must be understood" (Department of Health and Community Services Newfoundland and Labrador, 2006, p. 79).

New knowledge often demands re-thinking how, where, when, and by whom care is delivered. In one Canadian Adaptation Study Case, this involved adjusting current scope of practice within and between disciplines; in another, it meant developing evidence-informed protocols for a wide range of national remote service delivery models. These implementation teams made great efforts to consult front-line practitioners and managers in order to fully understand existing practice and system environments, discuss the evidence, gauge receptivity to change, and ensure active participation in implementation planning. It is not uncommon for groups to encounter traditional organizational structures or patterns of authority and autonomy that conflict with the new recommendations. These discussions can be challenging. Engaging stakeholders in constructive dialogue, and reaching consensus and confidence in the new direction requires skilled facilitation and leadership and an organizational culture which supports collaborative practice. Barrett, Dort and White (2006) describe five sustaining characteristics of effective collaborative practice as summarized in Table 16 (Department of Health and Community Services Newfoundland and Labrador, 2006).

Table 16: Elements of Successful Collaborative Practice

Patient Centered	to promote and support choice and partnership in care decision making
Coordination	a structured process with flexibility to adapt to the needs of the local team, community and the clients/patients served; defined collective goals and respect for each member's contribution
Communication	open and transparent processes which ensure timely, focused and relevant dialogue
Co-operation	shared decision-making and shared accountability that embraces a structured process which has a client/patient focus, a conflict resolution mechanism, respects professional autonomy, and enables the appropriate provider to deliver appropriate service at the appropriate time
Commitment	a shared understanding of the need to work inter-professionally and the presence of organizational support to foster collaboration

FIELD NOTE: Forming Strategic Alliances to Manage Barriers

In a Canadian Adaptation Study Case, working groups defined 12 barriers related to the innovation, adopter and practice environment, including: physician preferences, time constraints, knowledge deficits, motivation for changing practice, ensuring continuity between departments, sustaining change, home care buy-in, transition points (where patient accesses care), role clarity, documentation, patient education, and assessment and management support tools. In the months that followed, strategic alliances were formed with partners in Information Technology (Patient Records), Radiotherapy Technicians, Quality Assurance, Supplies & Acquisitions, and Home Care. Concerns were systematically explored, and a detailed plan for activating the new recommendations emerged. A core team met bi-weekly to monitor implementation progress. As the task force worked to solve the issues identified, they noticed a change in attitude across the organization toward the impending changes … *"the dialogue shifted from "we can't do this here" to "we have to do this here" to "how do we do this here."*

3.2 Test Solutions

As noted, barrier management and knowledge transfer are iterative processes requiring a structured process of enquiry (Harrison & Graham, 2012) and the active engagement of decision makers, clinicians and the implementation team. It is often necessary to test procedures, decision making algorithms, or training information and materials with relevant target users in controlled environments before making large scale changes.

PLANNING TIP

"How to Change Practice: Understand, Identify and Overcome Barriers to Practice"

The National Institute for Health and Clinical Excellence (NICE) published a practical guide to barriers assessment (December 2007). They detail several techniques for data collection and describe the advantages and potential disadvantages of each approach. This helpful guide is available at: http://www.nice.org.uk/Media/Default/About/what-we-do/Into-practice/Support-for-service-improvement-and-audit/How-to-change-practice-barriers-to-change.pdf

FIELD NOTE: Usability Testing Tactics

To standardize best practice in the remote assessment, triage, and management of cancer-treatment induced symptoms, one group embedded evidence in a 2-page tool to be used at the point of care. They structured several usability tests to refine the content and format of their patient questionnaire template. Because this assessment and triage decision tool was fundamental to providing evidence-informed care, the guideline panel made a concerted effort to optimize the format of the document(s).

- A small test, using one symptom protocol, was conducted in a cancer clinic population sample. An observer noted feedback from the nurse and patients involved in the test.
- A Usability Questionnaire was designed to capture feedback from a larger sample, including 6 front-line staff and 6 members of the original guideline steering committee.
- At a national implementation planning workshop, stakeholders including practitioners, worked on several symptom protocols in "role-playing" scenarios (provider –patient) as an exercise to further refine the use of the tool.
- As they submitted new (added) symptom protocols to their Steering Committee for review, they formally asked committee members to use the documents in role-plays or with patients experiencing the identified symptom.

All feedback was documented and reviewed. Some barriers were noted; target users expressed concerns related to strength of evidence, access to evidence, structure/format of the tool, e.g., clarity of language, ease of use, practicality, and need for training. These tests greatly assisted the task force to improve the tool, organize support and training, and increase the level of user acceptance.

FIELD NOTE: Knowledge Activation - the *stealth* factor

As groups solve problems and achieve incremental success in aligning the new recommendations with local contexts, they move into the knowledge activation stage of the KTA Application Cycle. Here, implementation team members detect a gradual but distinct shift in thrust which has been described as changing from coordinating a push to responding to a pull from the organization. They witness a growing awareness and note the strength of informal, word of mouth circulation of information. Descriptions have included information seepage, infiltration, tentacles, being infected, it starts to have a life of its own, and dissemination by stealth. Remarked one observer, "it's like the guidelines are metastasizing."

One implementation team noted that their culture was predominantly social and the preferred communication method, verbal. "This is an organization of dialogue. People don't read emails … talking is the way to get things done." Effective facilitation at this site involved keeping written communication concise (bullet points), creating ample opportunities to discuss changes, and actively listening to the voice of the organization.

Check your Progress …

PHASE 2: SOLUTION BUILDING, Steps 1-3

DECISIONS

- ✓ Are the adapted guideline and application tools complete?
- ✓ Has the guideline been endorsed by stakeholders?
- ✓ Are the necessary leadership, authority and resources in place to implement the guideline?
- ✓ Have the recommendations (guideline), adopters (practitioners, patients, and administration) been thoroughly reviewed to identify and prioritize barriers and supports to implementation?
- ✓ Has a solution been determined to manage each identified barrier to implementation?
- ✓ Have strategies/tactics been determined for knowledge transfer/dissemination?
- ✓ Have these strategies/tactics been tailored to each user group and site affected by the new recommendations?

OUTPUTS

- ✓ Appropriate/necessary authorities and resources for implementation in place and implementation work plan established
- ✓ Completion of Gap Analysis (assessment of current vs. desired practice and system)

- ✓ Information gathering and analysis of innovation, adopter and practice environment
- ✓ barriers and supports
- ✓ Selection and tailoring of implementation interventions
- ✓ Usability testing

TOOLS

P2S1 Developing the Implementation Work Plan - a Template (Appendix 14)

P2S2 Activating Guideline Recommendations: Template for implementation planning (Appendix 15)

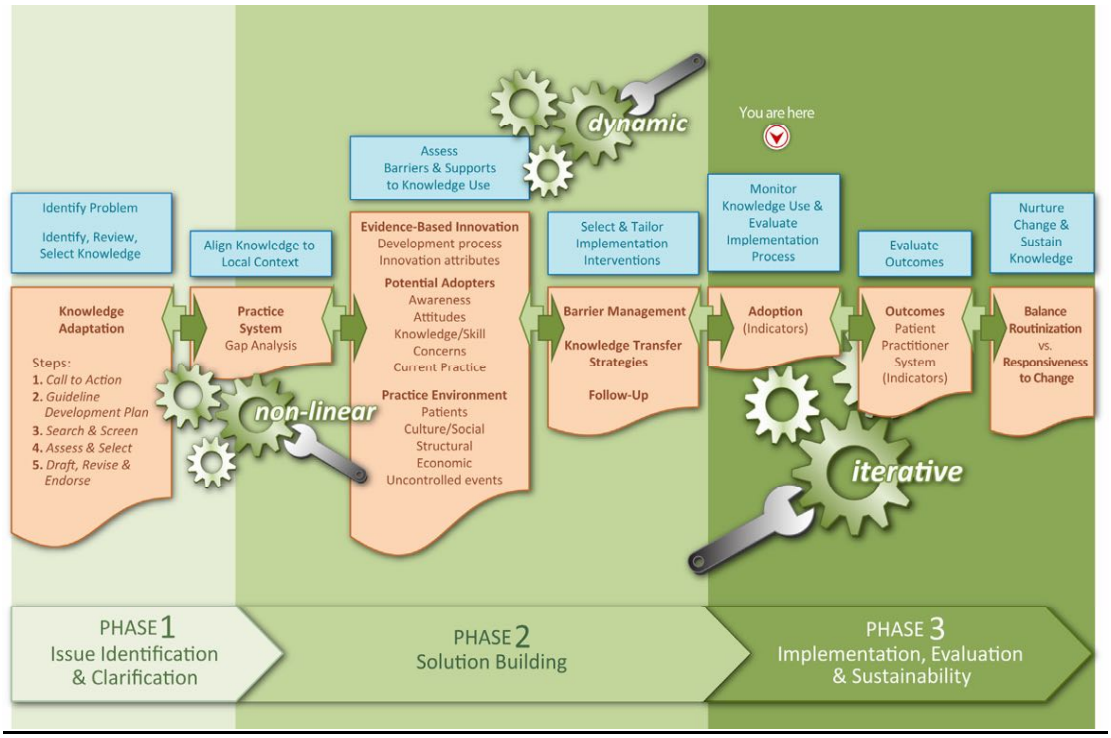
ADDITIONAL RESOURCES

P2S2 Discussion of Potential Barriers and Facilitators (Appendix 16)

CHAPTER 5

PLANNING TO MONITOR UPTAKE, EVALUATE IMPACT and SUSTAIN USE OF KNOWLEDGE

In PHASE 3, groups plan to evaluate both the level of evidence uptake and the impact of the new recommendations for care on the intended patient population, healthcare providers and organization.



In PHASE 3, groups develop evaluation strategies to determine the level of evidence uptake. This is a form of process evaluation. As well the impact of using the new recommendations for care should be measured, that is, an evaluation of outcomes. By understanding the extent and fidelity of guideline use, the implementation team will be able to a) focus and augment support as needed to encourage consistent use of best practices, and b) accurately account for resulting improvement in patient, practitioner and system outcomes. To nurture and sustain best practice, groups may need to plan for scaling up implementation from a pilot or demonstration project. They must continue to integrate changes into system routines while at the same time remain alert to emerging/new evidence and any differences in their adopters and/or practice environment which occur over time.

Action:

Once the new/adapted guideline is activated, groups will need to address two fundamental questions:

1. Are the guideline recommendations being followed, and
2. Does using the guideline make a difference?

An evaluation plan is required which specifies the evaluation period, defines a target usage threshold, and outlines the indicators and measurement strategies that will be used. The

evaluation plan will help identify where follow-up or 'booster' implementation interventions may be needed to nurture and sustain guideline use and point-of-care evidence update.

Sustaining a change in practice will require ongoing monitoring of both process and outcomes, including attention to the guideline renewal plan established in PHASE 1. These activities ideally are aligned with established quality improvement approaches.

PHASE 3, Step 1: Monitor knowledge use and evaluate implementation process

Once implementation is happening, effort must be focused on finding ways to monitor the knowledge use and assess the effectiveness of the implementation interventions. As has been noted by others, this is a collaborative effort with the existing context.

"Strategies for evaluating knowledge implementation should use explicit, rigorous methods and should consider qualitative and quantitative methodologies" (Straus et al. 2013, p. 227).

> Formulating an action plan based on the best available scientific evidence with clearly defined and measurable outcomes is an essential component of a quality improvement initiative. Institutional leadership, support, and staff accountability are critical factors that enhance the implementation process and promote the sustainability of quality improvement initiatives. The healthcare provider of the 21st century should possess a variety of skills and strategies essential to be the catalyst for quality improvement. (Clutter et al., 2009, p. 283)

Link to Existing Quality Improvement Mechanisms

Implementing new guidelines can present an increased workload for practitioners at the outset. The associated monitoring tasks may be perceived as an added burden and developing valid, reliable assessment mechanisms is in itself a challenge. Groups should consider their organizational capacity to conduct these important assessments and try to keep the evaluation program as simple as possible.

There is a strong link between implementation action planning and quality improvement approaches. Most guideline handbooks recommend consulting with existing quality improvement teams to coordinate and optimize available resources and mechanisms. While reports are mixed, research in guideline implementation indicates that the quality process of Audit and Feedback may have some influence on guideline adherence. Advocates for quality guideline development now suggest that guidelines be written to include indicators to measure adherence. Providing real-time feedback on the impact of practice change based on guideline driven care will inform frontline providers and managers with concrete data to help sustain the practice changes.

Many excellent resources are available to support quality improvement planning. The (US) National Quality Measures Clearing House (National Quality Measures Clearinghouse, 2014) provides several on-line tutorials that describe the attributes, selection, use, and validity of quality measures) and the Joanna Briggs Institute (Australia) offers an on-line audit tool called PACES (Practical Application of Clinical Evidence System) (The Joanna Briggs Institute, 2014), part of a suite of applications which assist subscribers to plan and implement evidence-informed practice.

Evaluation Period and Plan

Target threshold

Once a guideline is launched, a period of transition or wash-out occurs in which previous care practice(s) diminish and the new, evidence-informed routines become established. Depending on the scale and complexity of the guideline recommendations and local circumstances, the time needed for the transition could be a very short or require many months. It is vital to make a

best guess at this timeframe, considering contextual factors. The license to proceed (as one Canadian group characterized their start date) should be coordinated with practitioners and respect existing schedules, clinical demands, and system constraints. Groups may decide to restrict start-up to a demonstration or pilot project, limit changes to a specified subset of a comprehensive set of recommendations, or phase in work units or regions sequentially. In other cases, the decision may be to proceed with a system-wide implementation.

There is no right or wrong way; the scale of activation and what is feasible and acceptable will depend on the nature and number of recommendations and the local context. For example, if undertaking the necessary education, resource and documentation changes for full guideline implementation is too much to manage all at once, a roll-out plan may be aligned with the process of care, starting with the assessment recommendations closely followed by the management recommendations. In every case, the evaluation strategy should chart when recommendations are put into practice.

In order to measure the impact of the new knowledge/evidence uptake, it is important to first define a target threshold and then monitor when it has been achieved. An accurate evaluation of outcomes cannot be undertaken until the target threshold is reached. Otherwise it is unclear what is actually being evaluated. Being able to quantify the level of guideline uptake minimizes the risk of associating poor outcomes with evidence-informed care in cases where in fact it is guideline uptake or adherence that is poor.

This threshold could be stated in a number of ways subject to the scope and context of the guideline, but the indicators should always be specific and measurable. For example after receiving a referral for leg ulcer care, 90% of patients referred from primary care receive an evidence-informed assessment visit in their home by the community wound care team, or 85% of new patients seen at Clinic A received training in self-care of symptoms according to guideline recommendations during (specified) period. In these examples, modifying the health record to include a notation of the assessment time or education/counseling would assist in a subsequent chart audit.

Implementation Process Assessment

Groups can determine a wide range of measurement objectives ranging from the degree of fidelity of guideline implementation to an economic evaluation of time and cost factors. It may be useful to distinguish short, medium, and long term goals. Ideally, the evaluation plan incorporates an assessment of both structure (e.g., facilities, equipment) and process (e.g., applied knowledge, skills, actual practice). The Registered Nurses Association of Ontario advises: “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” (Registered Nurses’ Association of Ontario, 2012, p. 94). Based on Donabedian’s (1980) framework which categorizes quality indicators into three main types: structure, process, and outcome, the RNAO provides several examples of measures of knowledge use and impact, as well as strategies for data collection and possible sources of data (Registered Nurses’ Association of Ontario, 2012). Straus and colleagues (2013) summarize measures of knowledge use and describe impacts as shown in Table 17.

Multiple indicators (qualitative and quantitative) may be useful to fully reflect implementation of the recommendations. Quantitative indicators typically express a ratio, percentage, comparison or number and qualitative indicators describe a change in state or situation. For example, in monitoring use of new recommendations for wound care, the following information could be collected:

Table 17: Measures of knowledge use and impact of knowledge use

Construct	Description	Examples of Measures	Strategy for Data Collection
Knowledge use			
▪ Conceptual	Changes in knowledge levels, understanding or attitudes	Knowledge attitudes; intentions to change	Questionnaires, interviews
▪ Instrumental	Changes in behavior or practice	Adherence to recommendations (e.g. change in prescribing, adoption of a new nursing practice or abandonment of existing practice)	Administrative database or clinical database
Outcomes			
▪ Patient	Impact on patients of using/applying the knowledge	Health status (morbidity or mortality); health related quality of life; satisfaction with care	Administrative database, clinical database, questionnaires
▪ Provider	Impact on providers of using/applying the knowledge	Satisfaction with practice; time taken to do new practice	Questionnaires, interviews
▪ System/society	Impact on the health system of using/applying the knowledge	Costs; length of stay; waiting times	Administrative database, clinical database

- 80% of patient attending community clinics with wounds in a 3 month period (specified) were treated as outlined in guideline.
- Chart audit (conducted during specified period) demonstrated 75% completion of patient assessment and treatment forms by responsible (specified) providers.
- Site inspections (conducted during specified period) at A, B, C facilities indicate dressing carts were accessible and appropriately supplied with materials.
- Patients have received their wound self-care information.

A formative process

When groups begin to monitor the use of the guideline, more details inevitably surface about the innovation (evidence-informed change in practice), the adopters, and/or the practice environment. In a complex set of recommendations, many factors may impact uptake, including: unanticipated gaps or barriers in practitioner knowledge, skills or attitudes, issues around workload, accessibility of needed resources, patient access, system constraints, etc.

This is a very active period during which your evaluation team may often revisit the implementation plan and work closely with those at the point-of-care to develop solutions. The reality of guideline implementation is that alignment with the practice context is an organic process that requires a high level of agility and flexibility to deal with practical, day-to-day issues. Left unaddressed, these issues could potentially sabotage the effort. A structured evaluation of the implementation process itself will help groups continue to identify barriers and facilitators to implementation and inform any modification or augmentation of implementation interventions that may be needed.

PHASE 3, Step 2: Evaluate Outcomes

"The only way to know if an innovation is an improvement is to measure its impact. Done correctly, measurement will let you monitor the implementation process, early results, and ultimate outcomes of the innovation. Remember the adage, 'What gets measured, gets done'"(Agency for Healthcare Research and Quality, 2008, p.51).

Once a threshold level of guideline use has been achieved, groups can begin to determine the impact of the intended practice improvement. Groups will need to establish a set of 'Indicators' to describe whether the changes in practice are making a difference. Writing meaningful indicator statements is a challenging task.

Methods: Indicators

To begin, it is advisable to review existing practice as documented in your PHASE 2 environmental scan and gap analysis tasks. This information proves useful in identifying relevant indicators for both guideline uptake and outcomes. For example, in the wound care in community clinics, gathering information about occurrence, onset, and severity of wounds, number of patient visits, details of practice interventions and resource use, history of patient adherence, satisfaction, and complications provided concrete areas to develop context relevant indicators and baseline data to measure against.

The OMRU Model (Logan & Graham, 1998; Logan & Graham, 2010) organizes outcomes in a Patient, Practice and System framework and advises that groups should also stay alert to possible unintended benefits, e.g. improvement in inter-professional relationships, levels of patient or practitioner satisfaction, empowerment, confidence, resource or system efficiencies.

An evaluation plan also describes the formal and/or informal measures to be used to track these indicators, such as, pre-and post-guideline patient and/or practitioner surveys, chart audits, focus groups, and other feedback mechanisms. Straus et al. 2013, provide the following examples:

- The impact of knowledge use on *patients* can be measured by change in health status (morbidity or mortality) and quality of life using secondary analysis of administrative or clinical databases, their length of stay and satisfaction with care by using questionnaires and administrative or clinical databases.
- The impact of knowledge use on *care providers (practice)* can be measured by satisfaction with practice and time taken for the new practice through questionnaires and interviews.
- The impact of knowledge use on the *organization (system)* can be measured by changes in the healthcare system such as wait lists, length of stay and costs through secondary analysis of administrative or clinical databases.

A combination of qualitative and quantitative indicators may be useful to fully reflect the impact of implementing a change in practice. In the example of guideline driven care for management of radiotherapy-induced skin toxicities, measureable outcomes could include:

For Patient:

- Wound severity/complications (defined) were reduced by 40 % in (specified) period.
- Patients report feeling confident in their self-care.

For Practice/Providers:

- Practitioner surveys (conducted during specified period) indicate 85% satisfaction with: access to guideline … information/training … supplies … documentation tools … (define each parameter).

For Organization/System:

- Dressing supply costs were maintained within budget during (specified) period.

Methods: Data Collection

For each indicator, it is necessary to determine who, where, how and when you will obtain the information. The Canadian Medical Association describes the following data collection techniques (Davis et al., 2007):

- medical record audit, by chart review or using electronic records
- health practitioner survey/questionnaire/interview
- patient survey/questionnaire/interview
- database (e.g., medical billing information)
- log books/department record/register (e.g., register of presentations to the emergency department)
- encounter chart/request slips/diary (e.g., laboratory tests, diary kept for the study data collection)
- other (e.g., results of blood tests, clinical examination).

For more discussion of sources of data and methods to assess knowledge use and evaluate its impact, see Hakkennes and Green (2006) and Godfrey and colleagues (2010). The following evaluation examples are provided in the CMA Handbook (Table 18).

Table 18: CMA Evaluation design examples

An observational CPG evaluation	**A CPG process evaluation**
Müller and others conducted a prospective before - and-after study to determine the effectiveness of a 1-page flow chart in reducing the use of blood transfusion in patients undergoing hip and knee replacement surgery. The flow chart, developed by hospital physicians and nurses and endorsed by local chief physicians, was widely distributed, presented to nurses and physicians during small-group teaching sessions that emphasized local "ownership" and responsibility and enclosed in patients' charts. Following this intervention, the proportion of patients receiving blood after total joint replacement dropped by more than 40%, with a concomitant reduction in costs. The authors attribute the effectiveness of the flow chart to simplicity, wide distribution, no requirement for major changes, endorsement by local opinion leaders and sense of ownership.	Flottorp and colleagues conducted a process evaluation to determine why their tailored intervention to support the implementation of a CPG for the management of urinary tract infections and sore throat had little effect on the main outcomes. They used observations, semi-structured telephone interviews, a postal survey and data from electronic medical records to evaluate how the interventions were received and to understand why practices did or did not change. They found that 63% of the general practices agreed with the CPG, only 35% reported having regular meetings and 33% discussed the project before its start, although 75% reported agreement about participating within the practice. Only 33% reported meeting to discuss the CPGs. Use of the various components of the interventions ranged from 11% to 48%. The authors concluded that no single factor explained the observed variation in the extent of change across practices and that inadequate time, resources and support were the most salient factors that might explain the lack of change.

FIELD NOTE: Measuring Guideline Outcomes

Many of our implementation groups required several months to generate, prioritize, and clearly articulate desired outcomes. Guideline task forces reviewed gap analysis data, held workshops with front line practitioners and managers and met frequently with stakeholders in a collaborative process to isolate the most important outcomes from the perspective of the patient, practitioner and organization. In an evaluation plan, one group clustered and classified a long list of objectives by domain, in this case: Patient, Provider, and System. Concerns about the care process were incorporated in the Provider domain. They drafted key questions and determined appropriate measurements/indicators for each outcome. The plan also outlined data collection methods, including the use of existing mechanisms (e.g. chart audit data and anecdotal information from regular staff "huddles") and added tools (e.g. design of new Patient and Provider surveys, and the arrangement of Patient and Staff focus groups). The task force summarized pre-guideline status as much as possible against the selected parameters and created a pre-post guideline comparison chart to document changes.

PHASE 3, Step 3: PLANNING TO NURTURE CHANGE & SUSTAIN KNOWLEDGE USE

Sustainability is "the degree to which an innovation continues to be used after initial efforts to secure adoption are complete"(Rogers, 2005, p.429).

Our experience has been that multiple factors contribute to sustainability and that, like implementation itself, it is an organic process of trial and error. Sustainability has been aptly described as "not an all or nothing phenomenon" (Davies & Edwards, 2013, p. 244-5). Davies & Edwards describe six key factors: health needs and expected benefits; effectiveness of the system to monitor progress; adaptability and alignment of improved process; multi-level and collective leadership; financial and human resources; community and stakeholder support.

The National Health Service (NHS UK) has developed a Sustainability Model and Guide consisting of 10 factors (Table 19) (National Health Service, 2010) relating to process, staff and organization that play an important role in sustaining change in healthcare. Multiple criteria for self-assessment are provided for each factor:

Table 19: NHS Model – 10 factors related to sustaining change

Process	Staff	Organization
▪ Benefits beyond helping patients ▪ Credibility of the evidence ▪ Adaptability of improved process ▪ Effectiveness of the system to monitor progress	▪ Staff involvement and training to sustain the process ▪ Staff behaviors toward sustaining the change ▪ Senior leadership engagement ▪ Clinical leadership engagement	▪ Fit with organizational strategic aims and culture ▪ Infrastructure for sustainability

Research in the sustainability of guideline use is limited although there are frameworks, tools and a large body of work in the public health sector with respect to the sustainability of health promotion initiatives. The information provided here is gathered from several commonly cited sources and readers are encouraged to review published research in this area.

Routinization

It is useful to consider the extent to which you may assess the sustainability. Although not specific to guidelines, four degrees of program sustainability in organizations have been described which can be related to evidence implementation through guidelines (Pluye et al., 2004):

- The absence of sustainability. The program is not sustained; no ongoing activity comes out of it.
- Precarious sustainability. The program is sustained, but the future of its status is uncertain. Actors maintain some residual activities on an informal basis as part of their functions in the organization, but this is completely unrelated to the program. The continuation of these activities depends entirely on the initiative of these actors.
- Weak sustainability. The program is sustained but remaining activities are weakly maintained. Official activities result but they are not routinized. These activities may be subject to radical changes in the short term.
- Sustainability through routinization. The program is sustained, activities have resulted from it, and they have been routinized.

Routinization is demonstrated in several ways including, the investment in and stabilization of organizational resources needed to complete activities such as equipment or staff turnover; the technical or practical compatibility of the activities with those of the organization (vs. disruption of the operating workflow); the integration of rules relative to the activities into those of the organization; and fit with organizational objectives. Such characteristics can be used to construct a template for monitoring sustainability of a guideline implementation in a particular context. In the wound care after radiation example, information about how the recommendations for care are embedded in the day-to-day practice and policies of relevant outpatient clinics, how the use of supplies has been rationalized to avoid waste across multiple clinics, and whether discharge/transition plans for care received elsewhere incorporate use of the best practice evidence/recommendations will gauge the level of routinization.

Adapting to Changes - Being Responsive

Successful implementation of best practices requires that recommendations become embedded and maintained in organizational routines. However, emerging evidence or changes in the target population, providers or system can demand adjustments to these newly established routines. Groups will need to balance establishing new routines with continuous adaptation to change. Sustainable best practice does not rest on a single factor or strategy but relies on an integrated approach and continuous feedback. The OMRU Model used in PHASE 2 provides a useful structure for monitoring changes in the innovation (guideline recommendations), the adopters and the practice environment.

Innovation:

PHASE 1, Step 5 stresses the importance of being responsive to new knowledge and keeping guideline recommendations current. In Step 5.5, groups prepare a ‘Renewal Plan’ for the adapted guideline. Typically, many months will have passed between the endorsement of the guideline and full activation of the new recommendations. A scheduled review and systematic

process is required to ensure recommendations are current and effectively updated as required.

Adopters:

It may be necessary to monitor and manage patient and/or staff factors, including changes in the target population (e.g. nature, number, access, severity of illness, issues of patient compliance), orientation of new or satellite staff, staff responsibilities/accountabilities, and changes in organizational or clinical leadership.

Organization:

System changes can also impact the sustainability of new practices, e.g., changes in legislation, policy, strategic vision or aims, economic constraints, technological advances, changes in infrastructure or jurisdiction. Re-structuring of the service setting or changes to reporting channels can have a major impact on implementation activities and outcomes.

Groups scaling up implementation from a previous pilot activation of a guideline will need to be especially attentive to potential differences in the adopters and organizational factors at additional sites.

Facilitation

One facilitator described their experience during this phase as sometimes putting the cart before the horse, i.e., adopters would run ahead with implementation elements prior to getting a baseline on current practices, in advance of application tools in development, and before education sessions were completed. PHASE 3, like the previous phases of guideline adaptation and implementation, is a very dynamic period. Maintaining enthusiasm and momentum is critical to sustaining the new practice. However, balancing the push and pull of a myriad of adopter and system forces demands a systematic approach, continued investment by organizational and clinical leaders, and – as throughout the entire process – skilled facilitation.

FIELD NOTE: Monitoring adopter (staff, patient) knowledge, attitudes and skills

As one of our groups discussed current and desired practice outcomes, they realized they had several gaps in their existing data. Of particular interest to the group was a lack of information about the current knowledge, attitudes and skills of both the care providers and the patients. Although concerns were raised about surveying an already "*over-surveyed*" staff, the group felt that post guideline implementation data (via survey) was important to help them understand any changes in these attributes and how this might influence both guideline compliance and outcomes.

As the survey evolved, it became formally integrated with quality improvement activities and linked to accreditation standards for the organization. A plan was devised which included a baseline assessment, followed by education sessions and a repeat measure in the months ahead.

Building Capacity

In a debriefing and final evaluation forum with a number of implementation groups in the Canadian Guideline Adaptation Study Cases, participants offered a number of pertinent insights particularly for those just starting to formally undertake implementation. Steering committee chairs and working panel representatives unanimously indicated that by planning for

systematic guideline adaptation and implementation, they had achieved significantly greater individual and organizational capacity for providing evidence-informed care. Participants commented on the groundswell of talk, activity, thinking about evidence-based practice and the synergies and trickle-down effects on other projects that occurred. They valued these as culture changing in their organizations, in particular the educational and professional development outcomes. They learned that a culture dedicated to practice development is integral to the successful adaptation, implementation and sustainment of practice guidelines. Nearly everyone in these groups embarked on subsequent guideline adaptation and implementation initiatives and used the skills and tools they had received and helped to create over the course of the first implementation.

TIP: CELEBRATE!

Remember to acknowledge your many achievements as you navigate the knowledge-to-action path. The AHRQ advises groups to consider performance incentives, morale boosters, and celebrations of success to reinforce desired changes (Agency for Healthcare Research and Quality, 2008).

Check your Progress …
PHASE 3: IMPLEMENTATION, EVALUATION and SUSTAINABILITY

DECISIONS

- ✓ Are evaluation efforts linked to existing Quality Improvement mechanisms and resources?
- ✓ Has a specified target threshold of guideline use been achieved; is guideline effectively embedded in practice and system routines?
- ✓ Do implementation strategies/activities need to be modified or augmented to reinforce/improve uptake?
- ✓ Is use of the (new) guideline recommendations demonstrating a positive impact on patient, provider and system?
- ✓ Are the recommendations and supporting evidence current?
- ✓ Has guideline been adapted since implementation to reflect significant changes in evidence (innovation), practice, and/or system?

OUTPUTS

- ✓ Evaluation Plan
- ✓ Assessment of guideline *Uptake* (target threshold use) using specified indicators
- ✓ Assessment of guideline *Outcomes:* patient, practice (provider) and system using specified indicators
- ✓ Modification and/or augmentation of implementation strategies/activities
- ✓ Sustainability Plan
- ✓ Planned monitoring and response to changes in evidence (innovation), practice and/or system

EPILOGUE

CAN-IMPLEMENT© AND THE JOANNA BRIGGS INSTITUTE'S STRATEGY FOR STRENGTHENING THE TRANSLATION OF EVIDENCE INTO ACTION

CATALIN TUFANARU, RESEARCH ASSOCIATE, THE JOANNA BRIGGS INSTITUTE
SCHOOL OF TRANSLATIONAL HEALTH SCIENCE, UNIVERSITY OF ADELAIDE

The last five chapters have described CAN-IMPLEMENT©, a practical approach and methodology for adapting guidelines and initiating the planning stage for implementing recommendations. CAN-IMPLEMENT© is a detailed map for the journey to evidence implementation and expands upon the ADAPTE process. Based on case studies it was modified and further developed to be comprehensive yet user-friendly.

Internationally, a number of organizations focus on advancing the movement of evidence into practice. One such body is the Joanna Briggs Institute (JBI) whose mission encompasses the synthesis and implementation of evidence for practice. In this chapter the approach and strategies developed at JBI are outlined and illustrate how CAN-IMPLEMENT© steps and phases contribute to achieving JBI's CLARITY framework.

A scientific basis to implementation

JBI developed a framework for implementation science that draws upon "the best available evidence regarding dominant theories about organizational systems, change management, knowledge translation, translation research, and implementation science" (School of Translational Health Science and The Joanna Briggs Institute, 2014, p.14). The JBI implementation framework is comprised of three governing principles and a seven-step process identified by the acronym CLARITY.

Governing principles

The three governing principles of the framework for effective and sustained implementation of the best available evidence into policy and practice are:

- understanding the culture
- capacity building of both individuals and organizational systems
- supporting, reinforcing and sustaining infrastructure (School of Translational Health Science and The Joanna Briggs Institute, 2014).

Key to successful implementation is the understanding of culture is it is part of the context and inextricably linked to values, norms and expectations of groups and individuals and may influence how decisions are made. Because implementation is a group effort, building the capacity of individuals, teams, units and/or the organization as a whole may be required. Attention must also focus on infrastructure in order to routinize the evidence use in the day-to-day practice.

In the framework seven steps guide implementation. These steps follow a sequence and are iterative (School of Translational Health Science and The Joanna Briggs Institute, 2014):

1. **C**larify the question being asked (the need for change is justified);
2. **L**eadership support (informing and persuading leadership of the need for change);

3. **A**ssess existing patterns and behaviors surrounding the question (understand how and why people do what they do; power relations at play);

4. **R**eview existing evidence and potential barriers (critically appraising the research publications; gaps of the current practice; identification of potential barriers to changing practices);

5. **I**mplement the needed changes;

6. **T**imed re-assessment of implemented changes;

7. **Y**early review to assess the impact and sustainability of the implemented changes.

There are a number of similarities between CLARITY and the CAN-IMPLEMENT© approaches as outlined in Table 20. Additionally, CAN-IMPLEMENT© provides a number of helpful tools to enact the steps.

Table 20: Comparison of JBI CLARITY cycle of evidence implementation and CAN-IMPLEMENT© phases and steps

	CAN-IMPLEMENT©		
JBI Strategy JBI CLARITY cycle of evidence implementation	**Phase 1. Identification and Clarification of the Practice Issue/Problem**	**Phase 2. Planning for Solution Building**	**Phase 3. Planning for Implementation, Evaluation and Sustainability**
Clarify the question being asked	Step 1. Call to Action Step 2. Plan – Establish guideline scope, working panel, and work plan		
Leadership support	Step 1. Call to Action Step 2. Plan – Establish guideline scope, working panel, and work plan	Step 1. Align knowledge to local context Step 2. Assess the innovation, adopters and practice environment for barriers and supports Tools Developing the implementation Work Plan Tools Activating Guideline Recommendations – a template for implementation planning	Step 1. Monitor knowledge use and evaluate implementation process Step 3. Planning to nurture change and sustain knowledge use

Continued

Table 20 *(Continued)*

		Tools Discussion of Potential Barriers and Facilitators	
Assess existing patterns and behaviors surrounding the question	Step 1. Call to Action Step 2. Plan – Establish guideline scope, working panel, and work plan	Step 1. Align knowledge to local context Step 2. Assess the innovation, adopters and practice environment for barriers and supports Step 3. Select and tailor implementation interventions Tools Developing the implementation Work Plan Tools Activating Guideline Recommendations - a template for implementation planning Tools Discussion of Potential Barriers and Facilitators	Step 1. Monitor knowledge use and evaluate implementation process Step 3. Planning to nurture change & sustain knowledge use
Review existing evidence and potential barriers	Step 1. Call to Action Step 3. Search and Screen – discovering relevant guidelines and evidence Step 4. Assess and Select – Appraising evidence and reaching consensus on recommendations Step 5. Draft, Revise and endorse recommendations	Step 1. Align knowledge to local context Step 2. Assess the innovation, adopters and practice environment for barriers and supports Tools Discussion of Potential Barriers and Facilitators	Step 1. Monitor knowledge use and evaluate implementation process Step 3. Planning to nurture change and sustain knowledge use

Continued

Table 20 *(Continued)*

Implement the needed changes	Step 2. Plan – Establish guideline scope, working panel, and work plan Step 5. Draft, Revise, and Endorse recommendations	Step 1. Align knowledge to local context Step 2. Assess the innovation, adopters and practice environment for barriers and supports Step 3. Select and tailor implementation interventions Tools Developing the implementation Work Plan Tools Activating Guideline Recommendations – a template for implementation planning Tools Discussion of Potential Barriers and Facilitators	Step 1. Monitor knowledge use and evaluate implementation process Step 3. Planning to nurture change and sustain knowledge use
Timed re-assessment of implemented changes	Step 2. Plan – Establish guideline scope, working panel, and work plan	Step 2. Assess the innovation, adopters and practice environment for barriers and supports Tools Discussion of Potential Barriers and Facilitators	Step 1. Monitor knowledge use and evaluate implementation process Step 2. Evaluate outcomes Step 3. Planning to nurture change and sustain knowledge use

Continued

Table 20 *(Continued)*

Yearly review to assess the impact and sustainability of the implemented changes	Step 2. Plan – Establish guideline scope, working panel and work plan	Step 2. Assess the innovation, adopters and practice environment for barriers and supports Tools Discussion of Potential Barriers and Facilitators	Step 1. Monitor knowledge use and evaluate implementation process Step 2. Evaluate outcomes Step 3. Planning to nurture change and sustain knowledge use

In conclusion, CAN-IMPLEMENT© nicely complements and provides the tools to operationalize the JBI CLARITY framework.

References

ADAPTE Collaboration. (2007). The ADAPTE Resource Toolkit for Guideline Adaptation Version 1.0. Retrieved June 17, 2014, from http://www.g-i-n.net/document-store/working-groups-documents/adaptation/adapte-resource-toolkit-guideline-adaptation-2-0.pdf

ADAPTE Collaboration. (2009). The ADAPTE Process: Resource toolkit for guideline adaptation. Version 2.0. Retrieved June 17, 2014, from http://www.g-i-n.net/document-store/working-groups-documents/adaptation/adapte-resource-toolkit-guideline-adaptation-2-0.pdf

Agency for Healthcare Research and Quality. (2008). Will It Work Here? A Decision maker's Guide to Adopting Innovations. Retrieved June 17, 2014, from http://www.innovations.ahrq.gov/guide/InnovationAdoptionGuide.pdf

AGREE Collaboration. AGREE Enterprise website. Retrieved June 17, 2014 from http://www.agreetrust.org/

American Heart Association. (2010). Methodology Manual for ACCF/AHA Guideline Writing Committees. Retrieved June 17, 2014, from http://my.americanheart.org/idc/groups/ahamah-public/@wcm/@sop/documents/downloadable/ucm_319826.pdf

Australian Centre for Posttraumatic Mental Health (2007). Australian Guidelines for the Treatment of Adults with Acute Stress Disorder and Posttraumatic Stress Disorder: Practitioner Guide. Retrieved June 17, 2014, from http://www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/mh15.pdf

Barwick, M. A., Boydell, K. M., Stasiulis, E., Ferguson, H. B., Blase, K., & Fixsen, D. (2005) Knowledge transfer and evidence-based practice in children's mental health. Chapter 5: Best practices for transfer and implementation of evidence-based practices. Toronto, ON: Children's Mental Health Ontario.

Black, N., Murphy, M., Lamping, D., McKee, M., Sanderson, C., Askham, J., & Marteau, T. (1999). Consensus development methods: A review of best practice in creating clinical guidelines. Journal of Health Services Research and Policy, 4(4), 236–248.

Brook, R. H. (1994). The RAND/UCLA appropriateness method. In K. A. McCormick, S. A. Moore, & R. A. Siegal (Eds.) Clinical Practice Guidelines Development: Methodology Perspectives, Rockville, MD: US Department of Health and Human Services.

Brouwers, M. C., Kho, M. E., Browman, G. P., Burgers, J. S., Cluzeau, F., Feder, G., …Zitzelsberger, L. (2010). AGREE II: Advancing guideline development, reporting, and evaluation in healthcare. Preventive Medicine, 51(5), 421–424.

Brouwers, M. C., Somerfield, M. R., & Browman, G. P. (2008). A for effort: Learning from the application of the GRADE approach to cancer guideline development. Journal of Clinical Oncology, 26(7), 1025–1026.

Cabana, M. D., Rand, C. S., Powe, N. R., Wu, A. W., Wilson, M. H., Abboud, P. A., & Rubin, H. R. (1999). Why don't physicians follow clinical practice guidelines? A framework for improvement. Journal of the American Medical Association, 282(15), 1458–1465.

Canadian Institutes of Health Research. (2014). More about knowledge translation

at CIHR. Retrieved June 17, 2014, from http://www.cihr-irsc.gc.ca/e/39033.html

Canadian Partnership Against Cancer Corporation. (2014). Canadian Partnership Against Cancer Corporate Website. Retrieved June 17, 2014, from http://www.partnershipagainstcancer.ca/

Canadian Partnership Against Cancer Formal Consensus Using a Modified Delphi Approach. Retrieved June 17, 2014, from http://www.cancerview.ca/idc/groups/public/documents/webcontent/cep_mod_delphi_consns.pdf

Cancer Care Ontario. (2012). Program in evidence-based care (PEBC) handbook. Retrieved June 17, 2014, from http://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId= 50876

Carlfjord, S., Lindberg, M., Bendtsen, P., Nilsen, P.,& Andersson, A. (2010). Key factors influencing adoption of an innovation in primary healthcare: A qualitative study based on implementation theory. BMC Family Practice, 11, 60.

Centre for Evidence-Based Medicine. (2014). Asking focused questions. Retrieved June17, 2014, from http://www.cebm.net/asking-focused-questions/

Clutter, P. C., Reed, C., Cornett, P. A., & Parsons, M. L. (2009). Action planning strategies to achieve quality outcomes. Critical Care Nursing, 32(4), 272–284.

College of Nurses of Ontario (CNO). (2009). Professional standards, revised 2002. Retrieved June 17, 2014, from http://www.cno.org/Global/docs/prac/41006_ProfStds.pdf

Davies, B., & Edwards, N. (2013). Sustaining knowledge use. In S. E. Straus, J. Tetroe, & I. D. Graham (Eds.), Knowledge Translation in Healthcare: Moving from evidence to practice (2nd ed.). Chichester, UK: Wiley Blackwell, BMJ Books.

Davis, D., Goldman, J., & Palda, V. (2007). Handbook on clinical practice guidelines Canadian Medical Association (CMA). Retrieved August 26, 2014, from https://www.cma.ca/En/Pages/clinical-practice-guidelines.aspx

Davis, D. A., & Taylor-Vaisey, A. (1997). Translating guidelines into practice. A systematic review of theoretic concepts, practical experience and research evidence in the adoption of clinical practice guidelines. Canadian Medical Association Journal, 157(4), 408–416.

Department of Health and Community Services Newfoundland and Labrador. (2006). Guiding facilitation in the Canadian context: Enhancing primary healthcare: Multi-Jurisdictional Collaboration. Retrieved June 17, 2014, from https://www.gnb.ca/0053/phc/pdf/Facilitation%20Guide%20-%20English.pdf

Dogherty, E. J. (2009). Theoretical and experiential perspectives on facilitating evidence-based practice in nursing: Toward a conceptual framework (Master, Nursing thesis, Queen's University, Kingston, ON, Canada).

Dogherty, E. J., Harrison, M. B., Baker, C., & Graham, I. D. (2012). Following a natural experiment of guideline adaptation and early implementation: A mixed-methods study of facilitation. Implementation Science, 7, 9.

Dogherty, E. J., Harrison, M. B., & Graham, I. D. (2010). Facilitation as a role and process in achieving evidence-based practice in nursing: A focused review of concept and meaning. Worldviews on Evidence Based Nursing, 7(2), 76–89.

Donabedian, A. (1980). The definition of quality and approaches to its assessment (1st ed.). Ann Arbor, MI: Health Administration Press.

Estabrooks, C. A., Squires, J. E., Cummings, G. G., Birdsell, J. M., & Norton, P. G. (2009). Development and assessment of the Alberta Context Tool. BMC Health Services Research, 9, 234.

Fervers, B., Burgers, J. S., Haugh, M. C., Latreille, J., Mlika-Cabanne, N., Paquet, L., …Burnand, B. (2006). Adaptation of clinical guidelines: Literature review and proposition for a framework and procedure. International Journal for Quality in Healthcare, 18(3), 167–176.

Fervers, B., Burgers, J. S., Voellinger, R., Brouwers, M., Browman, G. P., Graham, I. D., …Burnand, B. (2011). Guideline adaptation: An approach to enhance efficiency in guideline development and improve utilisation. BMJ Quality & Safety, 20(3), 228–236.

Field, M. J., & Lohr, K. N. (Eds.). (1990). Clinical practice guidelines: Directions for a new program. Washington, DC: Institute of Medicine, National Academy Press.

Francis, J. J., O'Connor, D.,& Curran, J. (2012). Theories of behaviour change synthesised into a set of theoretical groupings: Introducing a thematic series on the theoretical domains framework. Implementation Science, 7, 35.

Gilbert, J. (2005). Catching the knowledge wave?: The Knowledge Society and the Future of Education. Wellington, New Zealand: New Zealand Council for Educational Research Press.

Godfrey, C. M., Harrison, M. B., & Graham, I. D. (2010). A review of the use of outcome measures of evidence-based practice in guideline implementation studies in Nursing, Allied Health Professions and Medicine. In D. Bick, & I. D. Graham (Eds.), Evaluating the impact of implementing evidence-based practice. Oxford, UK: WileyBlackwell.

GRADE Working Group. (2014). GRADE Working Group Organizational Website. Retrieved June 17, 2014, from http://www.gradeworkinggroup.org/

Graham, I. D., & Logan, J. (2004). Innovations in knowledge transfer and continuity of care. The Canadian Journal of Nursing Research, 36(2), 89–103.

Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: Time for a map? The Journal of Continuing Education in the Health Professions, 26(1), 13–24.

Graham, I. D., Tetroe, J., & Gagnon, M. (2013). Knowledge dissemination: End of grant knowledge translation. In S. E. Straus, J. Tetroe, & I. D. Graham (Eds.), Knowledge translation in healthcare: Moving from evidence to practiceOxford, UK: Wiley-Blackwell BMJ Books.

Grimshaw, J. M., Eccles, M. P., Lavis, J. N., Hill, S. J., & Squires, J. E. (2012). Knowledge translation of research findings. Implementation Science, 7, 50.

Grimshaw, J. M., Thomas, R. E., Maclennan, G., Fraser, C., Ramsay, C. R., Vale, L., …Donaldson, C. (2004). Effectiveness and efficiency of guideline dissemination and implementation strategies. Health Technology Assessment, 8(6) iii–iv, 1–72.

Grol, R. (2001). Successes and failures in the implementation of evidence-based guidelines for clinical practice. Medical Care, 39(8 Suppl 2), II46–II54.

Grol, R., & Grimshaw, J. (2003). From best evidence to best practice: Effective implementation of change in patients' care. Lancet, 362(9391), 1225–1230.

Grol, R., & Wensing, M. (2004). What drives change? Barriers to and incentives for achieving evidence-based practice. The Medical Journal of Australia, 180(6 Suppl), S57–S60.

Guyatt, G. H., Oxman, A. D., Vist, G. E., Kunz, R., Falck-Ytter, Y., Alonso-Coello, P., & Schunemann, H. J. (2008). GRADE: An emerging consensus on rating quality of evidence and strength of recommendations. British Medical Journal, 336(7650), 924–926.

Hakkennes, S., & Dodd, K. (2008). Guideline implementation in allied health professions: A systematic review of the

literature. Quality & Safety in Healthcare, 17(4), 296–300.

Hakkennes, S., & Green, S. (2006). Measures for assessing practice change in medical practitioners. Implementation Science, 1, 29.

Harrison, M. B., & Graham, I. D. (2012). Roadmap for a participatory research-practice partnership to implement evidence. Worldviews on Evidence Based Nursing, 9(4), 210–220.

Harrison, M. B., Graham, I. D., van den Hoek, J., Dogherty, E. J., Carley, M. E., & Angus, V. (2013). Guideline adaptation and implementation planning: A prospective observational study. Implementation Science, 8(1), 49.

Harrison, M. B., Legare, F., Graham, I. D., & Fervers, B. (2010). Adapting clinical practice guidelines to local context and assessing barriers to their use. Canadian Medical Association Journal, 182(2), E78–E84.

Harvey, G., Loftus-Hills, A., Rycroft-Malone, J., Titchen, A., Kitson, A., McCormack, B.,& Seers, K. (2002). Getting evidence into practice: The role and function of facilitation. Journal of Advanced Nursing, 37(6), 577–588.

Health Canada. (2014). Advisories, warnings and recalls. Retrieved June 17, 2014, from http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/index-eng.php

Kajermo, K. N., Bostrom, A. M., Thompson, D. S., Hutchinson, A. M., Estabrooks, C. A.,& Wallin, L. (2010). The BARRIERS scale - the barriers to research utilization scale: A systematic review. Implementation Science, 5, 32.

KT Clearinghouse. (2013). Assess barriers to knowledge use. Retrieved June 17, 2014, from http://ktclearinghouse.ca/knowledgebase/knowledgetoaction/action/assess

Leeman, J., Baernholdt, M., & Sandelowski, M. (2007). Developing a theory-based taxonomy of methods for implementing change in practice. Journal of Advanced Nursing, 58(2), 191–200.

Legare, F., & Zhang, P. (2013). Barriers and facilitators: Strategies for identification and measurement. In S. E. Straus, J. Tetroe, & I. D. Graham (Eds.), Knowledge translation in healthcare: Moving from evidence to practice (2nd ed.), Chichester, UK: John Wiley & Sons, Ltd.

Linstone, A., & Turoff, M. (1975). The Delphi method: Techniques and applications. Reading, MA: Addison-Wesley.

Logan, J., & Graham, I. D. (1998). Towards a comprehensive interdisciplinary model of healthcare research use. Science Communication, 20(2), 227–246.

Logan, J., & Graham, I. D. (2010). Chapter 4: The Ottawa model of research use. In J. Rycroft-Malone & T. Bucknall (Eds.), Models and frameworks for implementing evidence-based practice: Linking evidence to action. Oxford, UK: WileyBlackwell Publishers.

Marchionni, C., & Ritchie, J. (2008). Organizational factors that support the implementation of a nursing best practice guideline. Journal of Nursing Management, 16(3), 266–274.

Michie, S., & Johnston, M. (2004). Changing clinical behaviour by making guidelines specific. British Medical Journal, 328(7435), 343–345.

Murphy, M. K., Black, N. A., Lamping, D. L., McKee, C. M., Sanderson, C. F., Askham, J., & Marteau, T. (1998). Consensus development methods, and their use in clinical guideline development. Health Technology Assessment, 2(3), i–iv, 1–88.

National Guideline Clearing House. (2014a). Inclusion criteria. Retrieved June 17, 2014, from http://www.guideline.gov/about/inclusion-criteria.aspx

National Guideline Clearing House. (2014b). Retrieved June 17, 2014, from http://www.guideline.gov/

National Health and Medical Research Council. (1998). A Guide to the Development, Implementation, and Evaluation of Clinical Practice Guidelines. Retrieved June 17, 2014, from http://www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/cp30.pdf

National Health Service. (2010). Institute for Innovation and Improvement Sustainability Model and Guide. Retrieved June 17, 2014, from http://www.institute.nhs.uk/sustainability_model/general/welcome_to_sustainability.html

National Institute for Health and Clinical Excellence. (2007). How to change practice. Retrieved August 27, 2014, from http://www.nice.org.uk/Media/Default/About/what-we-do/Into-practice/Support-for-service-improvement-and-audit/How-to-change-practice-barriers-to-change.pdf

National Institute for Health and Clinical Excellence. (2012). Clinical guideline development methods: The guidelines manual 2012. Retrieved June 17, 2014, from http://www.nice.org.uk/guidelinesmanual

National Institute of Clinical Studies. (2006). Identifying barriers to evidence uptake. Retrieved June 17, 2014, from http://www.nhmrc.gov.au/_files_nhmrc/file/nics/material_resources/Identifying%20Barriers%20to%20Evidence%20Uptake.pdf

National Quality Measures Clearinghouse. (2014). Tutorials on quality measures. Retrieved June 17, 2014, from http://www.qualitymeasures.ahrq.gov/tutorial/index.aspx

Oxman, A. D., Thomson, M. A., Davis, D. A., & Haynes, R. B. (1995). No magic bullets: A systematic review of 102 trials of interventions to improve professional practice. Canadian Medical Association Journal, 153(10), 1423–1431.

Ploeg, J., Davies, B., Edwards, N., Gifford, W., & Miller, P. E. (2007). Factors influencing best-practice guideline implementation: Lessons learned from administrators, nursing staff, and project leaders. Worldviews on Evidence-Based Nursing, 4(4), 210–219.

Pluye, P., Potvin, L., Denis, J. L., & Pelletier, J. (2004). Program sustainability: Focus on organizational routines. Health Promotion International, 19(4), 489–500.

Registered Nurses' Association of Ontario. (2012). Toolkit: Implementation of best practice guidelines. Retrieved June 17, 2014, from http://rnao.ca/bpg/resources/toolkit-implementation-best-practice-guidelines-second-edition

Richens, Y., Rycroft-Malone, J., & Morrell, C. (2004). Getting guidelines into practice: A literature review. Nursing Standard, 18(50), 33–40.

Rogers, E. M. (2005). Diffusion of innovations (5th ed.). New York: Free Press.

Rycroft-Malone, J., Harvey, G., Seers, K., Kitson, A., McCormack, B., & Titchen, A. (2004). An exploration of the factors that influence the implementation of evidence into practice. Journal of Clinical Nursing, 13(8), 913–924.

Sackett, D. L., Rosenberg, W. M., Gray, J. A., Haynes, R. B., & Richardson, W. S. (1996). Evidence based medicine: What it is and what it isn't. British Medical Journal, 312(7023), 71–72.

School of Translational Health Science and The Joanna Briggs Institute (JBI). (2014). A strategy for strengthening the translation of evidence into action across JBI programs. Retrieved June 28, 2014, from http://joannabriggs.org/assets/docs/about/ImplementationStrategy_Nov2013.pdf

Schuster, M. A., McGlynn, E. A., & Brook, R. H. (1998). How good is the quality of healthcare in the United States? Milbank Quarterly, 76(4), 517–563, 509.

Scottish Intercollegiate Guidelines Network. (2011). SIGN 50: A guideline developers handbook (Rev. ed.). Retrieved June 17, 2014, from www.sign.ac.uk/pdf/sign50.pdf

Scottish Intercollegiate Guidelines Network. (2014). Retrieved June 17, 2014, from http://www.sign.ac.uk/index.html

Shea, B. J., Grimshaw, J. M., Wells, G. A., Boers, M., Andersson, N., Hamel, C., …Bouter, L. M. (2007). Development of AMSTAR: A measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology, 7, 10.

Shekelle, P., Eccles, M. P., Grimshaw, J. M., & Woolf, S. H. (2001a). When should clinical guidelines be updated? British Medical Journal, 323(7305), 155–157.

Shekelle, P. G., Ortiz, E., Rhodes, S., Morton, S. C., Eccles, M. P., Grimshaw, J. M., & Woolf, S. H. (2001b). Validity of the agency for healthcare research and quality clinical practice guidelines: How quickly do guidelines become outdated? Journal of the American Medical Association, 286(12), 1461–1467.

Shiffman, R. N., Dixon, J., Brandt, C., Essaihi, A., Hsiao, A., Michel, G., & O'Connell, R. (2005). The GuideLineImplementability Appraisal (GLIA): Development of an instrument to identify obstacles to guideline implementation. BMC Medical Informatics and Decision Making, 5, 23.

Stetler, C. B., Legro, M. W., Rycroft-Malone, J., Bowman, C., Curran, G., Guihan, M., …Wallace, C. M. (2006). Role of "external facilitation" in implementation of research findings: A qualitative evaluation of facilitation experiences in the Veterans Health Administration. Implementation Science, 1, 23.

Stetler, C. B., Ritchie, J. A., Rycroft-Malone, J., Schultz, A. A., & Charns, M. P. (2009). Institutionalizing evidence-based practice: An organizational case study using a model of strategic change. Implementation Science, 4, 78.

St. Michael's Hospital. (2014). Knowledge translation consultation service. Retrieved June 17, 2014, from http://www.stmichaelshospital.com/research/ktconsultation.php

Straus, S. E., Tetroe, J., & Graham, I. D. (Eds.). (2013). Knowledge translation in healthcare: Moving from evidence to practice. Oxford, UK: Wiley-Blackwell BMJ Books.

The Joanna Briggs Institute Practical Application of Clinical Evidence System (PACES). Retrieved June 17, 2014, from http://paces.jbiconnectplus.org/

U.S. Food and Drug Administration. (2014). Retrieved June 17, 2014, from http://www.fda.gov/

Weir, M. C., Ryan, R., Mayhew, A., Worswick, J., Santesso, N., Lowe, D., …Grimshaw, J. M. (2010). The Rx for change database: A first-in-class tool for optimal prescribing and medicines use. Implementation Science, 5, 89.

Wensing, M., Wollersheim, H.,& Grol, R. (2006). Organizational interventions to implement improvements in patient care: A structured review of reviews. Implementation Science, 1, 2.

APPENDICES

Appendix 1

P1S1 CAN-IMPLEMENT© Quick Reference Guide			
PHASE 1: ISSUE CLARIFICATION & IDENTIFICATION			
Step 1 - CALL TO ACTION			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions***	**Facilitation and Resources**
1.1 Clarify the motivation, purpose and scope of the proposed initiative. Consider: ▪ What are the agency or institutional mandate and infrastructure supporting evidence-informed practice? ▪ Is this a response to a specific practice challenge? ▪ Is a guideline the most appropriate solution to the challenge? ▪ Who (person or group) will lead, implement and maintain these recommendations? ▪ What is the intended practice jurisdiction (local, regional, national)?	▪ Formation of a legitimate guideline entity with definition of purpose, established jurisdiction and ownership 🗁 **Meeting notes, inter-agency agreements or funding commitments**	▶ 1. Is a guideline necessary/the best solution to the identified practice issue? ☑ Proceed ☒ Re-examine/clarify practice issue and needs ▶ 2. Are the mandate, leadership, and infrastructure in place to conduct guideline development? ☑ Proceed ☒ Resolve or re-evaluate initiative _____ ***KEY:** ☑ If response is Yes, … ☒ If response is No, …	**Facilitation:** ▪ Planning for change (increasing awareness, developing a plan); leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building and group dynamics **Tools & Additional Resources:** ▪ P1S1

Step 2 - PLAN			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
2.1 Establish scope of guideline and articulate Health Question(s). 2.2 Determine feasibility of adaptation. 2.3 Form steering committee and working panel(s) and determine key stakeholders and necessary resources. 2.4 Determine consensus process. 2.5 Write the work plan.	▪ Definition and consensus re: practice issue. Documentation of Population, Intervention, Professionals/Patients, Outcomes, Health Care setting(s) *and* specific clinical/health question(s) 🗁 **PICO/PIPOH and Health Questions** ▪ Collection and analysis of baseline performance data 🗁 **Environmental Scan/Report** ▪ Feasibility check re: adaptation, i.e., preliminary scan for existing guidelines ▪ Group formation, including steering committee, working panel(s), necessary stakeholders, content experts ▪ Completion of Skills Inventory and sourcing of any needed resources and training (methodology, library science, project management) ▪ Agreement on consensus process ▪ Documentation, circulation and endorsement of work plan including terms of reference (e.g., roles, responsibilities and funding), consensus process, declaration of conflicts of interest, guideline authorship, endorsement bodies 🗁 **Guideline Adaptation Work Plan, including Committee and Panel**	▶ 1. Are the topic and health question(s) clearly defined, supported by data and agreed upon by the group? ☑ Proceed ☒ Resolve ▶ 2a Is guideline adaptation feasible? ☑ Proceed, using adaptation process ☒ Lack of relevant or current guidelines may require de novo approach or a mix of adaptation and *de novo* methodologies. ▶ 2b Does the panel have access to methodological expertise to synthesize primary studies; RCT, qualitative or other research designs? ☑ Proceed, using *de novo* approach or combination of methods ☒ Resolve or re-evaluate initiative ▶ 3. Have all necessary support, skill, funding been identified and assigned? ☑ Proceed ☒ Resolve or re-evaluate initiative	**Facilitation:** ▪ Planning for change (increasing awareness, developing a plan); leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building and group dynamics, administrative and project-specific support **Tools & Additional Resources:** ▪ P1S2

	contacts and Terms of Reference, Conflicts of Interest		
Step 3 - SEARCH and SCREEN			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
3.1 Search existing guidelines, systematic reviews, and new or emerging areas of evidence; confirm if guideline is *de novo*, adaptation or mixed initiative. 3.2 Screen search results to develop short list for full appraisal; document selection decisions. **NOTE:** *If a large number of relevant and/or up to date guidelines are discovered, consider reducing number by limiting full appraisal to only the most recent or by using the AGREEII Instrument to do a short initial screen for "Rigour."*	▪ Design and execution of systematic search based on defined health questions, keywords, sources (bibliographic databases and limits) ▪ Management of citations and initial screen using clearly stated inclusion and exclusion criteria ▪ Selection of quality guidelines for full appraisal ▪ Documentation of search strategy, output, selection decisions/rationale 🗁 **Search Strategy and Output** 🗁 **Screening Decisions**	▶ 1. Does the search yield current guidelines which respond to specified health question(s)? ☑ Proceed to Step 4 ☒ Expand, re-design and conduct iterative searches, as needed ▶ 2. Upon review of search output, is there a need to re-examine or refine the health questions? ☑ Re-evaluate questions, revise search strategy and conduct iterative searches, as needed ☒ Proceed to Step 4	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building/group dynamics, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication **Tools & Additional Resources:** ▪ P1S3
Step 4 - ASSESS and SELECT			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
4.1 Assess shortlisted guidelines (recommendations and supporting evidence) in detail for: quality (AGREEII), currency, content, coherence between evidence and recommendations, and applicability	▪ Completion of AGREEII appraisal and consolidation of scores on selected guidelines plus completion of additional assessments 🗁 **Raw/Consolidated AGREEII Scores and other assessment summaries**	▶ 1. Do consolidated assessments yield adequate, valid evidence to respond to specified health questions and form recommendations? ☑ Proceed ☒ Determine need for additional evidence	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering

and acceptability to local context. 4.2 Decision and Selection: review all assessments and achieve consensus with respect to Selecting, Rejecting or Modifying specific recommendations.	▪ Comprehensive preparation of all relevant content and supporting evidence/strength of evidence 🗁 **Recommendations Matrix** ▪ Organization of face-to-face (ideally) or teleconference meeting with steering committee/content experts – full day ▪ Committee review and selection (consensus) of recommendations with documentation of decisions 🗁 **Selection, Rejection, and Modification decisions plus rationale and/or issues per recommendation**	or need to conduct further expert appraisal and obtain consensus ▶ 2. Is panel ready for the consensus meeting? ☑ Guidelines reviewed, AGREEII and other assessments complete and data consolidated ☑ Detailed Recommendations Matrix complete, including levels of evidence ☑ Key stakeholders and content experts informed and available ☑ Chair ready to lead discussion and facilitate consensus; consensus process determined ☑ Administrative support available to manage meeting and document all decisions and rationale ☑ Funding available for travel and meeting costs ☒ If not, attend to outstanding elements	team-building and group dynamics, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication **Tools & Additional Resources:** ▪ P1S4 ▪ AGREE Enterprise www.agreetrust.org

Step 5 - DRAFT, REVISE and ENDORSE Recommendations			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
5.1 Draft Customized Guideline 5.2 Conduct internal review and make revisions 5.3 Conduct external review and obtain endorsement 5.4 Prepare final documents, including any practitioner and patient information, records or application tools, and appropriate source acknowledgments 5.5 Establish a Renewal Plan	🗁 **Initial Draft of Guideline** ▪ Completion of Internal Review and revisions ▪ Consultation with target users, endorsement bodies, and source guideline developers ▪ Endorsement 🗁 **Guideline Feedback Analysis and Report** 🗁 **Final Guideline and Supporting Documents and/or Tools** 🗁 **Renewal Plan**	▶ 1. Are internal review and revisions complete? ☑ Proceed to External Review ☒ Continue revision cycle ▶ 2. Are external review and endorsement complete? ☑ Prepare final documents and tools, proceed with dissemination and implementation ☒ Resolve outstanding concerns ▶ 3. Is there a plan for a review and update of the guideline? ☑ Proceed to Step 6 ☒ Attend to outstanding elements	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building and group dynamics, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication **Tools & Additional Resources:** ▪ P1S5
PHASE 2: SOLUTION BUILDING (Implementation Action Planning)			
Step 1 - ALIGN KNOWLEDGE TO LOCAL CONTEXT (PRACTICE & SYSTEM)			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
1.1 Identify authorities and resources, and develop a plan 1.2 Conduct a Gap Analysis Compare current vs. recommended practice	🗁 **Implementation Action Plan** 🗁 **Gap Analysis** Summary of findings; Task	▶ 1. Are the adapted guideline and application tools complete? ▶ 2. Has the guideline been endorsed by stakeholders? ▶ 3. Are the necessary leadership, authority and resources in place to	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering

	Force discussion of issues and priorities	implement the guideline? ☑ Proceed ☒ Resolve concerns	team-building and group dynamics, administrative and project-specific support **Tools & Additional Resources:** ▪ P2S1
Step 2 - ASSESS INNOVATION, ADOPTERS AND PRACTICE ENVIRONMENT FOR BARRIERS AND SUPPORTS			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
2.1 Assess innovation, adopters and practice environment for barriers and supports	▪ Extensive consultation with providers, patients, and organization 🗁 **Task force analysis and priorities re:** existing and potential innovation, adopter and practice environment barriers and supports 🗁 **Update Implementation Action Plan**	▶ 1. Have the recommendations (guideline), adopters (practitioners, patients, and administration) been thoroughly reviewed to identify and prioritize barriers and supports to implementation? ☑ Proceed with Implementation Action Plan ☒ Continue to gather and analyze relevant information about practice and system barriers and facilitators	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building and group dynamics, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication **Tools & Additional Resources:** ▪ P2S2

Step 3 - SELECT & TAILOR IMPLEMENTATION INTERVENTIONS			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
3.1 Select and Tailor implementation interventions 3.2 Test Solutions	🗁 **Task force discussion and decisions** re: barrier management, knowledge transfer (education, communication) and follow-up strategies best suited to the target adopters and local circumstances 🗁 **Update Implementation Action Plan** 🗁 **Analysis and decisions** re: barrier management and knowledge transfer **usability testing** (procedures, decision aids, education or communications materials, etc.) 🗁 **Update Implementation Action Plan**	▶ 1. Has a solution been determined to manage each identified barrier to implementation?; Have strategies been determined for knowledge transfer and dissemination? ▶ 2. Have strategies/tactics been tailored to each user group and site affected by the new recommendations? ☑ Proceed with Implementation Action Plan ☒ Continue customizing solutions for optimal knowledge activation/uptake ▶ 1. Were tests successful? ☑ Proceed with Activation and begin Evaluation Planning (PHASE 3). ☒ Continue customizing/testing solutions to facilitate implementation/use of guideline	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building and group dynamics, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication)

PHASE 3: IMPLEMENTATION, EVALUATION & SUSTAINABILITY			
Step 1 – MONITOR KNOWLEDGE IMPLEMENTATION PROCESS			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
3.1 Monitor Knowledge Use and Evaluate Implementation Process	🗁 **Evaluation Plan** Link to existing Quality Improvement Mechanisms; establish Target Threshold; determine measurement goals and define indicators; consider assessment of both structure and process	▶ **1.** Has a specific, measureable target threshold been established? ☑ Proceed to Evaluation of Outcomes ☒ Clarify goals for guideline uptake and modify or augment selected implementation strategies	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, fostering team-building and group dynamics, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication
Step 2 - EVALUATE OUTCOMES			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
3.2 Evaluate Outcomes	🗁 **Evaluation Plan** Define evaluation period; Define specific, multiple, qualitative and quantitative indicators; Assess guideline **impact** on Patient, Practice (Providers) and System; Determine data collection methods	▶ 1. Is guideline in use and demonstrating positive outcomes? ☑ Plan for Sustainability ☒ Revisit goals for guideline uptake and revisit implementation plan	**Facilitation:** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context, administrative and project-specific support); Monitoring progress and ongoing implementation (problem-solving, providing support, effective communication

Step 3 - NURTURE CHANGE & SUSTAIN KNOWLEDGE			
Objectives and Tasks	**Outputs and Documentation**	**Key Decisions**	**Facilitation and Resources**
3.3 Nurture Change and Sustain Guideline Use	Guideline recommendations are embedded in system and practice routines, however … Users monitor and respond to ongoing changes in *Innovation, Adopters, and Practice Environment* 🗁 **Guideline Renewal Plan**	▶ **1. Is guideline current?** ☑ Schedule next update ☒ Update evidence review and Guideline recommendations	**Facilitation** ▪ Leading and managing change (knowledge and data management, project management, recognizing importance of context

Appendix 2

P1S1 Guideline Development and Implementation Resources

1. HANDBOOKS

American Heart Association
Methodology Manual for ACCF/AHA Guideline Writing Committees
http://my.americanheart.org/idc/groups/ahamah-public/@wcm/@sop/documents/downloadable/ucm_319826.pdf

American Society of Clinical Oncology (ASCO)
The ASCO Guideline Procedures Manual, 2014
https://pilotguidelines.atlassian.net/wiki/display/GW/Guideline+Development+Process

Canadian Medical Association
Handbook on Clinical Practice Guidelines, July 2007
http://www.cma.ca//multimedia/CMA/Content_Images/CMAInfobase/EN/handbook.pdf

Department of Health and Community Services, Government of Newfoundland and Labrador
Guiding Facilitation in the Canadian Context: Enhancing Primary Health Care, 2006
https://www.gnb.ca/0053/phc/pdf/Facilitation%20Guide%20-%20English.pdf

National Health and Medical Research Council (NHMRC)
A guide to development, implementation, and evaluation of clinical practice guidelines, 1999
http://www.nhmrc.gov.au/guidelines/resources-guideline-developers

National Institute for Health and Clinical Evidence (NICE)
The Guidelines Manual 2009
http://www.nice.org.uk/aboutnice/howwework/developingniceclinicalguidelines/clinicalguidelinedevelopmentmethods/GuidelinesManual2009.jsp
Implementation Support Process Manual, 2008
http://www.nice.org.uk/media/656/C4/ImplementationSupportProcessManual.doc

Registered Nurses Association of Ontario
RNAO Toolkit: Implementation of Best Practice guidelines
http://rnao.ca/bpg/resources/toolkit-implementation-best-practice-guidelines-second-edition

Scottish Intercollegiate Guidelines Network (SIGN): January 2008
Sign 50: A Guideline Developer's Handbook
www.sign.ac.uk/pdf/sign50.pdf

Development of Evidence-Based Clinical Practice guidelines (CPGs)
Turner, T, Misso, M, Harris, C. & Green, S. (2008) Development of evidence-based clinical practice guidelines (CPGs): comparing approaches. Implementation Science, 3, 45
http://www.implementationscience.com/content/pdf/1748-5908-3-45.pdf

2. GUIDELINE TUTORIALS and TOOLKITS

University of Alberta
Evidence-based medicine Toolkit
http://www.ebm.med.ualberta.ca
Centre for Evidence-based Medicine (CEBM), Oxford
Instructional downloads (PPT presentations) and EBM Tools
http://www.cebm.net

The Cochrane Collaboration
http://www.cochrane.org/reviews/clibintro.htm

DalhousieUniversityCollege of Pharmacy
http://www.dal.ca/diff/druginfo/index/clinical-practice-guidelines.html

Duke University Medical Center Library
Introduction to Evidence-Based Medicine tutorial
http://www.hsl.unc.edu/services/tutorials/ebm/index.htm
The Well-Built Clinical Question
http://www.hsl.unc.edu/Services/Tutorials/EBM/Question.htm

The GRADE Working Group
http://www.gradeworkinggroup.org/FAQ/index.htm

Guideline International Network (G-I-N)
http://www.g-i-n.net/
Adaptation Working Group
http://www.g-i-n.net/working-groups/adaptation
ADAPTE MANUAL
http://www.g-i-n.net/document-store/working-groups-documents/adaptation/adapte-resource-toolkit-guideline-adaptation-2-0.pdf
Implementation Working Group
http://www.g-i-n.net/working-groups/implementation

Government Social Research, UK, Rapid Evidence Assessment (REA) Toolkit
http://www.civilservice.gov.uk/networks/gsr/resources-and-guidance

The Joanna Briggs Institute (JBI) Australia
http://www.joannabriggs.org/index.html

McMaster University Health Science Library Evidence-Based Practice Resources
http://hsl.mcmaster.ca/resources/topic/eb/index.html

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

SIGN (UK) Methodology, checklists, AGREE guide and Guideline tutorial
http://www.sign.ac.uk/methodology/index.html

University of Toronto/University Health Network Centre for Evidence-Based Medicine and Centre for Evidence-Based Nursing (CEBM)
http://www.cebm.utoronto.ca
http://www.cebm.utoronto.ca/syllabi/nur

3. BIBLIOGRAPHIC RESOURCES AND REFERENCE MANAGEMENT TOOLS and TUTORIALS

BibliographicResources

Ovid Databases
http://library.medicine.yale.edu/tutorials/subjects/ovid-help

Pubmed
http://www.nlm.nih.gov/bsd/disted/pubmed.html

Bibliographic Management Tools

Reference Manager 12 Guide
http://www.refman.com/support/docs/ReferenceManager12.pdf
http://www.refman.com/training/tutorial/rm12/RefManBasics.asp

Refworks Tutorial
http://www.refworks.com/tutorial

Yale Refworks Video Tutorial and Flash Endnote Tutorial
http://cwml-tutorials.blogspot.com/search/label/RefWorks%20Video%20Tutorials

Appendix 3

P1S2 Defining Health Question(s): Preparing for Evidence Search

Guideline initiative:
Date:

A summary statement is intended to provide direction for the literature search. Insert the PICO/PIPOH (Population, Intervention, Professionals and Patients, Outcome, Healthcare Setting) criteria, as determined by your working panel, to describe the scope of the topic to be addressed by the guideline. The HEALTH QUESTIONS, drafted by content/technical experts in collaboration with appropriate stakeholders, should address all areas described in the scope and avoid introducing new topics. A good clinical question is structured, focused, clear, and formatted in terms of a specific patient problem. Add LIMITS to further define the search strategy, e.g. language (French and English only?), acceptable date range for guidelines and systematic reviews, exclusion of editorials, etc. The main questions may need refining once the evidence has been searched.

PIPOH *(scope of topic)*	**HEALTH QUESTIONS** *(specific, detailed, patient focused)*
Population:	1 2 3 4 5 …
Intervention:	
Professionals/Patients:	
Outcome:	
Healthcare Setting:	
LIMITS of Search	
1 2 3	

For more information on developing clinical questions and for examples of questions related to interventions, diagnosis, prognosis and service delivery, refer to chapter 5 of The Guidelines Manual from the National Institute for Health and Clinical Excellence (NICE) available at:
http://www.nice.org.uk/article/pmg6/chapter/4-Developing-review-questions-and-planning-the-systematic-review

Appendix 4

P1S2 Conducting a Skills Assessment - Checklist

Consider the recommended expertise outlined below and your group's strengths and attributes in these areas. Determine who, when, where and how you will access available expertise and address gaps.

1 = Low (we need to plan for added support/training)
5 = High (we have the necessary resources and expertise)

Recommended Expertise	Our strength in this area
1. Clinical knowledge in the selected topic area, for e.g.	**1 2 3 4 5**
▪ expertise managing issues related to the application of the guideline in local practice	☐☐☐☐☐
▪ knowledge of the latest research in the topic area	☐☐☐☐☐
Comments:	
2. Personal experience with the topic area to ensure patient or consumer needs are discussed and that salient outcomes such as quality of life are considered, for e.g.	**1 2 3 4 5**
▪ living with the disease	☐☐☐☐☐
▪ having undergone the intervention	☐☐☐☐☐
▪ caring for someone with the disease	☐☐☐☐☐
Comments:	
3. Methodological expertise to support members on issues related to the systematic and rigorous nature of the review process, including:	**1 2 3 4 5**
▪ previous experience in guideline development: *de novo* or adaptation	☐☐☐☐☐
▪ evidence-based principles	☐☐☐☐☐
▪ knowledge of research design: RCTs, Qualitative Studies	☐☐☐☐☐
▪ ability to interpret levels of evidence	☐☐☐☐☐
▪ critical appraisal and guideline appraisal skills	☐☐☐☐☐
Comments:	
4. Information retrieval/health information literacy	**1 2 3 4 5**
▪ knowledge of databases and sources of evidence; (systematic reviews, journal reviews, grey literature, qualitative studies, expert opinion …)	☐☐☐☐☐
▪ conducting targeted and transparent literature searches	☐☐☐☐☐
▪ setting inclusion/exclusion criteria and search parameters	☐☐☐☐☐
▪ documenting search strategies	☐☐☐☐☐
▪ access to health sciences library and library scientist	☐☐☐☐☐
Comments:	

5. Project Management/Administration	**1 2 3 4 5**
▪ setting working panel terms of reference;	☐☐☐☐☐
▪ determining conflicts of interest	☐☐☐☐☐
▪ planning: managing timelines, expenses, resources	☐☐☐☐☐
▪ preparation and distribution of documents	☐☐☐☐☐
▪ arranging meetings and conferences; preparation of meeting agendas and minutes/notes	☐☐☐☐☐
▪ managing individual/working panel action assignments	☐☐☐☐☐
▪ ability to focus/manage priorities	☐☐☐☐☐
▪ ability to secure and assign resources	☐☐☐☐☐
Comments:	
6. Facilitation/Communication	**1 2 3 4 5**
▪ group dynamics - managing effective group participation and process; interpersonal skills; active listening; creating a positive and trusting environment; managing resistance or disagreement; conflict resolution	☐☐☐☐☐
▪ building consensus; decision support techniques	☐☐☐☐☐
▪ mentoring; supporting collaboration and learning	☐☐☐☐☐
▪ motivation and encouragement - promoting individual, team and corporate performance and accountability; empowering team members	☐☐☐☐☐
▪ providing regular communications with stakeholders re: status of the initiative; managing cross-disciplinary information requirements	☐☐☐☐☐
▪ communications expertise to support guideline authorship, publication and dissemination	☐☐☐☐☐
Comments:	
7. Data Analysis and Management	**1 2 3 4 5**
▪ collating and formatting evidence, for e.g. guideline content summaries, recommendations matrices, inter-rater AGREE scores	☐☐☐☐☐
▪ computer/IT skills	☐☐☐☐☐
Comments:	
8. Problem-Solving/Implementation	**1 2 3 4 5**
▪ interpretation of baseline/audit data and gap analyses	☐☐☐☐☐
▪ ability to define practice needs and specify health question	☐☐☐☐☐
▪ ability to assess barriers and facilitators to implementation	☐☐☐☐☐
▪ familiarity with local context including culture, leadership, resources, infrastructure; critical endorsement bodies	☐☐☐☐☐
▪ evaluation strategies and tactics	☐☐☐☐☐
▪ familiarity with challenges of organizational change	☐☐☐☐☐
▪ negotiation, mediation and advocacy skills	☐☐☐☐☐
▪ networking skills; acknowledged status, credibility in organization	☐☐☐☐☐
Comments:	

Appendix 5

P1S2 Suggested Reading: Role of Facilitation in Evidence Based Practice (Nursing)

1. Burrows, D. E. (1997). Facilitation: a concept analysis. *Journal of Advanced Nursing, 25,* 396-404. doi: 10.1046/j.1365-2648.1997.1997025396.x
2. Doran, D.M., & Sidani, S. (2007). Outcomes-focused knowledge translation: A framework for knowledge translation and patient outcomes improvement. *Worldviews on Evidence-Based Nursing, 4*(1), 3-13.
3. Dogherty, E.**J**., Harrison, M.B., & Graham, I.D. (2010). Facilitation as a role and process in achieving evidence-based practice in nursing: A focused review of concept and meaning**.** *Worldviews on Evidence-based Nursing.7*(2), 76-89
4. Dogherty, E.J., Harrison, M.B., Baker, C., & Graham, I.D. (2012) Following a natural experiment of guideline adaptation and early implementation: a mixed-methods study of facilitation. *Implementation Science* 7(9).
5. Ellis, I., Howard, P., Larson, A., & Robertson, J. (2005). From workshop to work practice: An exploration of context and facilitation in the development of evidence-based practice. *Worldviews on Evidence-Based Nursing, 2,* 84-93. doi: 10.1111/j.1741-6787.2005.04088.x
6. Harvey, G., Loftus-Hills, A., Rycroft-Malone, J., Titchen, A., Kitson, A., McCormack, B., & Seers, K. (2002). Getting evidence into practice: The role and function of facilitation. *Journal of Advanced Nursing, 37*(6), 577-588.
7. Kitson A., Harvey, G., & McCormack, B. (1998). Enabling the implementation of evidence-based practice: A conceptual framework. *Quality in Health Care, 7*, 149-158.
8. Loftus-Hills, A., & Duff, L. (1997). Implementation of nutrition standards for older adults. *Nursing Standard, 11*(44), 33-37.
9. Manley, K., & McCormack, B. (2003). Practice development: Purpose, methodology, facilitation and evaluation. *Nursing in Critical Care, 8*(1), 22-29.
10. Nagykaldi, Z., Mold, J.W., & Aspy, C.B. (2005). Practice facilitators: A review of the literature. *Family Medicine, 37*(8), 581-588.
11. Newton, J.M. (2003). Developing facilitation skills - a narrative. *Collegian: Journal of the Royal College of Nursing, Australia, 10*(3), 27-30.
12. Richens, Y., Rycroft-Malone, J., & Morrell, C. (2004). Getting guidelines into practice: A literature review. *Nursing Standard, 18(*50), 33-40.
13. Rycroft-Malone J. (2004). The PARIHS framework - a framework for guiding the implementation of evidence-based practice. *Journal of Nursing Care Quality, 19*(4), 297-304.
14. Scott, S.D., & Snelgrove-Clarke, E. (2008). Facilitation: The final frontier? *Nursing for Women's Health, 12*(1), 26-29.
15. Stetler, C.B., Legro, M.W., Rycroft-Malone, J., Bowman, C., Curran, G., Guihan, M., Hagedorn, H., Pineros, S., & Wallace, C.M. (2006). Role of "external facilitation" in implementation of research findings: A qualitative evaluation of facilitation experiences in the Veterans Health Administration. *Implementation Science2006, 1*(23). *http://www.implementationscience.com/content/1/1/23*
16. Thompson, G.N., Estabrooks, C.A., & Degner, L.F. (2006). Clarifying the concepts in knowledge transfer: A literature review. *Journal of Advanced Nursing, 53*(6), 691-701.
17. Wallin, L., Rudberg, A., & Gunningberg, L. (2005b). Staff experiences in implementing guidelines for kangaroo mother care - a qualitative study. *International Journal of Nursing Studies, 42*, 61-73.

Appendix 6

P1S2 Suggested Reading: Consensus Processes

1. Black N., Murphy M., Lamping D. McKee M., Sanderson C., Askham J., & Marteau T. (1999). Consensus development methods: a review of best practice in creating clinical guidelines. *Journal of Health Services & Research Policy.* 4(4), 236-48.
2. Bourree, F., Michel, P., & Salmi, L.R. (2008). Consensus Methods: Review of original methods and their main alternatives used in public health. *Revue d'Epidemiologie et de Sante Publique, 56*(6), e13-e21.
3. Brook, R.H. (1994). The RAND/UCLA Appropriateness Method. In McCormick, K.A., Moore, S.A., Siegal, R.A. (Eds.). *Clinical practice guideline development. Methodology perspectives*. Rockville, MD: US Department of Health and Human Services, 59-70.
4. Cancer Care Ontario (CCO) Program in Evidence-Based Care (PEBC) Handbook; available at: http://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=50876
5. Fretheim, A., Schunemann, H., & Oxman, A. (2006). Improving the use of research evidence in guideline development: 5. Group processes. *Health Research Policy and Systems, 4*, 17.
6. Hutchings, A., & Raine, R.A. (2006). Systematic review of factors affecting the judgments produced by formal consensus development methods in health care. *Journal of Health Services Research Policy, 11*(3), 172-179.
7. Hutchings, A., Raine, R., Sanderson, C., & Black, N. (2006). A comparison of formal consensus methods used for developing clinical guidelines. *Journal of Health Services and Research Policy, 11*(4), 218-224.
8. Linstone, A., & Turoff, M. (Eds). (1975). *The Delphi Method: Techniques and Applications*. Massachusetts: Addison-Wesley; book available online at http://www.is.njit.edu/pubs/delphibook/index.html
9. Murphy, M.K., Black, N.A., Lamping, D.L., McKee, C.M., Sanderson, C.F., Askham, J., & Marteau, T. (1998). Consensus development methods, and their use in clinical guideline development. *Health Technology Assessment,* 2, 1-88.
10. Pagliari, C., & Grimshaw, J. (2002). Impact of group structure and process on multidisciplinary evidence-based guideline development: an observational study. *Journal of Evaluation of Clinical Practice, 8*(2), 145-153.
11. Raine, R., Sanderson, C., Hutchings, A., Carter, S., Larkin, K., & Black, N. (2004). *An experimental study of determinants of group judgments in clinical guideline development. Lancet, 364*(9432), 429-437.
12. Rycroft-Malone, J. (2001). Formal consensus: The development of a national clinical guideline. *Quality in Health Care, 10*, 4.

Appendix 7

P1S2 Developing the Adaption Work plan - a template

PHASE 1: Identification and Clarification of the Practice Issue/Problem								
STEP	**Meeting Type**	**Tasks/Activities**	**Tools**	**Assigned To**	**Projected Timeline**	**Done ☑**	**Completion Date**	**Notes**
1: CALL TO		1.1 Clarify the motivation, purpose and scopeof the proposed initiative.				☐		
2: PLAN		2.1 Establish scope of guideline and articulateclinical/health question(s) 2.2 Determine feasibility of adaptation 2.3 Form steering committee and working panel(s) and determine key stakeholders and necessary resources 2.4 Determine consensus process 2.5 Write the adaptation work plan				☐ ☐ ☐ ☐ ☐		

PHASE 1: Identification and Clarification of the Practice Issue/Problem								
STEP	**Meeting Type**	**Tasks/Activities**	**Tools**	**Assigned To**	**Projected Timeline**	**Done ☑**	**Completion Date**	**Notes**
3: SEARCH and SCREEN		3.1 Search existing guidelines, systematic reviews, and new or emerging areas of evidence; confirm if guideline is *de novo*, adaptation or mixed initiative 3.2 Screen search results to develop short list for full appraisal.				☐ ☐		
4: ASSESS and SELECT		4.1 Assess shortlisted guidelines in detail for quality (AGREE), currency, content, acceptability, coherence between evidence and recommendations, and applicability and acceptability to local context 4.2 Review assessments and achieve consensus with respect to Selecting, Rejecting or Modifying specific recommendations				☐ ☐		

PHASE 1: Identification and Clarification of the Practice Issue/Problem								
STEP	**Meeting Type**	**Tasks/Activities**	**Tools**	**Assigned To**	**Projected Timeline**	**Done ☑**	**Completion Date**	**Notes**
5: DRAFT, REVISE and ENDORSE Recommendations		5.1 Draft customized guideline 5.2 Conduct internal review and make revisions 5.3 Conduct external review and obtain endorsement 5.4 Prepare final documents, including any practitioner and patient information, records or application tools, and appropriate source acknowledgments 5.5 Establish a renewal plan				☐ ☐ ☐ ☐		

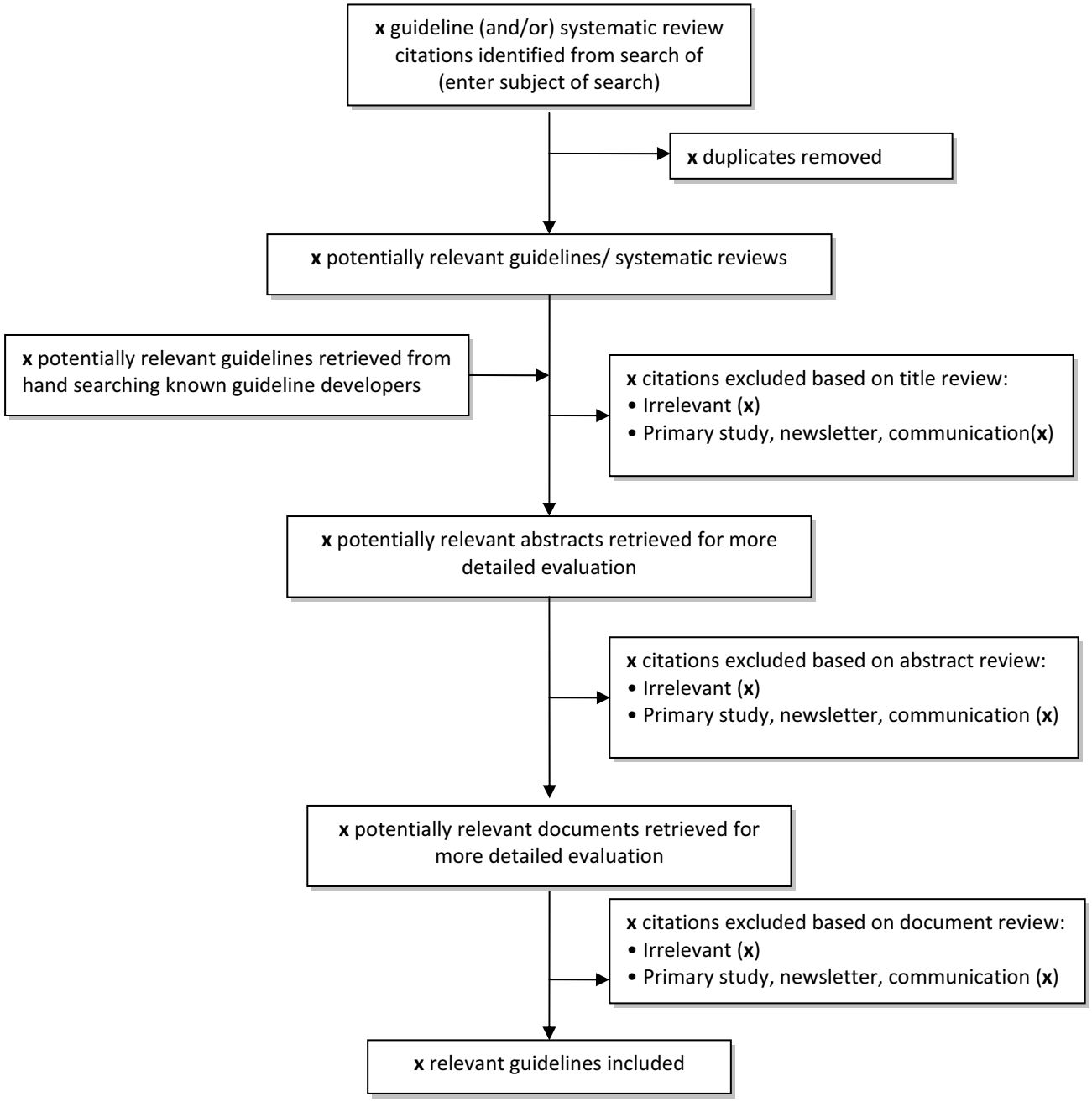
Steering Committee and Working Panel Contact Information

Name	Title	Accreditation	Organization	Address	Phone Number	Email	Expertise	Role on Team

Name	Title	Accreditation	Organization	Address	Phone Number	Email	Expertise	Role on Team

Appendix 8

P1S3 Summarizing your Screening Decisions [1,2]



Modified from:

1 Moher, D., Cook, D.J., Eastwood, S., Olkin, I., Rennie, D, Stroup, D.F (1999). Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. Quality of Reporting of Meta-analyses. Lancet, 354(9193), 1896-1900.

2 Guidelines for Authors of CADTH Health Technology Assessment Reports. Canadian Agency for Drugs and Technologies in Health. June 2001: 19

Appendix 9
P1S4 Managing the AGREE Appraisal - Facilitator Tips

1. The AGREE II Instrument
The AGREE II Instrument (Appraisal of Guidelines Research & Evaluation) provides a framework for assessing the *methodological quality* of clinical practice guidelines; it *does not assess the clinical content* of the recommendations. The 23 items in the AGREE II Instrument examine the methods used for developing the guideline and the quality of the reporting. A final Overall Assessment item allows appraisers to make a judgment on the quality of the guideline as a whole. The AGREE II Instrument is available at http://www.agreetrust.org/.

2. Request Volunteer Raters
A request for volunteer raters will need to be sent to your Steering Committee/Working Panel members. To aid members in deciding whether or not they are able to contribute to the appraisal, it is helpful to include the estimated time commitment required as well as the timeframe for the appraisal process.

3. Assign Guidelines for Appraisal
To keep the process organized, create a table to record the assignment of guidelines for appraisal to each rater. Guidelines may be randomly assigned or allocated depending on level of commitment volunteers are able to contribute. Remember to also track the completion of appraised guidelines as they are submitted by each rater.

4. Distribute Guidelines for Appraisal
Each rater requirescopies/links to their assigned guidelines and a link to the AGREE II Instrument. Advise raters to:
- Answer every question.
- Provide comments per question to clarify their interpretation for future panel discussion and consensus.
- Complete the scoring using electronic forms versus hard copy whenever possible.
- Bring a copy of their appraisal(s to consensus meeting(s).

Set a deadline for group members to send you their scores:
- Allow adequate time for the raters to read and score guidelines.
- Ensure adequate time to collect and consolidate scores and comments in advance of consensus meeting.
- Allow enough time between your submission deadline and the consensus meeting to re-contact raters who havereturned incomplete or unclear scoring sheets. Incomplete scoring interferes with accurate consolidation of the appraisals.

5. Prepare for Consensus - Plan ahead!
A meeting of guideline raters is needed to review scores and achieve agreement on which guidelines will be used for adaptation. Determine participant availability, confirm consensus process, and schedule a meeting date **well in advance**of the event, e.g., a face-to-face meeting or online conferencing using a file sharing program.

Consolidate Scores from each rater into a spreadsheet to calculate domain scores. If you would like to preserve raters original data prior to consensus, save the scores to a new file for use during the meeting and label each set of scores as “Original scores” and “Consensus scores.”

Summarize Comments for each of the 23 items into at table for quick reference during discussions.

Compare the' Overall Assessment' for each guideline bydocumenting whether raters chose 'Yes', 'Yes with Modifications', or 'No' in terms of whether they would recommend the guideline as well as any corresponding final Comments into a table.

Compare domain scores across all appraised guidelines after consensus has been reached by entering each domain score into a spreadsheet. Prepare a chart to visually compare methodological quality of each guideline.

Appendix 10

P1S4 Developing the Recommendations Matrix – a Template

	Guideline 1	**Guideline 2**	**Guideline 3**
Title of Guideline			
Publication Year (currency information)			
AGREE Rigour Scores			
Overall Quality Assessment (AGREE):	# of raters	# of raters	# of raters
▪ Yes, Recommend			
▪ Recommend with Modifications			
▪ No, would not recommend			
Description of Strengths and Limitations *Note: Sources include AGREE comments, content expert review, and guideline content.*	*Strengths:* *Limitations:*	*Strengths:* *Limitations:*	*Strengths:* *Limitations:*
Are useful Algorithms or Tools provided?	Yes☐ No☐	Yes ☐ No ☐	Yes ☐ No ☐
Description:			
Health Questions:			
Statement of Health Question #			
Is question addressed?	Yes☐ No☐	Yes ☐ No ☐	Yes ☐ No ☐
Outline specific recommendation:			
Define strength of evidence:			
Provide source of recommendation (reference/evidence)			
Statement of Health Question #2:			
Is question addressed?	Yes☐ No☐	Yes ☐ No ☐	Yes ☐ No ☐
Outline specific recommendation:			
Define strength of evidence:			
Provide source of recommendation (reference/evidence)			
Repeat above section for additional health questions …			
Are any other recommendations provided?	Yes☐ No☐	Yes ☐ No ☐	Yes ☐ No ☐
Outline specific recommendation:			
Define strength of evidence:			
Provide source of recommendation (reference/evidence)			

Modified from:

1. Harrison, M.B., & Graham, I.D. (2000). *Prevention of Pressure Ulcers: Quality Appraisal of International Clinical Practice Guidelines.* Technical Report to the Registered Nurses Association of Ontario.
2. Graham, I.D., & Harrison, M.B. (2001). *Smoking: Quality Appraisal of International Clinical Practice Guidelines*. Technical Report to the Registered Nurses Association of Ontario

Appendix 11

P1S4 Recommendations Matrix (sample data)

SAMPLE Recommendations Matrix (partial)	**Guideline #1** February 2006	**Guideline #2** February 2005	**Guideline #3** 2005
AGREE Rigour Score	67 %	85 %	18 %
Overall Quality Assessment[1]	50% with provisos or alterations 50% strongly recommend	75% with provisos or alterations 25% would not recommend	50% with provisos or alterations 50% would not recommend
Recommendations by Clinical Question/Category			
PREVENTION	Level of Evidence	Level of Evidence	Level of Evidence
Guideline #1 does not directly address prevention; recommendations under other sections (eg. Erythema) may apply.			
Guideline #2 Recommendations: Prevention of Acute Skin Reaction Section 1, Page 1 • Skin washing should not be restricted in patients receiving radiation therapy. Recommended washing practices include gentle washing[1] with water alone or gentle washing with mild soap[2] and water. [1] "Gentle washing" involves using lukewarm water and taking care not to scrub the skin. Showers should also be lukewarm and low-pressure. [2]" Mild soap: is defined as a pH-balanced, non-scented product that does not contain lanolin. There is no evidence to suggest th… soap is … 1979) *data continues …* **Qualifying Statements, Guideline #2, Section 1, Page 2:** Given the evidence for skin washing, it would seem likely that the same recommendations would follow for hair washing with		No systematic reviews, meta-analyses, or evidence-based practice guidelines were identified. Section 2, Page 3 ← **Level 1b (Grade A)** [1]reference? [2] reference? ← **N/A** ← **Level IV?** (reference on order) **(Grade C)**	

SAMPLE DATA HAS BEEN MODIFIED FOR ILLUSTRATION PURPOSES

[1] Overall Assessment response choices from the original AGREE Instrument (2001) have been used for this sample data.

SAMPLE Recommendations Matrix (partial)	Guideline #1 February 2006	Guideline #2 February 2005	Guideline #3 2005
shampoo for patients receiving radiation therapy to the head, but there is limited evidence to support this. • Limiting personal hygiene practices is not recommended as this may lead to psychosocial distress for the patient.			
Guideline #3 Prevention Strategies: Page 125 • Sucralfate Cream (2x day during treatment + 2 weeks following completion of treatment • 3M Cavilon™ No Sting Barrier Film (2-3 x/week during treatment and for 2 weeks following completion of treatment) • Calendula extract ointment: (at least 2 x / day during treatment) • Aqueous cream (3 x / day throughout treatment and for 2 weeks following completion of treatment)			**Level 1a** **Level 1b** **Level 1b** **Level 1b** **Level 1b**
Patient Education/Self-Care Teaching: Page 125 Skin Hygiene : • skin care regimen should begin on the first day of radiation treatment • short showers or baths with warm water (avoid hot or cold) • avoid using wash cloth • use mild skin cleansers with no perfume (e.g. Cetaphil) • avoid using alcohol-based hand sanitizer • pat skin dry-do not rub ***data continues ...***			**Level 4** **Level 4** **Level 4** **Level 4** **Level 4** **Level 4**
ASSESSMENT			Level of Evidence
Guideline #1 recommendations for assessment are included under care management categories: erythema, dry desquamation, moist desquamation, late reactions, recall phenomenon.			

SAMPLE Recommendations Matrix (partial)	**Guideline #1** February 2006	**Guideline #2** February 2005	**Guideline #3** 2005
Erythema: Page 6 • location • size of area • colour • discomfort (burning, itching, pulling, tenderness).	**4 – no references provided**		
Dry Desquamation Page 11 • location • size of area • colour, discomfort (dryness, itching, scaling, flaking, peeling) • monitor closely for any drainage or open area (indicator of moist desquamation)	**4 – no references provided**		
Moist Desquamation: ***data continues ...***			
Guideline #2 does not directly address assessment.			
Guideline #3 assessment recommendations are addressed early in the CPG, prior to prevention and treatment recommendations. Guideline includes RTOG/EORTC assessment scale. Radiation Therapy-Related Wounds Algorithm: Page 120 • Nursing history (exactly as below-Page 124)) • physical examination including thorough skin assessment • assess nutritional status ***data continues ...***			**Level 4** **Level 4** **Level 4**

Appendix 12

P1S4 The AGREE II Instrument – Online Access and Support

The AGREE II Instrument

The AGREE II Instrument (Appraisal of Guidelines Research & Evaluation) provides a framework for assessing the *methodological quality* of clinical practice guidelines; it *does not assess the clinical content* of the recommendations. The 23 items in the AGREE II Instrument examine the methods used for developing the guideline and the quality of the reporting. A final Overall Assessment item allows appraisers to make a judgment on the quality of the guideline as a whole. The AGREE II Instrument is available at http://www.agreetrust.org/.

AGREE II Instrument Training Tools

Two training tools have been developed to assist AGREE II users to effectively apply the tool.
The AGREE II Overview Tutorial provides an Avatar-guided overview of the AGREE II tool. This tool takes approximately 10 minutes to complete: http://agree.machealth.ca/players/open/index.html
The AGREE II Tutorial + Practice Exercise expands upon the Avatar-guided tutorial. The "Practice Exercise" tool provides trainees with the opportunity to appraise a test practice guideline with the AGREE II; upon submitting their ratings, the training tool system provides immediate feedback on how the trainees' responses compare with those of expert ratings. On average, completion of this tool takes approximately one hour: http://agree.machealth.ca/openinstrumentfeedback.aspx?id=918e38c1-a84d-45aa-8343-145c06eea243

My AGREE PLUS

By registering on the AGREE website, volunteer raters can create their own personal account allowing them to conduct practice guideline appraisals online and save them for future reference, create a personal library of practice guideline appraisals, and share appraisals with colleagues. My AGREE PLUS is available at: http://www.agreetrust.org/login/

Appendix 13

P1S5 Guideline Report Writing Template

[Insert Facility/Health Authority responsible for Guideline]
[Insert Logo]

[Insert the Guideline Title]

[Insert the Guideline Sub-title]

[Insert the name(s) of the author(s)]

[Insert date]

Revision History			
Revision #	Date of Release	Owner	Summary of Changes

[To maintain the integrity of this document, include a revision history in the working file]

Table of Contents

Overview

Abstract

[The abstract is typically a short summary of the contents of the document. A traditional 3-4 part structure may be used to highlight key points. Include the release date plus print and electronic sources.]

Introduction: [A brief context of the work. Include the purpose of the guideline initiative and the questions to be answered.]

Methods: [A description of the methodology/procedures followed to answer the health questions.]

Results and Discussion *(may be combined):*[Key results in answer to your health questions, along with comments re: importance, relevance, application.

Institutional Affiliation of Adaptation Panel

[Name and institutional or health authority/regional affiliation(s) of the adaptation panel.]

Introduction and Background

[The Introduction and Background typically clarify the subject matter (definitions, historical background) and provide the necessary contextual information to outline the practice problem (e.g., current practices and outcomes, burden associated with a disease). This section should end with a brief statement of what is being reported in the guideline. The following sections describe the objective(s), target users, target population, and health questions covered by the guideline.]

Scope and Purpose

[The Scope and Purpose typically describe the rationale or need for the guideline and overall objective(s). Potential health intent(s) (i.e. prevention, screening, diagnosis, etc.), health impact(s) (expected benefits or outcomes), and target populations of patients or individuals should be communicated. The anticipated health benefits from the guideline should be specific to the clinical problem or health issue.]; *Consider adding links to supporting tools or documents/outputs here*

Target Users

[Target users of the guideline are identified in this section. A precise description will immediately inform readers as to the relevancy of the guideline to their issue. Include a well-defined description of the intended audience (i.e. health care professionals, administrators, patients/families) and an explanation of how the guideline is intended to be used.]; *Consider adding links to supporting tools or documents/outputs here*

Target (Patient) Population

[The Target Population (patients, individuals) is described in this section.. All parameters for inclusion (i.e. gender, age, clinical circumstances, disease site/severity, psychosocial, cultural) and exclusion criteria should be specifically stated.]; *Consider adding links to supporting tools or documents/outputs here*

Health Questions

[The Health/Clinical Questions addressed by the guideline are clearly defined in this section. The following criteria are important to include when stating the health questions: target population, intervention(s), professionals, comparisons, outcomes, and health care setting/context.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Introduction and Background

- ✓ The overall objective(s) of the guideline is (are) specifically described.
- ✓ The target users of the guideline are clearly defined.
- ✓ The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.
- ✓ The health question(s) covered by the guideline is (are) specifically described.

Recommendations

[The adapted recommendations, their associated health risks and benefits, and circumstances in which they apply are stated in the following sections.]

Recommendations

[The Recommendations, which include different options for management of the condition/health issue, are clearly stated in this section. Under what circumstance (when/for whom) each option is appropriate in addition to the intent or purpose of the recommendation should be described. The strength of each recommendation based on stated recommendation grading criteria and links to the supporting evidence (summaries/tables/references) on which the recommendation was formulated must be clearly specified. Presenting the recommendations as a group, in boldface, underlined, or in a flowchart or algorithm format will help to make them easily identifiable to the target audience.]; *Consider adding links to supporting tools or documents/outputs here*

Health Risks and Benefits

[The health benefits, side effects, and risks associated with the recommendations are clearly stated in this section. Topics such as potential adverse effects, impact on survival and quality of life, symptom management and alternative treatment options should be addressed. Include supporting data of benefits and harms and discuss balance/trade-off between benefits and harms/side effects/risks.]; *Consider adding links to supporting tools or documents/outputs here*

[2]Documentation Checklist items have been adapted from the AGREE II Instrument, available at http://www.agreetrust.org/.

Supporting Evidence and Information

[The supporting evidence and panel rational for formulating the recommendations is clearly described in this section. Criteria for selecting the evidence (i.e. target population, study design, outcomes, language, and context) and the methods for formulating the recommendations should be explained in this section *or in an Appendix*. Present additional evidence/and or the results of the updating process. If existing recommendations were modified, an explanation is warranted.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Recommendations

- ✓ The different options for management of the condition or health issue are clearly presented.
- ✓ The recommendations are specific and unambiguous.
- ✓ Key recommendations are easily identifiable.
- ✓ There is an explicit link between the recommendations and the supporting evidence.
- ✓ The health benefits, side effects, and risks have been considered in formulating the recommendations.
- ✓ The criteria for selecting the evidence are clearly described.

External Review and Consultation Process

[The purpose of the external review (i.e. gather feedback, seek patient input, improve quality, obtain endorsement) is described in this section. A description of the reviewers, methods, and collection of feedback from external reviewers of the guideline are outlined in the following sections]; *Consider adding links to supporting tools or documents/outputs here*

External Review Panel

[Reviewers of the guideline (who were not involved in the development of the guideline) are described in this section. In addition to providing a list of reviewers and their affiliation, include a description of their clinical or methodological expertise, or whether they are part of the target population (patients, public).]; *Consider adding links to supporting tools or documents/outputs here*

External Review Process and Methods

[The methods used to conduct the external review and how the information was gathered is clearly described in this section. It is important to document how the feedback was gathered (i.e. surveys, hard copy edits to a draft) and the type of survey methods used if applicable (i.e.

rating scale, open-ended questionnaire).]; *Consider adding links to supporting tools or documents/outputs here*

Discussion of Feedback

[Discussion of feedback that was incorporated into the final document is addressed in this section. A summary of the key findings from the external review and reasons for not including reviewer's feedback (if applicable) should be discussed.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: External Review and Consultation Process

- ✓ The guideline has been externally reviewed by experts prior to its publication.
- ✓ The views and preferences of the target population (patients, public, etc.) have been sought.

Plan for Scheduled Review and Update

[The plan for a scheduled review and update of the guideline is clearly described in this section. Explicitly state the planned scheduled date (or time interval) of review of the guideline. Report the plan and methodology that will be used to update and review the guideline.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Plan for Scheduled Review and Update

- ✓ A procedure for updating the guideline is provided.

Algorithm or Summary Document

[Additional materials such as algorithms, summary tables, quick reference guides, educational tools, patient information pamphlets, and links to online resources, should be provided in this section to aid users in implementation of the recommendations into practice. A description of how users can access tools and resources should also be included.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Algorithm or Summary Document

- ✓ The guideline provides advice and/or tools on how the recommendations can be put into practice.

Implementation Considerations

[Implementation considerations including facilitators and barriers, resource implications, and criteria for monitoring/auditing usage of the guideline are described in the following sections.]

Facilitators and Barriers

[Facilitators and barriers which may impact the uptake of the guideline into practice are discussed in this section. It is important to describe the procedures that were used to gather information regarding the facilitators and barriers to implementing the recommendations (e.g., feedback from key stakeholders, usability testing). Include a description of how the information influenced the guideline development process and/or formation of the recommendations.]; *Consider adding links to supporting tools or documents/outputs here*

Resource Implications

[The potential resource implications of applying the recommendations are described in this section (i.e. types of cost information, methods used to gather the data, how the information was used to inform the recommendations).]; *Consider adding links to supporting tools or documents/outputs here*

Monitoring Guideline Adherence

[The strategies that will be used to monitor the uptake and adherence to the guideline are described in this section. The criteria that will be used to measure if the guideline has been successfully implemented into practice (using key recommendations as indicators) should be clearly stated.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Implementation Considerations

- ✓ The guideline describes facilitators and barriers to its application.
- ✓ The potential resource implications of applying the recommendations have been considered.
- ✓ The guideline presents monitoring and/or auditing criteria.

Glossary of Unfamiliar Terms

[An alphabetized list of terms which are newly introduced, uncommon or specialized are included in this section of the report. (Tip: using a tabular format will allow for quick alphabetical sorting of terms. With cursor placed anywhere on the table access the Table Tools Layout tab, then choose 'Sort' from the menu)]

Term	Definition

References

[All reference material used in creating the guideline is documented in this section of the guideline report.]

Acknowledgement of Source Guidelines

[The acknowledgement of source guideline developers and permissions granted (where necessary) are included in this section of the report.]; *Consider adding links to supporting tools or documents/outputs here*

Guideline Adaptation Panel

[The guideline adaptation panel, conflicts of interest, and sources of funding are described in the following sections.]

Membership and Role

[List the names of all panel members, and include their credentials, area of expertise, institution, geographical location, and role on the panel.]; *Consider adding links to supporting tools or documents/outputs here*

Conflicts of Interest

[An explicit statement as to whether members declared whether or not they had any conflicts of interest is included in this section.]; *Consider adding links to supporting tools or documents/outputs here*

FundingSources

[List all funding sources for the development of the guideline. It is equally important to document in the case that there was no external funding source. If the views or interests of the funding body have not influenced the final recommendations, it is important to include a statement to that effect.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Guideline Adaptation Panel

- ✓ The guideline development group includes individuals from all relevant professional groups.
- ✓ Competing interests of guideline development group members have been recorded and addressed.
- ✓ The views of the funding body have not influenced the content of the guideline.

Appendix

Guideline Search and Retrieval

[Details regarding the systematic search and retrieval of guidelines are described in this section. A detailed description of the search strategy should include the search terms used, database sources consulted (e.g. MEDLINE, EMBASE, PsychINFO, CINAHL), and time periods included. Hand searching methods should also be documented. A list of guidelines identified in the search, and whether or not they were considered for use in the guideline adaptation and why, should be provided.]; *Consider adding links to supporting tools or documents/outputs here*

Guideline Assessments

[Guideline assessments conducted on the retrieved guidelines are described in this section. Which assessments were conducted, in what order, and a summary of results for each assessment (including AGREE scores) should be provided. The strengths and limitations of the evidence should be discussed in detail (e.g. risk of bias, consistency, applicability, etc.).]; *Consider adding links to supporting tools or documents/outputs here*

Decision Processes

[The decision processes used by the panel to formulate the recommendations are described in this section. A description of the methods the panel used to come to consensus (e.g. Delphi method, Nominal group technique) and resolve disagreements should be explicitly stated.]; *Consider adding links to supporting tools or documents/outputs here*

Evaluation Results and Decisions

[The results and decisions of each evaluation are described in this section.]; *Consider adding links to supporting tools or documents/outputs here*

Documentation Checklist[2]: Appendix

- ✓ Systematic methods were used to search for evidence.
- ✓ The strengths and limitations of the body of evidence are clearly described.
- ✓ The methods for formulating the recommendations are clearly described.

Appendix 14

P2S1 Developing an Implementation Work Plan – a template

PHASE 2: Solution Building								
	Meeting Type	**Tasks/Activities**	**Tools**	**Assigned To**	**Projected Timeline**	**Done ☑**	**Completion Date**	**Notes**
Step 1: ALIGN KNOWLEDGE TO LOCAL CONTEXT		1.1 Identify authorities and resources, and develop a plan *Add specific activities, e.g.,* ▪ *Complete external review and confirm endorsement* ▪ *Assemble an implementation task force; a core team* ▪ *Determine leadership and facilitation roles and responsibilities* ▪ *Host a LAUNCH event to signal shift (handover) from development activity to implementation action planning* ▪ *Document planning actions, decisions, progress* 1.2 Conduct a gap analysis ▪ *Gather and review baseline data* ▪ *Collect data/information about current practice compared to (new) recommendations*	1.1a			☐ ☐		

PHASE 2: Solution Building								
	Meeting Type	**Tasks/Activities**	**Tools**	**Assigned To**	**Projected Timeline**	**Done ☑**	**Completion Date**	**Notes**
Step 2: ASSESS INNOVATION, ADOPTERS & PRACTICEENVIRONTMENT FOR BARRIERS SUPPORTS		2.1 Assess barriers and facilitators to knowledge use *Add specific activities, e.g.,* *Consult providers, patients and organization to examine local context/gather information about:* ▪ *innovation (recommendations) attributes and development process* ▪ *adopter (e.g., awareness, attitudes, knowledge, skills, concerns, current practices)* ▪ *practice environment (e.g., patients, culture/social, structural, economic factors)*	2.1a-2.1e			☐		
Step 3: SELECT & TAILOR IMPLEMENTATION INTERVENTIONS		3.1 Select and tailor implementation interventions *Add specific activities, e.g.,* *Determine intervention(s) relevant to each affected target group and need, including:* ▪ *barrier management strategies (e.g., organizational and system level endorsement, resources, equipment)* ▪ *transfer strategies (e.g., training, communications, champions)* ▪ *follow-up (booster interventions)*				☐		

PHASE 2: Solution Building								
	Meeting Type	**Tasks/Activities**	**Tools**	**Assigned To**	**Projected Timeline**	**Done ☑**	**Completion Date**	**Notes**
		3.2 Test solutions *Test and refine application tools, e.g., decision support tools, reporting mechanisms , etc*				☐		

Implementation Team Contact Information

Name	Title	Accreditation	Organization	Address	Phone Number	Email	Expertise	Role on Team

Appendix 15 P2S2 Activating Guideline Recommendations – a template for implementation planning

Activating Guideline Recommendations – a template for implementation planning				
Recommendation(s)	**Current Practice**	**Gaps**	**Barriers and Facilitating Factors**	**Actions Potential Solutions**
from adapted guideline Example: wound care	*from audit, focus group, observation …*	*description of difference between recommended practice and the guideline recommendation*	relative to each recommendation, the environment, or the adopters *What would aid or prevent implementation of a recommendation?*	*using the information from columns 1-4, tailor strategies*
1. Head to toe skin assessment every 12 hours	Variable, depends on assigned nurse , usually done 1 X daily	Inconsistent timing of assessment	Lack of time on day shift	Consider conducting the assessment on evening shift
2.				
3.				

Appendix 16 P2S2 Discussion of Potential Barriers and Facilitators (Wound Care Example)

BARRIER	FACILITATOR
(may be expressed as a challenge or concern; often a question or negative comment)	*(may be expressed as an asset or potential option/solution; often a positive reflection)*
1. Evidence-based INNOVATION (the Guideline)	
Examples:	
1.1 Development process	
▪ *Incomplete internal or external review process* ▪ *Lack of pre-guideline baseline data about procedures or outcomes* ▪ *Conflicts of interest*	▪ *Allied health services appear supportive; e.g. information technology engaged in planning process from outset*
1.2 Innovation attributes (guideline recommendations)	
▪ *Disagreements about nature or strength of evidence* ▪ *Confusion about focus or scope of recommendations* ▪ *Concerns about application tools or documentation requirements*	▪ *High level of consensus re: evidence* ▪ *Practitioners already familiar and using some of the application tools*
2. POTENTIAL ADOPTERS	
Examples	
2.1 Awareness	
▪ *Practitioners are not fully aware of gap or variation in practice*	▪ *We could partner/integrate communications with strong orientation and in-service education programs at our facility*
2.2 Attitudes	
▪ *"It's JUST a guideline...*	▪ *"We're glad we finally -based direction on have these dressings …"*
2.3 Knowledge/Skills	
▪ *Scope of practice: "We're description."*	▪ *Practitioners express interest in a demo of new process* ▪ *Facility is equipped with video-conferencing technology for training/support to remote sites*
2.4 Current Practice	
▪ *Questions re: consistency, e.g., "some nurses do dressings, some don't; some prefer certain dressings over others."*	

▪ Questions re: charting, e.g. "who is completing the patient record?; "maybe they are giving the right care but not documenting it."	
2.5 Concerns	
▪ *"We need more information on cost and availability of supplies."* ▪ *"Will there be convenient access to the guideline; will it be available in treatment rooms?"* ▪ *"How will we ensure consistency across multiple sites?"*	
3. PRACTICE ENVIRONMENT	
Examples	
3.1 Patients *(Note patient is also an "Adopter")*	
▪ *Patient Knowledge/Skills … "What about education and teaching tools?"* ▪ *Compliance … "What about the ones doing their own dressings? How do we know they are actually doing the dressings; are they independently buying product/given the dressing?"*	▪ *Proposed patient satisfaction survey, e.g. "Do you feel you have sufficient knowledge to care for your wound; were you taught the necessary care?"* ▪ *Suggestion that patients do a back demo of how dressing is applied.*
3.2 Culture/Social	
▪ *"Are the docs coming on board?"* ▪ *"What is our relationship with Homecare?"*	▪ *"This will improve inter-professional relationships … better collaboration and communication is a desired outcome."* ▪ *"(They) have agreed to post the guideline on their site as well."*
3.3 Structural	
▪ *"Access to dressings is a huge issue; we are constantly moving supplies … can't find anything."* ▪ *"We have only have 15 minutes with patient …"* ▪ *"How many agencies have asked us for our information?; between agencies it would be a nightmare to measure improved availability of dressings."* ▪ *"There is no consistency between Homecare and the policies here."* ▪ *"Not having a computer in the room is an obstacle; it's going to take some time to get stuff into the system … a binder on the units is an option, but it would be difficult to update."*	▪ *"Including Homecare is seen as important for providing consistent care; "I think we need to meet soon with them soon to find out what they order, what they don't, and to update their staff." (also an Adopter issue)* ▪ *"The guideline will be reviewed by Homecare as part of the external review."* ▪ *"We can provide access to guidelines via hardcopy, pocket cards, and on a shared drive."*

3.4 Economic	
▪ *Policy: purchase and distribution of dressing materials …"We are not supposed to provide patients with dressings; budget went over so we were told not to give dressings to patients; I have never been told not to give patients dressings; the issue is quality of care vs. cost effectiveness"; maybe outreach won't have those dressings; we can't send them home without dressings."*	▪ *"That can be addressed at the administrative level; we do have some support there."*
3.5 Uncontrolled Events	