CARE TO BE AMAZED

Knowledge to Practice (K2P)
Integrating the Use of Research Evidence in Decision-Making at Saint Elizabeth Health Care

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Key Messages

Organizations embarking on a cultural change focused on integrating the use of evidence in decision making must determine upfront that this change makes sense as a critical business imperative for the organization. A clear message communicating why the organization is embarking on this change, and how the change will assist the organization must be created. This decision and declaration of the need and rationale for change assists in creating the burning platform required to stimulate change and enables alignment of all levels of staff from the board right through to the frontline. When the change is clearly identified and perceived by all staff as fundamental to the future survival of the organization uptake is facilitated.

Integrating the use of evidence in decision making throughout an organization requires a long term commitment and investment. The change will have at a minimum a five year focus that requires ongoing investment of both human and financial resources. It is critical that the change is aligned with the vision of the organization, identified as a strategic objective, and is clearly endorsed by the Board of Directors, CEO and Senior Management team.

Continuity of leadership at all levels is critical when undertaking a change of this depth in particular at the CEO and senior champion level. A change in leadership results in an interruption in the cycle of planning and implementation that creates a knowledge gap regarding all the activities that are instrumental in laying the foundation for introducing the use of evidence in decision making. This can negatively impact on the energy and momentum of the process of change.

Time is required to evolve the future state and success factors for Evidence Informed Decision Making within the organization. It is important not to rush the process of creating the future state in order to allow for innovation and to avoid pre-empting what success will look like. Creating and communicating a vision statement that describes the future state of the organization, and interpreting what the vision looks like for the client, staff, management, and the external environment are important in order to provide context and direction. Engaging all levels of staff in determining what behavioural changes will look like as a result of this change also assists in creating a more in-depth understanding and ownership of the change.

There must be organizational readiness in terms of the priority, the intellectual space or “mind set”, the technology info- and infrastructure, and enabling leadership. It is important to have critical mass on which to build on at the outset of the change. Undertaking an organizational assessment to determine the state of readiness, identify the barriers and enablers for the change is a critical first step in implementing evidence informed decision making. Selecting and utilizing a theoretical framework to guide the change from assessment through to evaluation will provide a systematic approach that will assist in maintaining focus and progression as well as enable measurement throughout the evolution.

Enlisting the talent of the early adopters and key champions in the change management process early on is critical for success even if there are only two!! Involvement at every level is

key to successful integration. Creating synergy and building on activities already underway in the organization results in stimulating an infectious process that offers the benefit of great energy.

Integrating the use of evidence in decision making within an organization is not a linear process driven by regulated procedures. Many aspects of the change process will not be controlled in an effort to maximize the energy and momentum created through the infectious process. As a leader of the change understanding this and being flexible to work with the momentum versus trying to control it will result in greater uptake and engagement of staff.

Multiple strategies to reduce the barriers and facilitate the enablers to evidence informed decision making identified through an organizational assessment are required. These strategies must be created and focused at the individual, organizational, and environmental level. Meaning must be given to these strategies for each audience within the organization. This involves clearly identifying what the change looks like and means for each category of staff and ultimately depicting "What's in it for them, and how will it assist them in their work?

EXECUTIVE SUMMARY

Currently, the use of research evidence in home care in relation to health care delivery, practice, and policy development, is significantly lacking. At the same time, however there are expanding bodies of knowledge - programmatic, sectoral and systemic - that can assist decision-makers in making smarter decisions based on evidence that is both current and relevant.

Home care is one of the fastest growing segments of the health care system. The aging population, coupled with marked human resource shortages, limited funding and rising consumer expectations, makes it essential for organizations to optimize their resources. By looking to the literature and consciously incorporating evidence in decision-making, home care organizations can minimize guesswork, while maximizing their contribution to the health system and ensuring the most appropriate interventions and effective outcomes.

Established in 1908, Saint Elizabeth Health Care (SEHC) is a Canadian not-for-profit charitable organization that provides direct care and service, consultation, and education and e-learning, to support the transformation of care for families, health organizations and communities. By bringing together the expertise of our nurses, therapists and home support teams with the latest thinking and communications technology, we're giving people the knowledge, tools and skills they need to be fully enabled participants in care. Recognized as one of the Best Places to Work in Canada, Saint Elizabeth Health Care employs 3,700 staff and delivers three million home care visits annually. Extending our impact and reach, we also share our knowledge and wisdom nationally and internationally to help shape health policy, systems, and the design and delivery of home and community-based care.

Saint Elizabeth Health Care is currently evolving as a knowledge organization with a vision to become a ""phenomenal knowledge and care exchange company"". In order to achieve this vision it is implicit that a key driver is the creation, exchange and use of knowledge in all that we do. To this end we are striving to create a climate of critical inquiry and the adoption of an evidence-informed decision-making culture within the organization. It is within this environment and broader organizational context that the EXTRA intervention project took place. Specifically, the intervention project focused on laying the foundation required for the integration of evidence in management decision making.

A case study approach was undertaken utilizing mixed methods of data collection that included a literature review, organizational survey, organizational assessment, key stakeholder interviews with management staff, and a site visit to the Iowa University Hospital; an organization well known for best practices in utilizing research evidence (see Appendices 1 and 2 for tools utilized in this process). The theoretical framework used to guide the project was the Dobbins framework (Dobbins et al 2002, Appendix 3) that is based on Rogers' diffusion of innovations theory (Rogers, 1995).

The assessment revealed that the use of evidence in management decision making at SEHC today is at best sporadic. Barriers that limit the use of evidence to guide decision making exist at both the individual and organizational level. The key barriers included the following:

- Managers lack of knowledge and skill set to access, adapt and apply research evidence
- Lack of organizational supports for accessing, interpreting and applying research evidence
- Lack of access to research literature and meaningful evidence based reports internally
- Lack of a clearly defined future state and indicators of success for Evidence Informed Decision Making

Multiple strategies to address these barriers were developed and implemented. Identification of a strategic objective focused on the "use of evidence in decision making" at SEHC was undertaken early on in the process and provided the context for the innovation (defined as evidence informed decision making for this project) and alignment with the organization's vision.

An "Evidence Informed Decision Making" launch was held at SEHC that brought together a core team of champions to begin to address the knowledge and skills gap regarding EIDM and to include management in defining and designing the culture, future state and strategies for the use of evidence in decision making at SEHC (Appendix 9). An educational workshop was also held to address the lack of knowledge regarding the use of evidence in decision making, and to build organizational capacity related to accessing and applying evidence in decision making (Appendix 11). Additional strategies to address the individual learning needs of management staff were also developed and included fellowships, preceptorships, and virtual workshops. An internal research conference was held where staff from across the province presented on numerous projects and activities that involved the use of evidence.

Creation of new info structures such as access to on line literature, and enhanced Information Management systems took shape to support timely access to meaningful data and research evidence. Internal resources were realigned and an evidence response unit now known as the "Care to Know Unit" along with a business intelligence unit was formalized to provide support with accessing, assessing and applying evidence. An enhanced IM strategy has been created that is supported by additional resources, and a new business intelligence program.

The introduction of tools, processes, and frameworks to support the use of evidence in decision making within our organization was necessary for integration and sustainability. A literature request process was created that guides the manager in thinking through the problem they want to solve, and the type of evidence they are looking for to address the issue (Appendix 13). In utilizing this approach managers are being introduced to the first phase of the research process and methodology. A decision making framework was developed, tested and since revised based on results from the pilot with the early adopters (Appendix 13). Decision making guidelines that identify clear lines of decision making at all levels in the organization were explored and it was determined that greater emphasis be placed on providing clarity regarding roles, responsibilities, and accountabilities for the frontline and middle managers. Lastly, a new evidence based policy and procedure development process has been implemented, tested and revised based on the results from the pilot. Dissemination plans have been developed to implement this process throughout the organization.

Formal partnerships have been created with academic institutions, the Joanna Briggs Collaboration, and the Best Practice Research Unit at the University of Ottawa as an external/environmental strategy and to build capacity within the organization.

Many lessons were learned throughout the project that were used to further refine the strategies for moving the change forward. A key lesson learned at the outset was the need to determine that the use of evidence in decision making was a critical business imperative for the organization. When the change contributes to the survival of the organization alignment is enabled at all levels from the board right through to the front line staff.

In order for this depth of change to occur within an organization, we have learned that integrating the use of evidence to inform decision making is a long term change strategy that will

require the organization's ongoing commitment and investment of time and resources. Understanding that the change will have at a minimum a five year focus and that it will require continuity of leadership and ongoing investment in other resources in order to maximize and enable the change is imperative.

A very critical element of the planning process was the assessment of the organizations current state and readiness within the broader context of the external environment. There must be organizational readiness in terms of the priority, the intellectual space or "mind set", the technology info- and infrastructure, and enabling leadership. Ensuring that all forces internally and externally are lined up and that there is a critical mass to carry out the innovation are important in identifying organizational readiness.

In moving the use of evidence into decision making practices at SEHC, multiple strategies aimed at the individual and the organization level were important to reduce the barriers and maximize the enablers (Implementation phase pg 34-42). It was important to engage early adopters and champions early on in the process. Integration at every level is key to success and making the activity an infectious process offers the benefit of great energy. We have learned through using this approach that it is not a linear process strategy driven by regulated procedures. Many of the aspects of this process will not be controlled in an effort to maximize the energy and momentum created through this infectious process. Based on what SEHC has learned throughout this process a sixteen step guide for implementing EIDM within an organization has been developed (Implications for Health Care Organizations, pg 13-16)

While the activities undertaken to date have laid the foundation for the use of evidence in decision making at SEHC there is still much to be done. In order to sustain and institutionalize the changes already implemented ongoing support and commitment is required from the organization. SEHC continues to demonstrate its commitment to the change through the strategic planning process where EIDM is a strategic objective with full support of the new vision statement "**I CARE TO KNOW**". Strategic outcomes and success factors related to the vision have also been developed. Further alignment of resources, and the recruitment of additional resources to support the dedicated time and focus of the champion and capacity building has taken place. Additional innovations and strategies have been identified (Future strategies, pg 50-51) and will be implemented as part of the next steps to further embed the cultural shift with the support of the early adopters and champions. We will continue to build on the momentum already created through enhancements to our Information Management and Technology Systems that have created an energy within the organization resulting in the desire for more information and a greater understanding of the potential impact of using evidence in decision making and further advance this with our Business Intelligence Strategy (Appendix 14).

An evaluation was undertaken at the end of 2006, one year post implementation to measure the progress and impact of the implementation strategies. This evaluation focused initially on the process of implementing the specific strategies and determining whether or not they were implemented in the way they were intended to be implemented. These evaluation results were then used to adjust and revise the strategies accordingly.

Behavioral indicators have been created to assess management behaviour changes related to the evidence informed decision making strategies (pg 42). Many observations regarding changes in management behaviour have been made since the initial implementation of the EIDM strategies. All levels of management staff have commented on a heightened awareness of their colleagues regarding evidence informed decision making within the organization. There

has been a noted change in management language with more frequent references to evidence, as well as more requests from one another for the supporting evidence as part of the problem solving process.

Given that the implementation strategies for this project have been undertaken over a period of 18 months and have been revised based on early evaluative data it is too early to obtain and report on outcome evidence and this is a limitation of the work done to date. Evaluation of long term outcomes will be undertaken at the end of the 2nd year of implementation and again at year 5 in order to determine sustainability of the cultural change.

Long term measures will include assessing the number of initiatives that have been a by product of the use of evidence identified by the management team, and formally capturing the evidence used during meetings to inform decisions. Administering the same survey instrument and interview questions that were used at the beginning of this project will provide evidence on how well the organization is using evidence in decision making , and what impact the interventions have had on reducing the key barriers. Follow up interviews with key stakeholders will also be undertaken in order to understand how staff feel we have been performing in terms of increasing research use.

Future opportunities for evaluation and research relate to the impact of the intervention strategies in relation to management decision making practices. An additional research focus could be examining the impact/outcomes of using evidence to inform decision making within the organization with the future potential of comparing organizational practices and outcomes between Service Deliver Centres.

CONTEXT

Currently, the use of research evidence in home care in relation to health care delivery, practice, and policy development, is significantly lacking. At the same time, however there are expanding bodies of knowledge - programmatic, sectoral and systemic - that can assist decision-makers in making smarter decisions based on evidence that is both current and relevant.

Home care is one of the fastest growing segments of the health care system. The aging population, coupled with marked human resource shortages, limited funding and rising consumer expectations, makes it essential for organizations to optimize their resources. By looking to the literature and consciously incorporating evidence in decision-making, home care organizations can minimize guesswork, while maximizing their contribution to the health system and ensuring the most appropriate interventions and effective outcomes.

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Saint Elizabeth Health Care is currently evolving as a knowledge organization with a vision to become a “phenomenal knowledge and care exchange company”. In order to achieve this vision it is implicit that a key driver is the creation, exchange and use of knowledge in all that we do. To this end we are striving to create a climate of critical inquiry and the adoption of an evidence-based decision-making culture within the organization. It is within this environment and broader organizational context that the EXTRA intervention project took place. Specifically, the intervention project focused on laying the foundation required for further evolution as an evidenced informed decision making organization.

The use of research evidence to inform management decision making at Saint Elizabeth Health Care (SEHC) is not embedded in our decision making process or culture. While the use of evidence tends to be more predominant in the clinical domain where our clinical leaders utilize research evidence to inform program development, best practice, and policy, the same cannot be said for our management area. This may be a result of our culture that has historically not expected our managers to be using research evidence to inform their decision making as well as the various educational backgrounds of our management staff, their knowledge of the literature and exposure to research and the use of evidence. In addition gaps do exist in our organizational processes, structures, and systems that are required to support the access, use and uptake of research evidence.

PROBLEM STATEMENT

An organizational review (Dobbins, 2002) revealed that the use of evidence in decision making at SEHC today is at best sporadic. Barriers that limit the use of evidence to guide decision making exist at both the individual and organizational level. The key barriers include the following:

- Managers lack of knowledge and skill set to access, assess, adapt and apply research evidence
- Lack of organizational supports for accessing, assessing, interpreting and applying research of evidence
- Lack of access to research literature and to timely and meaningful evidence based reports internally
- Lack of clearly defined future state and indicators of success for Evidence Informed Decision Making

The focus of the intervention project was to identify and implement solutions to address these barriers in order to lay the foundation for the organization to move forward with the integration of evidence informed decision making.

SCOPE OF THE PROJECT

Initially the focus of this project was extremely broad and the plan was to address all levels of decision making within the organization right from the members of the Board, through to the front line clinical staff. Upon reflection and for purposes of this fellowship the scope of the project was narrowed to focus on Senior Management, which includes the CEO, and Senior Vice Presidents, in addition to the Vice Presidents, and Service Delivery Centre (SDC) Managers.

IMPLICATIONS

Implications for SEHC

The implications for SEHC are focused at both the individual level as well as at the broader organizational level. For many management staff at SEHC the use of evidence in decision making was new and required learning new skills and adapting new behaviours in order to integrate and sustain the use of evidence in decision making. This learning will be ongoing

along with the continuous development and support of the champions and early adopters in order to further build capacity.

While the work undertaken through this intervention project has laid the foundation for the integration of evidence in decision making there is much more to be done in order to truly evolve the culture and sustain the change. A continued focus and investment will be required along with the development of additional strategies in order to reinforce and embed the change within the culture. The future state and indicators of success will need to be refined in order to provide greater clarity so that our staff understand what the future state looks like along with the role they play in achieving the future state. Ongoing evaluation regarding the effectiveness of the strategies utilized will be required.

Implications for Health Care Organizations

Sixteen Step Process

Health Care organizations wishing to embark on the journey of integrating the use of evidence in decision making may want to take the systematic approach utilized in this project and apply it within their own organization. The following provides an outline of the key steps involved in laying the foundation for EIDM in an organization based on SEHC's experience to date:

1. Prior to embarking on the journey it must be determined by the Board of Directors, CEO, and Senior management team that a cultural change of this magnitude is critical to the organizations future state(survival) and that it is well aligned with the organizations mission and vision.
2. Identify evidence informed decision making in the organizations strategic plan and create high level indicators in order to facilitate measurement of organizational performance related to EIDM

3. Identify a Senior leader within the organization to champion the change in order to create focus and clear accountability.
4. Select a theoretical framework to enable a systematic approach to the cultural change. A well chosen framework will guide and focus the change process from the initial assessment through to evaluation. SEHC used Dobbins Framework (Dobbins et al 2002, Appendix 3) that is based on Rogers' diffusion of innovations theory (Rogers, 1995).
5. Assess the current state of evidence and practice regarding EIDM through sources such as a literature review, interviews with experts in the field, and site visits to organizations that are well know for best practices in utilizing research evidence.
6. Undertake an organizational assessment in order to determine organizational readiness and take the time required to do this thoroughly (EIDM Timeline at SEHC, Appendix 4). This will include identifying the organizational enablers and barriers to evidence informed decision making as well as provide information on the level of EIDM currently taking place within the organization. Tools used to undertake an organizational assessment at SEHC included Dobbins Framework (Dobbins et al 2002) that focused on barriers and enablers of the innovation itself, and those found at the individual, organizational, and environmental level (Description of how SEHC applied the theoretical framework, pg 17 to 21). Survey tools used to further understand current management decision making processes and the level of EIDM that existed within the organization included The Canadian Health Services Research Foundation Self Assessment Tool: Is Research Working for You?, 2002 (http://www.chsrf.ca/other_documents/working_e.php. Appendix 1), and a management interview tool created by SEHC (Appendix 2).
7. Initiate the creation of a vision and future state for the organization along with success indicators in order to create clear context and direction for the change.

8. Create multiple implementation strategies specifically focused on reducing and removing the barriers while facilitating the enablers that were identified in the organizational assessment. Ensure that the strategies are aimed at the individual, organization, and environmental level. Create meaning for each strategy and each target audience.
9. Create evaluation measures that are aligned with the strategies that include both process and outcome indicators. Short term measurements may be primarily focused on process and behavioural changes while the longer term measurements may be more outcome focused as it is difficult to collect true outcome evidence that indicates a sustainability of change early on in the process. The identification of anticipated behavioural changes at SEHC was undertaken as the vision and future state for EIDM was further refined (Evaluation measures, pg 42). Creating a description of what the vision looks like for the client, the frontline staff, management and the external environment assisted with the process.
10. In the assessment phase confirm that all forces and resources are lined up both internally and externally and that internal capacity exists to move forward, this will assist with determining that the timing for implementation is right. Start with creating synergy for EIDM by building on and aligning with key activities already taking place within the organization.
11. Identify early adopters and champions within the organization and engage them in further refining the strategies. They also play a critical role in determining how best to implement the strategies.
12. Formally launch the implementation of EIDM with the senior team, early adopters and champions. This approach provides the opportunity to share the business imperative of the change, create the burning platform that will feed the change process, and create a common understanding of what EIDM is and what the vision and future state for EIDM

looks like for the organization. (Objectives and agenda of EIDM launch, workshop and evaluation tools, Appendices 9,10,11,and 12).

13. Pilot test and evaluate strategies prior to full implementation as this allows for refinement of the strategies and greater success with full implementation.
14. Implement selected strategies in a phased in approach that address the individual, organizational and environmental barriers. Start with those that require the least amount of effort to implement and that will result in quick wins (Implementation strategies, pg. 34 to 41).
15. Continually develop, test, evaluate and refine implementation strategies while monitoring the organizations performance.
16. Create partnerships with external organizations that will enable capacity building for EIDM within your own organization. These may include academic institutions, research funding organizations such as the CHSRF, and Best Practice Units.

Organizations will be required to make significant investments in terms of both financial and human resources over a long period of time to achieve this type of cultural change. Ongoing commitment at all levels of the organization to staying the course in order to have the future state evolve based on learnings and lived experience with the process is critical for success.

Implications for Research

The opportunity now exists to undertake research activities that focus on examining the outcomes and impact of integrating the use of evidence in decision making within SEHC. Questions such as “how does the use of evidence to inform decision making impact on management practices” and, “Is there any difference in the quality, type, and speed of the decisions made by those that use evidence versus those that do not” could be examined with

further research. In addition more work needs to be done in the area of sustainability, focusing on identifying and measuring the long term effectiveness of strategies. On a broader scale it is clear that there is little research done in general in community health care regarding the use of evidence in management decision making.

APPROACH

Methodology

A case study approach was undertaken utilizing mixed methods of data collection that included a literature review, organizational survey, organizational assessment, key stakeholder interviews with management staff, and a site visit to the Iowa University Hospital; an organization well known for best practices in utilizing research evidence. This approach was undertaken in order to collect and compare information from multiple sources, and to allow for increasing the depth, focus, and refinement of data collection. This approach builds on the knowledge gained from each method used.

Theoretical Framework

The theoretical framework used to guide the intervention project at SEHC was the Dobbins framework (Dobbins, et al, 2002) that is based on Rogers's diffusion of innovations theory (Rogers, 1995). This model clearly defines and illustrates a five stage innovation adoption process. The five stages are knowledge, persuasion, decision, implementation, and confirmation. This framework was used to guide the assessment phase of the project, the identification and implementation of the intervention strategies, and the creation and implementation of the evaluation plan. The innovation in this intervention project was the use of evidence in management decision making at SEHC.

Knowledge Stage

At the outset of the intervention project SEHC identified the need to move from being an organization that based its decision making on opinion, experience and intuition to an organization that utilized evidence to inform management decision making.

During the assessment phase evidence was collected through various sources that included a literature search, a management survey (Canadian Health Services Research Foundation, 2002) Self Assessment Tool, http://www.chsrf.ca/other_documents/working_e.php.), management interviews, a site visit and an organizational assessment (Dobbins, et al 2002) of the facilitators and barriers to the use of evidence in decision making. This information was analyzed independently, and then integrated in order to undertake a comparison of the evidence to further understand and validate findings. The following describes in more detail the approach taken within the knowledge stage.

Literature Review

The sources used to retrieve the literature included electronic databases searching for the years 1995 ¨C 2005 from Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, Cochrane Library, PubMed, and ISI Web of Science social science database. The same search strategy was executed for all databases using the same keywords and the standardized subject headings (MeSH) mapped to each database. Keywords included: research utilization, knowledge transfer, evidence based practice, decision theory, evidence informed decision making, decision making models/frameworks, leadership and decision making, research utilization, nursing practice - evidence base, evidence based medicine. On-line searches of authors known to publish in the areas of leadership or research utilization, and manual searches of reference lists from retrieved articles were also done.

Articles were also obtained through known experts in the field, and through course readings from EXTRA and the University of Ottawa's course on Knowledge Transfer for Health Service and Policy Research. Key books were also identified through a general internet search as well as referred to through known experts in the field. Through this process 200 abstracts and four books were identified. The abstracts were reviewed and the selection was narrowed down to 54 articles and three books based on their relevance to the project. An initial review of the relevant literature was undertaken and the articles were categorized in terms of the relationship, and significance to the key topics of the intervention project.

Management Survey

In order to gather information regarding managements' perspective about the use of evidence in decision making in our organization, a survey was given to SEHC leaders including senior managers, middle managers and clinical consultants. Although the focus of the intervention project was on the senior and middle managers it was decided to include the clinical consultants in this portion of the organizational analysis given their historical practices of using evidence to inform clinical practice. The survey was designed to answer the question 'Is Research Working for you?' (Canadian Health Services Research Foundation, 2002) Self Assessment Tool (Appendix 1).

Key Stakeholder Interviews

Twenty one Service (100%) Delivery Centre (SDC) managers and 3 (100 %) Senior Vice Presidents and 2 (100%) Vice Presidents participated in a one hour key informant interview over the telephone and in face to face meetings. A semi-structured interview guide was used to elicit managers' opinions and experiences regarding decision-making within the organization (Appendix 2). The interviews were then transcribed and analyzed for common patterns and

themes. A code recode technique was used for purposes of verification by an external expert. To establish accuracy of the analysis the results were shared with the participating management staff and were further validated by those involved.

Site Visit

The University of Iowa Hospital (UIH) was identified as a Leader in the use of research evidence and has been implementing an evidence based practice program for over six years. To build on and learn from the wisdom and expertise of this institution, a site visit was undertaken on June 21-22, 2005.

Two observers both from SEHC went to the University of Iowa Hospital, (one of them being myself) and met with many key representatives and experts from both the hospital and the affiliated school of nursing for hour long discussions over the course of two days. One observer focused on the area of organizational, culture, philosophy, leadership, and supportive infrastructure investments related to the use of evidence. The other observer focused on the processes, systems, info structures, data collection methodologies, analysis and reporting mechanisms. The discussions were based on identified learning needs of the observers and expertise and concrete real-life examples of the experts and representatives from the Chief Nursing Officer through to the frontline staff.

When the two observers returned to SEHC, a debriefing session was held using an Appreciative Inquiry Framework (Hammond, 1998). This approach emphasizes what works best in organizations rather than focusing on what is not working. The result of an Appreciative Inquiry is a series of statements grounded in experience that describes an organization working at its highest potential. The intent of this inquiry was to document successful strategies and best practices observed within the University of Iowa Hospital that supported the utilization and

uptake of evidence. Using this methodology, several strategies were identified. The strategies were then organized into themes of education, reward and recognition, performance expectations, infrastructures (that included structures, processes and people), info- structures, culture, and external/environmental. Utilizing the framework created by Dobbins and colleagues (Dobbins et al, 2002) the themes were then categorized.

SEHC Organizational Assessment

Moving to the persuasion stage of the framework created by Dobbins and colleagues (2002) the characteristics of the innovation, the individual, organization, and environment were examined in order to determine their influence on the adoption of the innovation. These characteristics were identified through an organizational assessment and were defined as either barriers or facilitators for the adoption of the innovation; the use of evidence in decision making.

RESULTS

Literature Review

Throughout the last two decades the use of research evidence to guide practice and clinical decision making in the field of medicine and nursing has been recognized as not only important but in fact a necessity (Le May, et al, 1998, Ciliska, et al, 1999, Titler, et al, 2002, Henderson, et al, 2005). In our current environment of rising health care costs, evolving consumer expectations, and effective quality care, evidence based health care has emerged as a dominant theme (Dobbins, et al 1998, Kizer, 2001, Rycroft-Malone, 2004, Jochen, 2005).

This focus on evidence based clinical practice has resulted in an increased interest in the adoption of evidence in management decision making practice (Kovner, et al, 2000, Walshe, et al, 2001, Baker, et al 2004). Although much has been published on evidence based clinical practice and it's importance (Gerrish, et al, 1998, Titler et al, 2002, Parran, 2004, Henderson, et

al, 2005), it appears that there is less in the literature regarding the use of evidence in management decision making in health care specifically, and a paucity of research literature related to evidence informed decision making and home care. For this reason much of the literature reviewed and utilized to guide this intervention was obtained from the clinical field in nursing and medicine, and focused on the following four themes: 1) Diffusion of Innovation, 2) Organization Cultural Change, 3) Leadership and Evidence Based Practice, 4) Key strategies for implementing evidence informed decision making.

It is important to note however, that there is a distinction between evidence based clinical decision making and evidence informed management decision making and that a direct link cannot be made. Clinical decision making is a more linear process whereas management decision making can be diffuse, non linear, and somewhat haphazard (Champagne, 1999, Lomas, 2000). That being said fostering a culture of critical inquiry in which evidence informs decision making is the first step in laying the foundation for either type of decision making. Johnston identifies the most difficult step in the evidence based process as “Step 0”, which is the point where individuals recognize and admit uncertainties and begin to formulate questions (Johnston, et al 2005). Creating a climate of critical inquiry begins at “Step 0”. Therefore throughout this intervention project there was an opportunity to build on what we know about the EBDM process for clinical decision making and adapt it to the creation of an environment for EIDM in the organization as a whole.

Diffusion of innovations as defined in the literature is a new set of behaviours and ways of working that are directed at improvements in various areas of organizational performance and client health outcomes (Rogers, 1995, Greenhalgh, et al, 2004). Integrating the use of evidence in decision making at SEHC is in fact an innovation aimed at improving decision making for

improved individual, client and system outcomes. In order to determine the best approach to laying the foundation for the use of evidence in decision making at SEHC Dobbins and colleagues framework (2002) that is based on Rogers Diffusion of Innovations theory (1995) was utilized. This enabled a systematic approach from the early organizational assessment through to the evaluation as the project followed the five stages outlined in the framework: knowledge, persuasion, decision, implementation and confirmation (Dobbins, et al 2002).

The diffusion of innovations theory suggests that characteristics of the innovation, individual, organization and environment all influence the uptake of innovation within an organization (Dobbins, et al 2002, Greenhalgh, et al 2004). As a result multiple intervention strategies are required that are tailored and targeted at each level in order to effect a sustainable cultural change (Dobbins, et al, 1998, Ciliska, et al 1999, Newman, et al 2000, Seel, 2000, Grimshaw, et al 2004, Cullen et al, 2005). Several articles focused on the use of frameworks and models as effective strategies for addressing these areas in order to support evidence based practice (Kitson, et al 1996, Titler, et al, 2001, Stetler, 2003, Rycroft-Malone, 2004, Ciliska, et al 2005). Strategies created for this project were targeted at each of these levels and focused on minimizing the barriers while maximizing the enablers.

Setting the stage and culture for the use of evidence is often identified in the literature as the role of the leadership/administration (Caine, et al 1997, Stetler, et al, 1998, Titler, et al, 2002, Udod, et al 2004, Mary, 2005). Titler (2002) suggests that while providing this leadership is not for the “faint of heart” it is a continuous process that incorporates four major building blocks that include alignment with the organizations vision, integration into the governance structure demonstrated leadership at the senior level, and a culture that values critical inquiry. These building blocks were incorporated into the design of the implementation strategies utilized to lay

the foundation for the use of evidence in decision making at SEHC. Given that administrative support and encouragement is identified in the literature as one of the greatest facilitators to research utilization (Funk et al, 1995) management at SEHC was actively involved at the outset with this change.

Multiple intervention strategies for promoting the use of evidence in clinical practice and decision making were described in detail throughout the literature and included evidence based practice internships for staff nurses (Cullen, et al, 2004), the creation of an evidence based policy process (DePalma, 2002), and the creation of infrastructures that enabled communication and promotion of research knowledge development and skill development for internet searches (Henderson, et al, 2005). This evidence reinforced the need to design multiple strategies focused at the individual, organizational and environmental level in order to support successful adoption of the innovation.

Organizational Survey

Thirty-nine surveys were personally given out to individuals with addressed return envelopes. An overview of the EXTRA fellowship was provided at the time along with the purpose of the survey. Completion and return of the surveys provided 'implied consent'. Of the 39 surveys distributed 31 were returned. The response rate was as follows:

- 8 Clinical consultants – 100%
- 16 SDC Managers – 70%
- 7 Senior Management including VPs and Senior VPs – 100%

A quantitative approach was used to analyze the survey results that were then shared and further validated with the management staff involved. A summary of the results follows with a detailed report attached in Appendix 5.

The results of the survey provided a good overview regarding management perceptions of organizational performance related to the use of evidence in decision making. Overall the responses from management staff at SEHC indicated that as an organization we were 'poorly' or 'inconsistently' accessing, assessing and applying evidence within the organization. Managers felt that the application of research was not seen as a priority or a goal within the organization and as such a culture that values, supports, and incorporates evidence in the decision making process did not exist throughout the organization.

Senior VP's and VP's tended to indicate with greater frequency that the organization was doing poorly in most categories where as SDC Managers indicated more often that the organization was inconsistent versus doing poorly . The Clinical Consultant group more frequently responded that the organization was doing well in its use of research. This difference is not surprising given the focus on the use of research evidence in clinical practice within the organization. A small number of staff (1-3) responded "don't do" to all of the questions, with the same number indicating that they didn't know how the organization was performing in various areas. This last response may be due to the fact that some of the employees completing the survey were new to the organization at the time of the survey.

The findings indicated a need for improvement in all areas of research utilization including accessing, assessing, adapting, and applying research evidence in the decision making process. In addition the results validated the organizations perception regarding the current

practice and strength of the clinical team in relation to the use of research evidence. This was very valuable information as it reaffirmed that the organization already had in place champions and best practices to draw from and build on in moving forward with the innovation. The results also provided an excellent baseline for further evaluation and comparison.

Interview Results

The following is a summary of the interviews undertaken with the SDC Managers, the Senior VP's and the VP's. The results were categorized into the following four categories: the types of decisions managers make in their jobs, the sources of information they use to make decisions, and the perceived enablers and barriers to decision-making within the organization. Possible solutions were identified through the course of the interviews and included in the results. Understanding the types of decisions made by managers was identified as an important context for understanding information use (Thompson, et al 2004). The following summary is an aggregate of all managers interviewed. More detailed results can be found in Appendix 6.

Types of Decisions

The managers reported that the types of decisions they make vary greatly within any given day. The decisions range from human resources planning and management, to planning for new programs and services, to day-to-day operational issues. Managers make financial and budgetary decisions related to contract management, quality, risk, and business ventures. Types of decisions vary between management groups in terms of the level, accountability and implications for the organization. Senior level decisions are usually broader in context and often relate to the corporation's performance, thereby having greater implications for the organization. Senior Managers most frequently reported decisions related to organizational strategy, planning, identification of corporate objectives, tactical planning, and human rights claims.

Sources of Information used in Decision Making

When faced with decisions, all managers consult widely and gather information from various sources. The findings from the interviews indicated that the number one source of information sought out by the majority of management staff is “other people”, and more specifically “colleagues they can trust”. In addition, it was identified that managers use past experiences and internal sources of information to make decisions including: “gut instinct”, “intuition”, and “your own knowledge”.

In addition to consulting with others, managers use internal information sources that ranged from risk data, to policies and procedures, to utilization reports. Examples of external sources of information included the regulatory bodies, professional associations, and the Ministries of Health and Long-Term Care, Training, Colleges and Universities, and Education. Senior leaders reported additional sources such as corporate level data collected through indicators, various sources of legislation to guide decision making, and external market data.

Some of the managers reported seeking out other sources of information including, literature reviews and internet searches however this type of activity was used only by a few and was not consistent within management practices due to access issues, comfort with technology and confidence with assessing and applying the information obtained.

Enablers to Decision Making

First and foremost, having access to individuals for consultation was the biggest enabler within the organization. Managers reported that feeling safe to make mistakes, trusted and empowered by senior management and respecting the people they work with as facilitators for decision-making.

Barriers to Decision Making

Many of the enablers identified by some were also identified as barriers by others. For example although technology was seen as an enabler, it was also seen as a barrier due to the multiple access points for information (voicemail, email, cell phones, pagers). In addition there was a considerable varying level of comfort and skills regarding the use of technology to access information amongst management staff.

Although managers use internal reports as sources of information, they identified numerous barriers to accessing accurate, timely information. Managers felt that the reports lacked consistency, were not well organized and were not user friendly. Furthermore, there was no easy way to access evidence and literature within the organization. Additional internal barriers include: a lack of standardization regarding decision making across SDCs, different departments working in silos, and a lack of clarity regarding sources of information.

Proposed Solutions

SDC Managers recognized that although the organization has an accountability to reduce the identified barriers, they also acknowledged their individual responsibility in this process. Managers offered feedback to the senior management team which included: improving communication, providing the rationale and evidence for decisions and change, and clearly identifying decision making accountabilities and responsibilities. New user friendly systems for accessing evidence both in terms of internal data as well as research evidence was identified as a must for integrating the use of evidence in decision making. “If we can’t get it, we can’t use it”.

SITE VISIT FINDINGS

In keeping with evidence found in the literature (Gerrish et al 1998, Le May, et al 1998, Stetler, et al 1998, Newman, et al 2000), the University of Iowa Hospital utilized many strategies to integrate and sustain the use of evidence in practice. Strategies aimed at both the individual and organization were evident and all were aligned with the vision of the organization.

The successful strategies observed at the University of Iowa Hospital were organized into themes of education, reward and recognition, performance expectations, infrastructures, info-structures, culture, and external/environmental. Utilizing the framework created by Dobbins and colleagues (2002) the themes were then categorized as those aimed at the individual, the organization including culture, and the environment. Characteristics of the innovation itself, evidence based practice were not addressed in this site visit assessment and report. Highlights of the assessment are provided here and a detailed report can be found in Appendix 7.

Strategies aimed at the Individual
Education

Education and skill development that focused on an introduction to evidence based practice, search skills, and research analysis skills was offered to all levels of management within the organization and included annual competency days or retraining days. An internship program was offered to frontline staff and access to the evidence based practice unit staff for ongoing education and knowledge exchange provided just in time education.

Performance expectations

The utilization of evidence in practice, program planning and in the near future in all management decision making was clearly identified as a performance expectation throughout

the organization. Performance expectations were made clear through job descriptions, management competencies and performance appraisal tools.

Reward and Recognition:

The reward and recognition program at the University of Iowa was extremely pivotal to the success of research utilization. Participation in an Evidence Based Practice (EBP) activity was given high profile within the organization and beyond. (Details regarding the reward program can be found in Appendix 7).

Strategies aimed at the Organization
Infrastructure
Structures – Research/Quality/Practice integration

There are many structures that are well aligned to support evidence based practice at this site starting with the philosophy statement that clearly shapes the vision and strategic directives regarding the use of evidence in decision making. Leadership of this strategic directive is provided by the Chief Nursing Officer (CNO) who is a member of the Senior Management team. Accountability for this directive can be found at all levels of management and is clearly aligned with the organization's business imperative.

Process

The UIH uses the Iowa Model (Titler, et al, 2001) to support and clearly define the process for evidence based practice that can also be applied to evidence informed decision making. The model supports quality management, and evidence based practice principles and functions by clearly defining roles, accountability and communication pathways.

People

Engagement in the EBP philosophy, vision and process was exhibited at all levels of staff throughout the organization. Engagement is led by a network of Senior Leaders, Advanced Practice Nurses and the Managers and is done in a number of ways including having key EBP representatives at all discussion forums and recognition activities for nursing staff.

Info structure

Marita Titler identified barriers to the use of evidence in clinical practice including conflicting research results, research reports that are difficult for staff to understand, and relevant studies not compiled in one place (Titler, et al, 2001). The UIH has overcome these barriers by providing streamlined access to many sources of information, reports that are timely and accurate, and data that staff can directly access. Easy and accessible computer stations exist on each unit that provide access to search engines and retrievable literature at the click of a mouse.

Organizational Culture

A vision for evidence-based practice at the University of Iowa Hospital seems to live within the culture of the organization. Communication and messaging is consistent from the top down and the bottom up with quality client care being central to evidence based practice. "Using evidence in all we do" is a subtle message but clearly understood by staff throughout the institution. A culture of inquiry, support for asking questions and challenging the status quo is evident at all levels within the organization.

External/Environmental

Access to educators, PhD prepared staff, librarians, and colleagues knowledgeable about research further supported evidence based activities that were taking place within the institution.

SEHC ORGANIZATIONAL ASSESSMENT
Application of Dobbins Framework

An organizational assessment of SEHC was undertaken utilizing the theoretical framework created by Dobbins and colleagues (Dobbins, et al 2002). The following highlights some of the key enablers and barriers identified through the organizational assessment. Specifically the assessment addressed characteristics of the innovation (the use of evidence in decision making), the organization, and the environment. A more detailed description of the findings can be found in Appendix 8.

Facilitators and Enablers
Characteristics of the Innovation

The characteristics which positively influence the uptake of an innovation include relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1995). At SEHC enablers of the innovation included the alignment of the innovation; evidence informed decision making with the organizations vision, the existing use of evidence to inform clinical practice, and the ability to evaluate the innovation on many levels. Characteristics of the innovation that were barriers included the lack of clarity managers currently had regarding how they might use evidence to inform their decision making practices, along with the lack of knowledge regarding the evidence.

Characteristics of the Individual

Individual attitudes have been described by Estabrooks and Hatcher as key influencers of research utilization (Hatcher, et al 1997, Estabrooks, et al 2003). Managers at SEHC perceived that they had both the authority and autonomy for decision making which is an enabler however varying management attitudes and education regarding the relevance and use of evidence existed and is a barrier for the uptake of evidence informed decision making.

Characteristics of the Organization

Organizational characteristics such as the structure, culture, communication systems, and leadership support have been identified by DiCenso et al (2005) as characteristics that influence the adoption of research utilization. Enablers within SEHC included the CEO's commitment to the use of EIDM, identification of a champion dedicated to the change along with the alignment of resources. Multiple communication strategies and venues were also viewed as enablers however the size of the organization, the multiple sites (21), and the lack of access to literature and timely meaningful reports were identified as barriers.

Characteristics of the Environment

Environmental characteristics associated with positive innovation adoption include reporting relationships, urbanization, network embeddedness, and regulation and legislation (DiCenso et al, 2005). The key enablers identified included the positive relationship between the Senior Team and the Board of Directors, the current environment of transparency, accountability and the use of evidence, as well as the managed competitive environment where knowledge provides a competitive advantage. Barriers included the external pressures from the current funders that impact on decision making autonomy and the unstable health care funding environment.

The results of this organizational assessment provided an excellent guide for the development of intervention strategies that maximized the enablers and focused on deconstructing the barriers**.**

IMPLEMENTATION

Decision Phase

During the decision phase the research evidence along with other sources of evidence and information are examined and a decision is made to adopt or not to adopt the innovation (Dobbins, et al, 2002) Identification of the key stakeholders early on in the process is important as they will determine whether or not to adopt the strategy and then will influence how the innovation will be implemented (DiCenso, et al 2005). Commitment and support from the President of the Board and the CEO was identified very early through the application process to the EXTRA fellowship program. There was alignment of the fellowship and intervention project with the organizations vision and business imperative.

Implementation Phase

Once the decision is made to adopt the innovation, the organization then participates in activities that will facilitate the implementation and uptake of the innovation (DiCenso et al 2005). The implementation/intervention strategies were identified in response to the evidence collected through the assessment phase that resulted in the identification of the following barriers:

- Managers lack of knowledge and skill set to access, and apply research evidence
- Lack of organizational supports for accessing, and applying research evidence
- Lack of access to research literature and to timely and meaningful evidence based reports
- Lack of clearly defined future state and indicators of success for EIDM

Strategies were further evolved and supported through findings in the literature. A multi-strategy approach was utilized that focused on optimizing the enablers and minimizing the barriers to using research in decision making at the individual, organizational, and environmental level (Royle, et al 1998, Newman, et al 2000, Dobbins, et al 2001, Stetler, 2003, Cullen, et al 2005)

Engaging the Senior VP's, VP's and SDC managers throughout the assessment phase of the project was undertaken in order to understand their individual values, beliefs, and general attitude towards the utilization of evidence in decision making. This approach also enabled the identification of early adopters and champions that would play a key role in supporting and leading the organizational change (Greenhalgh, et al 2004, NCCSDO, 2004).

A formal presentation was undertaken with the Senior team to share the information collected from the assessment component of the project and to discuss potential strategies for implementation. The end result of this process was the identification of a strategic objective focused on the "use of evidence in decision making" at SEHC. This was determined as important in order to provide context for the innovation and to align it with the strategy for achieving the organization's vision (Titler, et al 2002, Graham, et al 2004,). Further discussions with the CEO confirmed the need to begin to define the future state and success factors for evidence informed decision making at SEHC.

The Launch

An "Evidence Informed Decision Making" launch was held at SEHC in October 2005, to bring together a core team of champions to begin to address the knowledge gap and skills regarding EIDM and to include management in defining and designing the culture, future state and

strategies for the use of evidence in decision making at SEHC (see Appendix 9 for the launch agenda and objectives) (Weber, et al 2000, Titler et al 2001).

Thirty staff comprised of SDC Managers, General Managers, VP's and Senior VP's participated in this half day event. The mix of management staff ensured that there would be participation and engagement at the local, regional and central levels of management. The CEO set the stage by providing the context for the launch and speaking about the alignment of evidence informed decision making with the organizations vision and the business imperative for this change.

While the evaluation of the day demonstrated that most of the objectives were achieved it was clear that many of the staff were uncomfortable participating in designing the future state, and indicators of success (see Appendix 10 for evaluation tool and results) Given this outcome a future state document that includes the vision statement for evidence informed decision making "**I CARE TO KNOW"** was created. Strategic outcomes and success factors of this vision that relate to the client, frontline clinical staff, management staff, and external partners have been identified. A voluntary core working group with representation from the 30 staff that attended the launch has come together to further refine the content and to assist with creating the approach to communicate and bring alive for all staff this vision of caring to know within the organization. This activity addressed the barrier identified through the assessment regarding the lack of a clearly defined future state and success indicators.

Educational Workshop

A workshop was held in collaboration with two EXTRA fellows and staff from the Toronto Department of Public Health, and Sunnybrook and Women's College with the support of the

Canadian Health Services Research Foundation (CHSRF). The purpose was to address the lack of knowledge regarding the use of evidence in decision making, to assist our management staff to evolve their skills and to build organizational capacity related to accessing and applying evidence in decision making (Rutledge et al, 1995, Waddell, 2002, Stetler et al, 2003, Cullen et al, 2005). The session was entitled "Management Decision Making- An Art or Science?" Guest speakers included Sister Elizabeth Davis, the Chair of the Board of Trustees, CHSRF, Dr. John Lavis, Associate Professor and Canada Research Chair in Knowledge Transfer and Uptake, McMaster University, and Dr. Jean-Louis Denis, Professor, Universitie de Montreal, Academic Advisory for the EXTRA program, and CHSRF/CIHR chair. (see Appendix 11 for the agenda and objectives of the workshop).

Thirty staff from SEHC attended this event and the evaluation was extremely positive and consistent with the previous day's evaluation (see Appendix 12 for evaluation survey and results). There was a high level of interaction amongst the staff and enthusiasm for future educational sessions was evident.

Over the course of the following year (2006 to 2007) multiple educational strategies were created in order to address the varied levels of knowledge and education regarding EIDM. Examples include the following:

1. Leadership fellowships focused on managers individual learning related to the use of evidence in transformational leadership practices
2. Regional knowledge exchange sessions with the SDC management staff facilitated by managers who had completed a fellowship. These sessions were focused on discussing the learning's and practical application of the knowledge gained through the fellowships

3. Conference participation of management staff at all levels at key conferences focused on research use followed up by debriefing sessions for knowledge exchange.
4. Educational workshops for clinical resource staff and preceptors facilitated by breeze technology regarding critical inquiry, the evidence informed decision making framework, and application of evidence in practice.
5. Hosting of an internal Research Symposium took place where staff from across the province at all levels had the opportunity to share the work they were undertaking in relation to evidence informed decision making. This conference brought to light the level of EIDM practices that were evolving in the organization and the benefits being experienced as a result of EIDM.

Infrastructure and Info structure Alignment

Strategies aimed at the organizational level in relation to the infra and info structure were implemented (Dobbins, et al 1998, Royle, et al 1998, Royle, et al 2000, Newman, et al 2000, Henderson, et al 2005). Internal resources were realigned and focused within the knowledge and practice team and an evidence response unit, now known as the "Care to Know Unit" was created to support managers in accessing and interpreting research evidence. Access to search engines and literature was arranged through a collaborative relationship with an acute care facility. This approach was undertaken based on the internal assessment that indicated a lack of comfort and skill regarding the process of searching, and assessing the literature. It is anticipated that staff support for this process will build capacity. A request form for research evidence was also created that guides the manager in thinking through the type and focus of the evidence they are looking for in relation to the question they are asking or the problem they are trying to address. In utilizing this approach managers will be introduced to the first phase of the research process and methodology (see Appendix 13 for request form).

More recently a push strategy for getting evidence into managers hands has been created. This involves synthesizing of evidence by the "Care to Know Unit" on meaningful topics related to management practices such as change management, transformational leadership, performance management, employee engagement, and recruitment and retention strategies. This information is sent out via email in a key messages format with the opportunity to request the specific articles and background evidence. A new innovative strategy involved the use of short video clips on email with a news caster reporting the latest evidence.

Our internal information management systems were advanced and a business intelligence unit formed. Customized management reports are now available, on-line, which contain data and information that is relevant and timely for the managers. Access is now direct so that staff can access and view their respective data anytime, anywhere. An introduction to this system, with supporting literature pertaining to access and use, was provided at the launch (see Appendix 14). Educational workshops have been arranged for management staff in order to support their development in obtaining the data as well as interpreting the results. In addition health service analysts are available for further support and education on a just in time basis. These elements are all critical to the successful utilization of evidence in decision making. (Ciliska, et al 1999, DiCenso, 2003, Mohide, 2003, Newhouse, 2005).

While this was an excellent start the feedback through an evaluation undertaken with the managers indicated that the data available needed to be reviewed in terms of relevance from their perspective, and that they themselves did not have the skills to transform the data into information and useable knowledge. The timing of this feedback coincided with the identified strategic need for more robust data in order for the organization to be successful in the

managed competitive environment as the procurement/request for proposal process was beginning a new cycle.

This information was collected prior to the completion of a provincial implementation of a new scheduling and information system at the local level where key operational data is generated. The implementation of this program has now been completed and the information requirements have been revisited and data dashboards have been created that contain translated data that is aligned with the organizations performance indicators. SEHC's IM strategy has been redefined and advanced, new resources have been allocated to the IM area, and a new business intelligence program has been purchased that will transform the manual process currently required to create the data dashboards. In addition the software will enable the provision of translated reports for management across the organization. In-depth education is underway for the health service analysts.

Decision Making Framework

The introduction of tools, processes, and frameworks to support the use of evidence in decision making within an organization are necessary for integration and sustainability of this type of change (Titler, et al 2001, Rycroft-Malone, 2004 Hudson, 2005). A decision making framework was developed in response to the evidence and feedback from the management staff regarding the diversity of decision making approaches at SEHC. The framework is based on an ethical decision making framework (TCCAC, 2005) that is already in use within the organization and includes the use of research evidence. The framework has been piloted by the self identified early adopters and adaptation is underway based on the feedback obtained through the pilot. In addition exploration regarding decision making guides that identify clear lines of accountabilities and responsibilities in relation to decision making at all levels was undertaken. The results

indicated that while there were some clear guidelines that could be created for our management staff such as those for expenditure approvals, that in-depth guidelines to support levels of decision making would be difficult to create. Therefore it was determined that an alternate approach would be to provide greater clarity regarding roles, responsibilities, and accountabilities of managers with a focus on the front and middle level management roles where the greatest lack of clarity was identified through the surveys. This activity is currently underway and is being led by the Senior VP of Operations.

Policy Development

A new approach to policy and procedure development that incorporates the use of research evidence, including relevant references to evidence in the policy, was piloted within the clinical area and was led and supported by the manager of the research. A total of 50 clinical policies and procedures were revised utilizing an evidence based approach. This approach will enable the sustained use of research within clinical practice and provide the foundation for moving forward with the same approach to policy development throughout the organization (DePalma, 2002). The process has now been formalized and a plan for dissemination and adoption of this process in other areas of the organization is underway.

In order to further support capacity building within the organization SEHC formally established relationships with the following leading organizations: The first partnership was created with Queen's University Joanna Briggs Collaboration (QJBC) to establish the first Evidence Translation Group in North America as part of a prestigious international health research Network. The second relationship was established with the University of Ottawa's Best Practice Research Evidence Unit where the organization is identified as a decision making member and two staff from the knowledge and practice area have been accepted as senior research partners.

EVALUATION PLAN AND OUTCOMES TO DATE
Confirmation Phase

An evaluation was undertaken at the end of 2006 to measure the progress and impact of the implementation strategies. This evaluation focused initially on the process of implementing the specific strategies and determining whether or not they were implemented in the way they were intended to be implemented. These evaluation results were then used to adjust and revise the strategies accordingly. These changes are described in more detail in the implementation section and include the following:

1. Expansion of the educational opportunities
2. Further refinement of the future state, the success indicators and vision “I Care to Know”
3. The development of push strategies to get research evidence directly to managers
4. Advancement of the IM strategy along with additional resource allocation to the IM area.
5. Refinement of the decision making framework based on pilot test results
6. Based on the results obtained from exploration of decision making guidelines a new strategy has been created that is focused on creating greater clarity for managers regarding their roles, responsibilities, and accountabilities.
7. Policy development process revised and dissemination plans developed for organization wide uptake based on results from pilot
8. Creation of two new partnerships as an external environmental strategy and support for internal capacity building

Behavioral indicators have been created to assess management behaviour changes related to the evidence informed decision making strategies and include the following:

1. Increased knowledge of the managers regarding EIDM as evidenced by observed changes in management language, and application of knowledge as noted in items below
2. Managers referring to research evidence as part of decision making discussions,
3. Managers referring to the sources of evidence identified in the decision making framework when problem solving and presenting a decision/recommendation
4. Increase in the use of the Care to Know Unit to access literature
5. Increase in management responses to the evidence push strategies
6. Increase use of data dash board and requests to health service analysts
7. Increase participation in educational opportunities related to EIDM
8. Managers discussing and sharing “I Care to Know” vision with staff

Many observations regarding changes in management behaviour have been made since the initial implementation of the EIDM strategies. All levels of management staff have commented on a heightened awareness of their colleagues regarding evidence informed decision making within the organization. There has been a noted change in management language with more frequent references to evidence, as well as more requests from one another for the supporting evidence as part of the problem solving process. Utilizing evidence from the Hewitt and Associate Best Employer Surveys and surveys undertake by Juice Inc. to inform our talent and employee engagement strategies is a good example of how management decision making practices are beginning to be informed by evidence.

Communication regarding changes being made in the organization are now being accompanied by the evidence used to inform the change. Findings from the research literature are being brought to some of the decision making tables, and the Care to Know Unit is beginning to see

an increase in the number of requests for access to literature. This unit is now working closely with Queens University, Joanna Briggs Collaboration as an Evidence Translation Group. As part of this partnership SEHC will conduct systematic reviews of nursing research from a community perspective.

Over the course of this project SEHC and our mangers have become more involved in creating knowledge to inform our approach to EIDM. An example of this change includes a collaborative research project with a PhD student from the University of Ottawa and the Best Practice Research Unit, with funding obtained from the Canadian Nurses Foundation to determine the impact of a leadership EIDM intervention for managers on the uptake of clinical best practice guidelines at the frontline. Building on this work a research proposal has been submitted to obtain funding to further research the outcomes associated with the individual EIDM implementation strategies on management decision making practices at SEHC.

Ongoing implementation of best practice guidelines at the clinical level and now at the management level is taking place. SEHC has completed the implementation and evaluation of a best practice guideline for management leadership practices that was funded by Health Canada through the Healthy Work Initiative. In follow up to this work SEHC has been selected by the Registered Nurses Association of Ontario as a Healthy Work Place Best Practice Spotlight Organization and we are now working with our frontline and middle managers and the University of Toronto to test out 2 new healthy work environment guidelines focused on team development and professionalism.

Lastly, the organization is being recognized externally as a leader in the area of evidence informed decision making. In 2007 two awards were given to SEHC in recognition of this work

and include the CHSRF/CIHR Chair Achievement Award and the CCHSE Nursing Leadership Award.

Given that the implementation strategies for this project have been undertaken over a period of 18 months and have been revised based on early evaluative data it is too early to obtain and report on outcome evidence and this is a limitation of the work done to date. Longer term outcome measures at the end of the 2nd year of implementation and again at year 5 will be undertaken in order to determine sustainability of the cultural change.

Long term measures will include assessing the number of initiatives that have been a by product of the use of evidence identified by the management team would provide good information regarding the uptake of EIDM. Administering the same survey instrument and interview questions that was used at the beginning of this project will provide evidence on how well the organization is using evidence in decision making , and what impact the interventions have had on reducing the key barriers. This will provide pre and post implementation data that can be compared and analyzed for change. Follow up interviews with key stakeholders will also be undertaken in order to understand how staff feel we have been performing in terms of increasing the use of evidence to inform decision making.

LESSONS LEARNED TO DATE

Many lessons were learned throughout the course of the intervention project some of which were related to the basic principles of implementing any innovation within an organization and others that were more specific to the integration of evidence in management decision making. On an individual level, learning took place over the course of the two years both within the organizational setting and within the context of the Extra program.

Organizations embarking on a cultural change focused on integrating the use of evidence in decision making must determine upfront that this change makes sense as a critical business imperative for the organization. When the change contributes to the survival of the organization alignment is enabled at all levels from the board right through to the front line staff. If this type of cultural change is not a business imperative then it begs the question "Why do it?" As a result successful integration and uptake is very difficult to achieve and in most cases does not occur. At SEHC the use of evidence in decision making is a fundamental piece of our business imperative that contributes to our evolution as a knowledge and care exchange company. Therefore moving forward with strategies to promote the use of evidence in decision making made sense to our staff and has been positively received.

In order for this depth of change to occur within an organization, we have learned that integrating the use of evidence to inform decision making is a long term change strategy that will require the organizations ongoing commitment and investment of time and resources. Understanding that the change will have at a minimum a five year focus and that it will require continuity of leadership and ongoing investment in other resources in order to maximize and enable the change is imperative. At SEHC we have had the benefit of having continuity of leadership for the transformation of our company from a service delivery organization to a knowledge organization. This leadership continuity provided by the CEO and the Senior VP Knowledge and Practice has resulted in an intimate understanding of the significant planning and small steps that have taken place over time for this transformation to take shape. This activity has been instrumental in laying the groundwork for introducing the use of evidence in decision making and has created the energy and momentum required for successful uptake. A change in leadership would have resulted in an interruption in the planning cycle, a gap in knowledge and the loss of the momentum.

Selecting and utilizing a theoretical framework to create a systematic approach to the change process was critical in ensuring focus and progress. The use of Dobbins framework (Dobbins et al 2002) guided the cultural change from assessment through to evaluation.

A very important part of the planning process was the assessment of the organization's current state and readiness within the broader context of the external environment. This step identified strengths from which to build on that included many activities already taking place that were well aligned with the strategy, such as: investments made within Information Management and Technology systems and structures; and a senior level role positioned to focus and lead the strategy. In addition the context of managed competition in home care in Ontario along with the development of Local Health Integrated Networks fueled the energy to be moving forward with this direction. The evolving culture of accountability and transparency within the healthcare system provided additional evidence regarding the need to move forward with EIDM.

Timing is a very important factor to consider in determining organizational readiness, strategy and direction for successful outcomes. Ensuring that all forces internally and externally are lined up and that there is a critical mass to carry out the innovation are also important in identifying organizational readiness.

Decision makers leading this type of cultural change must ensure that the future state and success indicators of the change are clearly articulated. While it is important to have a clear idea of what the future state might look like in order to provide context and direction for staff we have also learned that it is important not to rush this process as by doing so you can end up with something that has not had the time to evolve that is required to maximize the knowledge

and experience gained that time brings. It is also necessary to have the time required to create the future state letting it evolve versus becoming obsessive about finalizing wording as this will impede innovation in the planning phase and preempt what success looks like. Engaging staff in creating the future state and the indicators of success in relation to this initiative at the outset provided good feedback and one lesson learned would be to use alternate approaches to obtaining employee input such as providing a draft document for discussion and revision versus starting with a blank slate.

In moving the use of evidence into decision making practices at SEHC, multiple strategies aimed at the individual and the organization level were important to reduce the barriers and maximize the enablers. Consistent with the literature, it was important to engage early adopters and champions in the process. Integration at every level is key to success and making the activity an infectious process offers the benefit of great energy. I have learned through using this strategy that it is not a linear process strategy driven by regulated procedures. Many of the aspects of the process will not be controlled in an effort to maximize the energy and momentum created through this infectious process.

Throughout the project it was noted that there was not a lot of management resistance to EIDM. Upon reflection this may be due to the upfront investments that the organization has made in relation to enhancing understanding of thinking skills, and the further development of leadership skills. In addition many discussions have taken place with the management team regarding the complexity of decisions being made within our environment today and the reality that no one person has all of the information or answers. An environment that encourages consultation and reflection has been promoted and enabled over time. While this was certainly identified as an enabler for the project it became clear that the barriers identified through the assessment phase

needed to be addressed prior to maximizing this enabler in order for managers to begin to use evidence to inform their decision making.

Given the alignment of evidence informed decision making with SEHC's vision, business imperative, and organizational readiness, the timing for this intervention project and longer term cultural change was perfect. At the outset the intervention project had full commitment and support from the Board Chair and Board, the President and CEO and the Management team. As a result I had the accountability, resources and freedom to lead this change process which was a critical factor for success. The position of Senior Vice President of Knowledge and Practice enabled focus and was well positioned to fulfill the role of a dedicated champion within the organization. I learned through this experience the need for vigilance in keeping the change in the limelight and at the forefront and was surprised at how quickly the imperative goes from peoples consciousness even when it is part of the strategic direction of the organization.

Regular meetings with both my academic and organizational mentor were critical in maintaining the momentum required and provided further focus and direction to my efforts at championing the change. These meetings with the CEO provided the mental space and time to engage in a different type of discussion where mutual learning occurred. Upon reflection I think it would have been a great benefit to bring together my academic and organizational mentor for meetings throughout the project to participate in a three way exchange.

Once the momentum for evidence informed decision making was created within the organization many activities began to occur that were outside of "the plan".Given that this was the energy I wanted to create I learned to see this type of activity as very positive and engaged in strategies to maximize the activity and support the alignment.

Lastly, the Extra fellowship provided the opportunity for focused learning where I obtained new knowledge, skills and tools that I was then able to apply to the intervention project within the living learning lab of SEHC. The program provided the rigour and resources required to create a systematic approach to a large cultural change.

FUTURE ACTIVITIES AND RESEARCH

The intervention project laid the early foundation for the use of evidence in decision making at SEHC within the context of a broader cultural change. In order to sustain and institutionalize the changes already implemented ongoing support and commitment is required from the organization. SEHC continues to demonstrate its commitment to the change through the strategic planning process where evidence informed decision making is a strategic objective, with full support of the vision "I CARE TO KNOW", and through the alignment of resources and the recruitment of additional resources to support the dedicated time and focus of the champion and capacity building.

Future activities to capitalize on the momentum already created within the organization will include an evaluation at the end of the second year to measure the outcomes of the initial strategies implemented and to determine the level of uptake regarding evidence informed decision making. Additional innovations and strategies have been identified and will be implemented as part of the next steps to further embed the cultural shift with the support of the working group of champions. These strategies include the following:

- Full scale implementation of the revised decision making framework
- Clearly defining roles, responsibilities and accountabilities of frontline and middle management staff
- Identification of management competencies related to the use of evidence in decision making and incorporation of these competencies in job descriptions and corresponding performance evaluations

- Creation and implementation of a reward and recognition system related to the use of evidence in management practice
- Ongoing educational programs, including fellowships and mentorships for management staff to further develop the knowledge and skills required to access, assess, adapt and apply research evidence
- The hosting of an external research conference "Forging Ahead, Evidence to Innovation" that is scheduled for March 2008
- Recruitment of a Senior Researcher
- Creation of a "Care to Know Centre" focused on a grants program to stimulate the generation of new knowledge within the home and community health sector
- Completion of research study focused on the impact of a management leadership intervention on uptake of clinical best practice guidelines. Use of the results to inform future strategies
- Conducting a formal evaluation of outcomes in 2008

Future opportunities for evaluation and research relate to the impact of the intervention strategies and changes in management decision making practices. An additional research focus could be examining the impact/outcomes of using evidence to inform decision making within the organization with the future potential of comparing organizational practices and outcomes between service delivery centres.

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IS RESEARCH WORKING FOR YOU?

A SELF-ASSESSMENT TOOL AND DISCUSSION GUIDE FOR HEALTH SERVICES MANAGEMENT AND POLICY ORGANIZATIONS

Canadian Health Services Research **Foundation**
Fondation canadienne de la recherche sur les services de santé

…making research work
…pour que la recherche porte ses fruits

OUR PURPOSE

VISION
Our vision is a strong Canadian healthcare system that is guided by solid, research-based management and policy decisions.

MISSION
To support evidence-based decision-making in the organization, management and delivery of health services through funding research, building capacity and transferring knowledge.

STRATEGY
To establish and foster linkages between decision makers (managers and policymakers) and researchers in the governance of the foundation and in the design and implementation of programs to support research, develop researchers and transfer knowledge.

This document is available on the Canadian Health Services Research Foundation web site **www.chsrf.ca.**

For more information on the Canadian Health Services Research Foundation, contact the foundation at:

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Ce document est disponible sur le site Web de la Fondation canadienne de la recherche sur les services de santé **www.fcrss.ca**.

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Téléphone : (613) 728-2238
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IS RESEARCH WORKING FOR YOU?

A SELF-ASSESSMENT TOOL

WHY USE THIS TOOL?

In today's healthcare systems, it is essential for organizations to make the best use of an ever-growing body of research information. Provincial or territorial health ministries, hospitals, professional practices, long-term care organizations, or community health organizations can all gain significant advantages by using research in the right way.

This self-assessment tool from the Canadian Health Services Research Foundation will help you identify how you gather and use research and where there is potential for improvement.

The foundation can assist in your assessment and discussions at any stage. Feel free to contact:

Senior Program Officer, Research Use
Canadian Health Services Research Foundation
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Fax: (613) 728-3527
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MAKING DECISIONS IN HEALTH SERVICES

Difficult financial, organizational, and resource decisions must be made by those who fund, organize, and set priorities in health services, by those who develop health policies, and by health services providers.

Today's healthcare systems are changing rapidly and decision makers face:

- a complex environment;
- vast quantities of information that are often contradictory and come from many different sources; and
- new demands for accountability.

ABOUT RESEARCH…

Research is one of many sources of information and data used in making decisions. In particular, *health services research* can help to:

- explain the need for certain decisions;
- show the reasons for choosing one of many competing arguments;
- increase confidence in decisions that are made; and
- help build consensus.

ABOUT SELF-ASSESSMENT…

Using this tool can help your organization determine:

- how research is currently being used;
- where research is located;
- the capacity within your organization to locate and use research;
- ideas for better use of research; and
- next steps your organization should consider.

SUGGESTIONS FOR USING THIS TOOL

Self-assessment will work best if:

- a group of decision makers and interested people in your organization works together on the answers, discussing them as you go along;
- the answers are collated and used for the second half of the tool called **Our Results: A Discussion Guide;** and
- you consider the suggestions in the **"What Next?"** section to use the results in an effective way.

ABOUT THIS TOOL…

There are four general areas of assessment.

1. **Acquire**: can your organization find and obtain the research findings it needs?
2. **Assess**: can your organization assess research findings to ensure they are reliable, relevant, and applicable to you?
3. **Adapt**: can your organization present the research to decision makers in a useful way?
4. **Apply**: are there skills, structures, processes, and a culture in your organization to promote and use research findings in decision-making?

Since this is an assessment, there are no right or wrong answers.

ABOUT THE RATINGS

The choice of ratings for each question varies, depending on the nature of the question. In all cases, a rating of "1" means a low capacity or frequency of activity, while a "5" signifies something your organization is well-equipped to do or does often.

PART ONE: ACQUIRE

1.1 ARE WE ABLE TO ACQUIRE RESEARCH?

RATING					
1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree	4 = Agree	5 = Strongly agree	
We have **skilled staff** for research.	1	2	3	4	5
Our staff has **enough time** for research.	1	2	3	4	5
Our staff has **the incentive** to do research (it is used in our decision-making).	1	2	3	4	5
Our staff has **the resources** to do research.	1	2	3	4	5
We have **arrangements with external experts** who search for research, monitor research, or do research for us.	1	2	3	4	5

1.2 ARE WE LOOKING FOR RESEARCH IN THE RIGHT PLACES?

RATING					
1 = Don't do	2 = Do poorly	3 = Do inconsistently	4 = Do with some consistency	5 = Do well	
We look for research in **journals** (that is by subscription, Internet, or library access; examples are the *Journal of Health Services Research & Policy* and *Healthcare Quarterly*).	1	2	3	4	5
We look for research in **non-journal reports (grey literature)** by library, Internet access, or direct mailing from organizations such as ministries of health, the *Centre for Health Economics & Policy Analysis (CHEPA)*, or the *Centre for Health Services and Policy Research (CHSPR)*.	1	2	3	4	5
We look for research in **databases** by subscription or Internet access, such as the Canadian Institute for Health Information, the Cochrane Collaboration, and citation indices.	1	2	3	4	5
We look for information on **web sites** (those that collate and/or evaluate sources) such as *Best Evidence* or *Bandolier*.	1	2	3	4	5
We work with **researchers** through formal and informal networking meetings with our staff.	1	2	3	4	5
We **get involved with researchers** as a host, decision-maker partner, or sponsor.	1	2	3	4	5
We **learn from peers** through informal and formal networks to exchange ideas, experiences, and best practices.	1	2	3	4	5

PART TWO: ASSESS

2.1 CAN WE TELL IF THE RESEARCH IS VALID AND OF HIGH QUALITY?

RATING					
1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree		4 = Agree	5 = Strongly agree
Staff in our organization has **critical appraisal skills and tools** for evaluating the **quality** of methodology used in research.	1	2	3	4	5
Staff in our organization has the **critical appraisal skills** to evaluate the **reliability** of specific research by identifying related evidence and comparing methods and results.	1	2	3	4	5
Our organization has **arrangements with external experts** who use **critical appraisal skills and tools** to assess methodology and evidence reliability, and to compare methods and results.	1	2	3	4	5

2.2 CAN WE TELL IF THE RESEARCH IS RELEVANT AND APPLICABLE?

RATING					
1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree		4 = Agree	5 = Strongly agree
Our staff can relate our **research to our organization** and point out similarities and differences.	1	2	3	4	5
Our organization has **arrangements with external experts** to **identify the relevant similarities and differences between** what we do and what the research says.	1	2	3	4	5

PART THREE: ADAPT

3.1 CAN WE SUMMARIZE RESULTS IN A USER-FRIENDLY WAY?

RATING					
1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree	4 = Agree	5 = Strongly agree	
Our organization has enough skilled staff with time, incentives, and resources **who use research communication skills to present research results concisely and in accessible language.**	1	2	3	4	5
Our organization has enough skilled staff with time, incentives, and resources **who use research communication skills to synthesize in one document all relevant research, along with information and analyses from other sources.**	1	2	3	4	5
Our organization has enough skilled staff with time, incentives, and resources **who use research communication skills to link research results to key issues facing our decision makers.**	1	2	3	4	5
Our organization has enough skilled staff with time, incentives, and resources **who use research communication skills to provide recommended actions to our decision makers.**	1	2	3	4	5
Our organization has arrangements with **external experts** who use research communication skills to **present research results concisely and in accessible language.**	1	2	3	4	5
Our organization has arrangements with **external experts** who use research communication skills to **synthesize in one document all relevant research, along with information and analyses from other sources.**	1	2	3	4	5
Our organization has arrangements with **external experts** who use research communication skills to **link research results to key issues facing our decision makers.**	1	2	3	4	5
Our organization has arrangements with **external experts** who use research communication skills to **provide recommended actions to our decision makers.**	1	2	3	4	5

PART FOUR: APPLY

4.1 DO WE LEAD BY EXAMPLE AND SHOW HOW WE VALUE RESEARCH USE?

RATING					
1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree		4 = Agree	5 = Strongly agree
Using **research is a priority in our organization.**	1	2	3	4	5
Our organization has committed **resources** to ensure **research is accessed, adapted, and applied in making decisions.**	1	2	3	4	5
Our organization ensures **staff** is **involved in discussions on how research evidence relates** to our main goals.	1	2	3	4	5
The **management** of our organization has clearly **communicated our strategy and priorities** so that those creating or monitoring research know what is needed in support of our goals.	1	2	3	4	5
We **communicate internally** in a way that ensures there is information exchanged across the entire organization.	1	2	3	4	5
Our corporate culture **values and rewards flexibility, change, and continuous quality improvement with resources to support these values.**	1	2	3	4	5

4.2 DO OUR DECISION-MAKING PROCESSES HAVE A PLACE FOR RESEARCH?

RATING					
1 = Strongly disagree	2 = Disagree	3 = Neither agree nor disagree	4 = Agree	5 = Strongly agree	
When we make major decisions, we usually allow **enough time** to identify researchable questions and create/obtain, analyse, and consider research results and other evidence.	1	2	3	4	5
Our management team **evaluates the feasibility** of each option, including potential impact across the organization as well as on clients, partners, and other stakeholders.	1	2	3	4	5
Decision makers in our organization give **formal consideration to any recommendations** from staff who have developed or identified high-quality and relevant research.	1	2	3	4	5
Staff and appropriate stakeholders know **when and how major decisions will be made.**	1	2	3	4	5
Staff and appropriate stakeholders **contribute evidence and know how that information will be used.**	1	2	3	4	5
Staff who have provided evidence and analysis usually **participate in decision-making discussions.**	1	2	3	4	5
Relevant **on-staff researchers are made part of decision-making discussions.**	1	2	3	4	5
Staff and appropriate stakeholders receive **feedback** on decisions, with a rationale for the decision.	1	2	3	4	5
Staff and appropriate stakeholders are **informed of how available evidence influenced the choices** that were made in our organization.	1	2	3	4	5

OUR RESULTS: A DISCUSSION GUIDE

Based on the self-assessment, our organization should work on the following areas so that we can use research better to make informed decisions that help meet our goals and objectives:

1. Establish research as a priority in our organization (Check one)

We feel research in our organization should have:

- ☐ Much higher priority
- ☐ Somewhat higher priority
- ☐ The same priority
- ☐ Somewhat lower priority
- ☐ Much lower priority

2. Integrate the use of research into the work of people in our organization (Check one)

We feel we need to:

- ☐ Integrate research much more often
- ☐ Integrate research slightly more often
- ☐ Maintain our current level of integrating research
- ☐ Integrate research slightly less often
- ☐ Integrate research much less often

3. Encourage the use of research by our decision makers (Check one)

We feel our decision makers:

- ☐ Do not use research at all
- ☐ Use research poorly
- ☐ Use research inconsistently
- ☐ Use research with some consistency
- ☐ Use research well/enough

4. Increase our capacity for research

(Check all that apply. If you have more than one answer, please rate your needs from 1 to 5, with 1 being the highest priority.)

We need:

- ☐ ___ Skilled staff
- ☐ ___ Resources
- ☐ ___ Time
- ☐ ___ Incentives
- ☐ ___ Arrangements with external experts

5. Acquisition of research

(Check all that apply. If you have more than one answer, please rate your needs from 1 to 6, with 1 being the highest priority.)

We need better access to:

- ☐ ___ Journals
- ☐ ___ Non-journal reports (grey literature)
- ☐ ___ Databases
- ☐ ___ Web sites
- ☐ ___ Opportunities to work with researchers
- ☐ ___ Learning from peers

6. Assessment of research

(Check the one that is most appropriate or best describes your situation.)

We need to:

- ☐ Begin to assess and adapt research
- ☐ Assess and adapt research more often
- ☐ Maintain our current ability to assess and adapt research
- ☐ Adapt and assess research a bit less often
- ☐ Adapt and assess research much less often

7. Linking of research results to key issues facing our decision makers

(Check the one that is most appropriate or best describes your situation.)

Our decision makers need to:

- ☐ Begin to consider research in making decisions
- ☐ Consider research more often in making decisions
- ☐ Maintain our current frequency of considering research
- ☐ Consider research a bit less often
- ☐ Consider research much less often

OUR QUESTIONS BASED ON OUR RESULTS

The results of this self-assessment tool will be used by the foundation to assist your organization in better targeting the information and resources you need.

These are sample questions that will fit many situations, but take time to write those specific to your organization based on the self-assessment exercise.

Our organization has the following questions about making research work for us.

1. How do we help our organization understand the importance of research?
2. How do we access skilled staff?
3. How do we access outside assistance with research?
4. What training is available in writing research summaries?
5. What case studies can we cite to emphasize the importance of research?
6. Is research acquisition costly?
7. What if we cannot afford research?

WHAT NEXT?

The Canadian Health Services Research Foundation has a range of resources for managers and policy makers to find and use research. For example, we have an inventory of promising practices that show how other organizations have addressed similar challenges, and we organize workshops where research users can work with their peers to adapt these approaches to their own needs. The foundation also connects health-system managers and policy makers with the research — and the researchers — that can help them address key challenges.

For example, if your organization is interested in partnering on a research project, you may be interested in the foundation's guide on how to be a good research partner (www.chsrf.ca/other_documents/pdf/partner_e.pdf).

Or, if your organization is interested in providing skills to senior managers that enhance their ability to better use research in their daily work, you may be interested in the Executive Training for Research Application (EXTRA) program (www.chsrf.ca/extra/).

There are many other foundation resources that can help, and we can point you to what is available outside the foundation. To initiate a discussion about what you can do, please contact:

Senior Program Officer, Research Use
research.use@chsrf.ca
Tel: (613) 728-2238
Fax: (613) 728-3527

Saint Elizabeth Health Care
Evidence-Based Decision Making
Managers' Interview Questionnaire

Demographics

1. Age Range:
   30-39 ☐ 40-49 ☐ 50-59 ☐ 60 and over ☐

2. Years of Experience in Nursing:
   1-9 years ☐ 10-19 years ☐ 20-29 years ☐ 30 years and over ☐

3. Years of Experience at SEHC:
   1-9 years ☐ 10-19 years ☐ 20-29 years ☐ 30 years and over ☐

4. Years of Experience in Management:
   1-9 years ☐ 10-19 years ☐ 20-29 years ☐ 30 years and over ☐

5. Years of Experience in Management at SEHC:
   1-9 years ☐ 10-19 years ☐ 20-29 years ☐ 30 years and over ☐

6. Highest Level of Education:
   Diploma ☐ Bachelor's Degree ☐ Master's Degree ☐

Questions

1. Tell me about the types of decisions you make in your job.

2. Tell me about a decision you made recently and how you went about making that decision. (Tell me about the process)

3. What are the enablers to decision making within the organization?

4. What are the barriers to decision making within the organization? (Brick wall or road blocks)

5. What sources of information or resources (human or other) do you use when making decisions? (What informs your decision making?)

6. Any other comments?

Dobbin's Framework
(Dobbins et al, 2002)

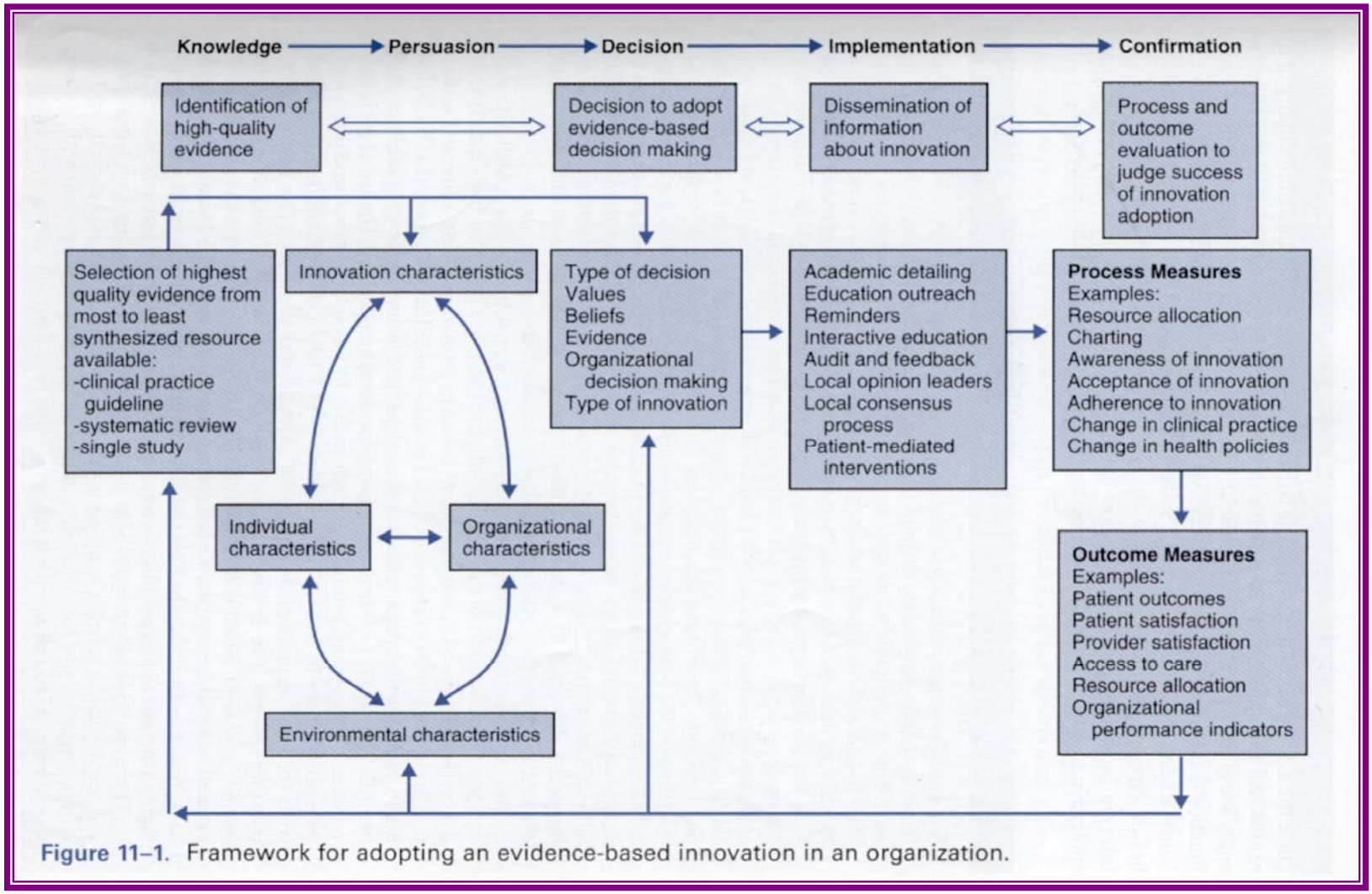
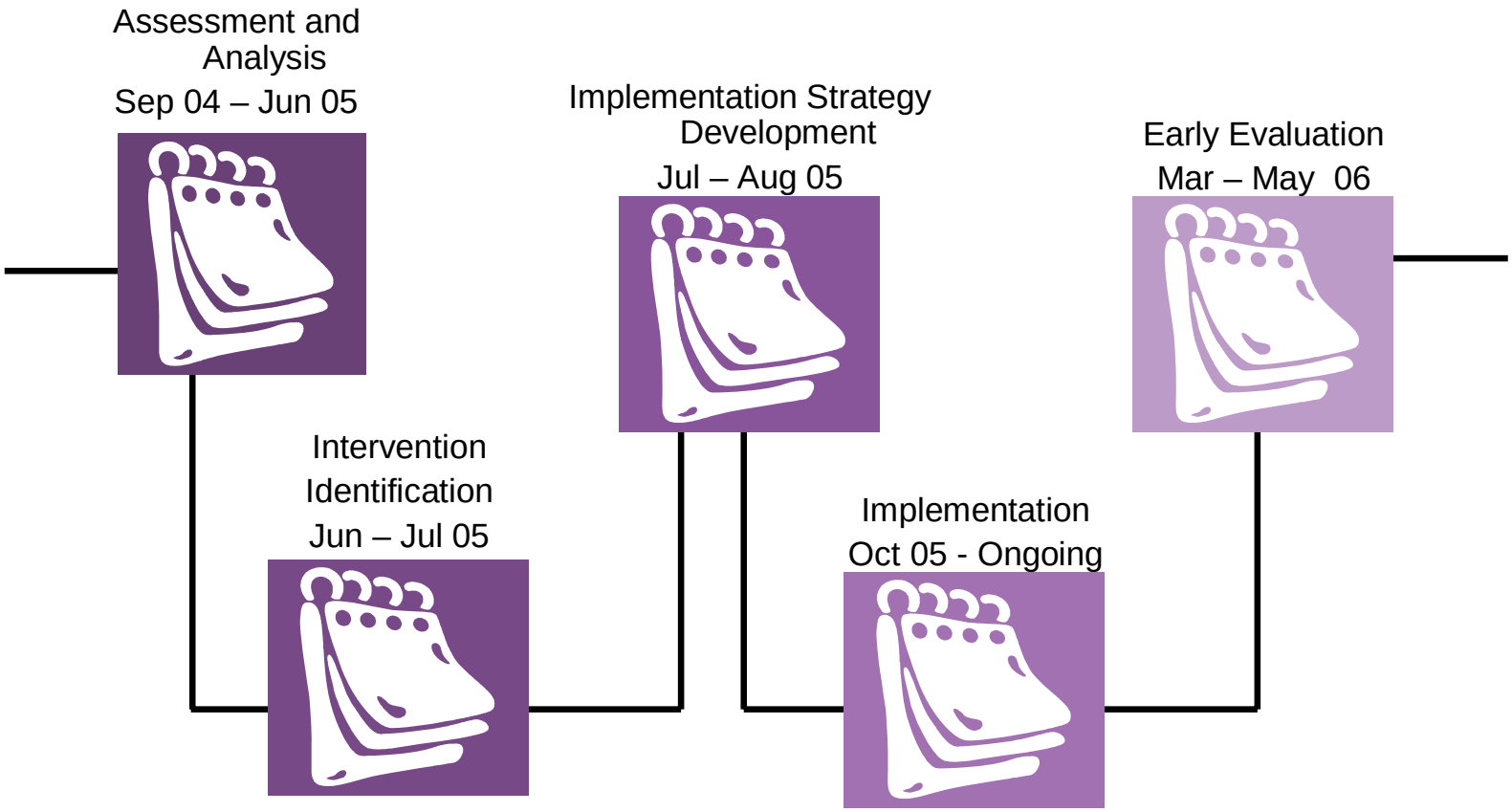


Figure 11–1. Framework for adopting an evidence-based innovation in an organization.

EIDM Time Line



Canadian Health Services Research Self Assessment Tool
Is research working for you?
Saint Elizabeth Health Care Results

Total: 31 responses

Frequency Tables

Managers from

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Corporate	8	25.8	25.8	25.8
	SDC	16	51.6	51.6	77.4
	Senior Management	6	19.4	19.4	96.8
	Researcher	1	3.2	3.2	100.0
	Total	31	100.0	100.0	

1.1 Do we know how to find research?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Do poorly	8	25.8	25.8	25.8
	Do inconsistently	15	48.4	48.4	74.2
	Do well	8	25.8	25.8	100.0
	Total	31	100.0	100.0	

1.2 Are we looking in the right place? a) Journals...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Do poorly	11	35.5	35.5	35.5
	Do inconsistently	15	48.4	48.4	83.9
	Do well	2	6.5	6.5	90.3
	Don't Know	3	9.7	9.7	100.0
	Total	31	100.0	100.0	

1.2 Are we looking in the right place? b) Non-journal report (grey literature)...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	1	3.2	3.2	3.2
	Do poorly	13	41.9	41.9	45.2
	Do inconsistently	12	38.7	38.7	83.9
	Do well	2	6.5	6.5	90.3
	Don't Know	3	9.7	9.7	100.0
	Total	31	100.0	100.0	

1.2 Are we looking in the right place? c) Databases...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	2	6.5	6.5	6.5
	Do poorly	14	45.2	45.2	51.6
	Do inconsistently	8	25.8	25.8	77.4
	Do well	4	12.9	12.9	90.3
	Don't Know	3	9.7	9.7	100.0
	Total	31	100.0	100.0	

1.2 Are we looking in the right place? d) Websites...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	1	3.2	3.2	3.2
	Do poorly	11	35.5	35.5	38.7
	Do inconsistently	13	41.9	41.9	80.6
	Do well	3	9.7	9.7	90.3
	Don't Know	3	9.7	9.7	100.0
	Total	31	100.0	100.0	

1.2 Are we looking in the right place? e) Working with researchers...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Do poorly	10	32.3	32.3	32.3
	Do inconsistently	14	45.2	45.2	77.4
	Do well	6	19.4	19.4	96.8
	Don't Know	1	3.2	3.2	100.0
	Total	31	100.0	100.0	

1.2 Are we looking in the right place? f) Learning from peers...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Do poorly	5	16.1	16.1	16.1
	Do inconsistently	14	45.2	45.2	61.3
	Do well	12	38.7	38.7	100.0
	Total	31	100.0	100.0	

2.1 Can we tell if the research is reliable and high quality? a) Evaluate the quality of the methodology used

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Do poorly	10	32.3	33.3	33.3
	Do inconsistently	14	45.2	46.7	80.0
	Do well	5	16.1	16.7	96.7
	Don't Know	1	3.2	3.3	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

2.1 Can we tell if the research is reliable and high quality? b) Evaluate the the reliability of specific research...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	1	3.2	3.4	3.4
	Do poorly	9	29.0	31.0	34.5
	Do inconsistently	13	41.9	44.8	79.3
	Do well	5	16.1	17.2	96.6
	Don't Know	1	3.2	3.4	100.0
	Total	29	93.5	100.0	
Missing	System	2	6.5		
Total		31	100.0		

2.2 Can we tell if the research is relevant and applicable? a) Identify the relevent similarities and differences...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Do poorly	11	35.5	36.7	36.7
	Do inconsistently	15	48.4	50.0	86.7
	Do well	3	9.7	10.0	96.7
	Don't Know	1	3.2	3.3	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

2.2 Can we tell if the research is relevant and applicable? b) Evaluate which of these differences are revalent...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	1	3.2	3.3	3.3
	Do poorly	9	29.0	30.0	33.3
	Do inconsistently	16	51.6	53.3	86.7
	Do well	3	9.7	10.0	96.7
	Don't Know	1	3.2	3.3	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

3.1 Can we summarize results in a user-friendly way? a) Present research results concisely...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	3	9.7	10.0	10.0
	Do poorly	12	38.7	40.0	50.0
	Do inconsistently	10	32.3	33.3	83.3
	Do well	4	12.9	13.3	96.7
	Don't Know	1	3.2	3.3	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

3.1 Can we summarize results in a user-friendly way? b) Synthesize in one dicument...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	2	6.5	6.7	6.7
	Do poorly	16	51.6	53.3	60.0
	Do inconsistently	7	22.6	23.3	83.3
	Do well	4	12.9	13.3	96.7
	Don't Know	1	3.2	3.3	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

3.1 Can we summarize results in a user-friendly way? c) Link the research results to key issues...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	2	6.5	6.9	6.9
	Do poorly	15	48.4	51.7	58.6
	Do inconsistently	8	25.8	27.6	86.2
	Do well	3	9.7	10.3	96.6
	Don't Know	1	3.2	3.4	100.0
	Total	29	93.5	100.0	
Missing	System	2	6.5		
Total		31	100.0		

3.2 Do we provide results to decision makers? Summarized and easy-to-use research evidence...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	5	16.1	16.7	16.7
	Do poorly	13	41.9	43.3	60.0
	Do inconsistently	7	22.6	23.3	83.3
	Do well	4	12.9	13.3	96.7
	Don't Know	1	3.2	3.3	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

4.1 Do we lead by example and show we value research use? a) Using research is a priority...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	3	9.7	9.7	9.7
	Do poorly	12	38.7	38.7	48.4
	Do inconsistently	11	35.5	35.5	83.9
	Do well	5	16.1	16.1	100.0
	Total	31	100.0	100.0	

4.1 Do we lead by example and show we value research use? b) Our organization's job descriptions...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	4	12.9	12.9	12.9
	Do poorly	17	54.8	54.8	67.7
	Do inconsistently	8	25.8	25.8	93.5
	Do well	2	6.5	6.5	100.0
	Total	31	100.0	100.0	

4.1 Do we lead by example and show we value research use? c) Both management and front-line staff support...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	4	12.9	13.3	13.3
	Do poorly	18	58.1	60.0	73.3
	Do inconsistently	5	16.1	16.7	90.0
	Do well	3	9.7	10.0	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

4.1 Do we lead by example and show we value research use? d) Management has clearly communicated coporate strategy...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	4	12.9	12.9	12.9
	Do poorly	12	38.7	38.7	51.6
	Do inconsistently	8	25.8	25.8	77.4
	Do well	7	22.6	22.6	100.0
	Total	31	100.0	100.0	

4.1 Do we lead by example and show we value research use? e) Our organisation has effective communiation channels...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	5	16.1	16.1	16.1
	Do poorly	15	48.4	48.4	64.5
	Do inconsistently	8	25.8	25.8	90.3
	Do well	3	9.7	9.7	100.0
	Total	31	100.0	100.0	

4.1 Do we lead by example and show we value research use? f) Our corporate culture is to value and reward flexibility...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	3	9.7	10.0	10.0
	Do poorly	9	29.0	30.0	40.0
	Do inconsistently	13	41.9	43.3	83.3
	Do well	5	16.1	16.7	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
Total		31	100.0		

4.2 Do our decision-making processes have a place for research? a) When we make major decisions...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	7	22.6	22.6	22.6
	Do poorly	14	45.2	45.2	67.7
	Do inconsistently	9	29.0	29.0	96.8
	Do well	1	3.2	3.2	100.0
	Total	31	100.0	100.0	

4.2 Do our decision-making processes have a place for research? b) Our management team has enough expertise...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	2	6.5	6.5	6.5
	Do poorly	9	29.0	29.0	35.5
	Do inconsistently	14	45.2	45.2	80.6
	Do well	5	16.1	16.1	96.8
	Don't Know	1	3.2	3.2	100.0
	Total	31	100.0	100.0	

4.2 Do our decision-making processes have a place for research? c) When staff develop or identify high quality...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	2	6.5	6.5	6.5
	Do poorly	9	29.0	29.0	35.5
	Do inconsistently	16	51.6	51.6	87.1
	Do well	4	12.9	12.9	100.0
	Total	31	100.0	100.0	

4.2 Do our decision-making processes have a place for research? d) Staff and appropriate stakeholders know when...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	3	9.7	9.7	9.7
	Do poorly	14	45.2	45.2	54.8
	Do inconsistently	12	38.7	38.7	93.5
	Do well	2	6.5	6.5	100.0
	Total	31	100.0	100.0	

4.2 Do our decision-making processes have a place for research? e) The staff who have provided evidence and analysis...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	5	16.1	16.1	16.1
	Do poorly	13	41.9	41.9	58.1
	Do inconsistently	9	29.0	29.0	87.1
	Do well	4	12.9	12.9	100.0
	Total	31	100.0	100.0	

4.2 Do our decision-making processes have a place for research? f) When a decision is made...

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't do	6	19.4	19.4	19.4
	Do poorly	14	45.2	45.2	64.5
	Do inconsistently	7	22.6	22.6	87.1
	Do well	4	12.9	12.9	100.0
	Total	31	100.0	100.0	

Saint Elizabeth Health Care
Management Interview Results

Table 1. SEHC Manager Demographics

n=26	0	1-9	10-19	20-29	30-39	40-49	50-59	Diploma	Bachelors	Masters/ Masters (c)
Age					2 (8%)	16 (62%)	8 (30%)			
Years Experience in Nursing	6 (23%)	2 (8%)	4 (15%)	9 (35%)	5 (19%)					
Years Experience at SEHC		22 (84%)	2 (8%)	2 (8%)						
Years Experience in Management		9 (35%)	12 (46%)	5 (19%)						
Yrs Experience in Management at SEHC		23 (88%)	2 (8%)	1 (4%)						
Highest Level of Education								9 (35%)	9 (35%)	8 (30%)

Saint Elizabeth Health Care
Senior Manager and SDC Manager Interview Results

Types of Decisions made by Management

- Resource Management (supplies)
- PR & External partnerships/relationships
- Contract Management
- Corporate objectives and strategy
- Budget, Finance
- Legal decisions
- Ethical decision making
- Consult on clinical decisions (patient care, client care)
- New initiatives, new programs, and new protocols.
- New business ventures
- Quality, Risk, Privacy Issues
- Organization Strategy
- Tactical Planning
- New business directions
- Human Rights Claims
- Human Resources
    - Hiring (new positions, staff recruitment)
    - Discipline (performance issues), Firing
    - Staffing/Scheduling
    - Staff education
    - Psychosocial issues with staff
    - Grievances
    - Union Activities
    - Day-to-day operations
        - Restructuring teams
        - Equitable distribution of caseloads
        - Whether the type of tx requested is within our scope

Sources of Information utilized to inform management decision making

- Other people, more specifically trusted colleagues
- Past Experiences, gut instinct and intuition
- Own knowledge base
- Risk data, policies and procedures, historical data and utilization data
- Regulatory Bodies, professional associations
- Ministries of Health and Long Term Care, Training, Colleges and Universities and Education
- Corporate indicators
- Legislation
- In some cases, internet searches and literature

Enablers to Decision Making

- Teamwork
    - Consultation with other managers
    - Consultation with peers

  - Consultation with people at corporate (Senior Management Team, Risk/Quality, HR, Payroll, IT, Health & Safety, Finance, Accounts Payable, Communications Department)
  - Consultation with CEO and Board members
  - "The cohesiveness and the networking capability of the peer group has a huge impact on effectiveness of decision making."
  - "All managers have access to everybody, including the CEO if we needed to."
  - "Respect for the people I work with."
  - "I've worked for a lot of large organizations but this is the first one where I've found the contact with the corporate level to be so amazing."
  - "The biggest enabler to me, is the openness and reception that I get when I go to ask questions or when I go to get help."
  - "Everyone is busy but if there's something that needs to be decided on, people will make the time."
- Scope and authority
  - Knowing what decisions are within my scope and where my boundaries begin and end.
  - Knowing the organization
  - Good structure i.e. who is responsible for what, who needs to be involved in the decision
  - "I feel empowered to make decisions."
- Trust
  - Senior management trusting SDC managers to make good decisions.
  - Front-line staff bring issues forward
  - Organization is keen to try new things
  - "I've always been able to state my case."
  - "Feeling safe to make mistakes."
- Access to resources
  - Technology (when it works)
  - Voicemail, Cell phones, Pagers
  - "All VPs have blackberries so corporate really tries to make the process as easy as possible for the managers".
  - "90% of the time I have the tools I need to make decisions".
- Communication
  - Open lines of communication within the organization
  - Open door policies
- Evidenced-based decision making
  - Using intuition in decision making
  - "More responsibilities have been put on the managers regarding decision making which I think is a very good thing".
  - "What enables me to make decisions is by looking at as much different information and timely and accurate information as possible."
  - "I think we're moving to a place where we do make better decisions. The overall quality of the decisions we make today is far greater that it was even two years ago."

Barriers to Decision Making

Data Barriers

- Data is not 100% accurate
- Data is retrospective, not real time.
- Performance indicator data is 3-4 weeks behind where you are.
- Cannot generate reports on their own, must request them which takes time.
- Data lacks consistency and is not user friendly.

- Reports are not well organized and lack value.
- Recording systems have limitations: double or triple data entry leads to inefficiencies
- All systems are not interfaced: four or five systems collecting the same information
- Lack of just-in-time information
- "I question whether we are even measuring the correct things."
- "If there is small, specific information that you want, you have to get this big report."
- "A lot of people don't even have a clue how they arrive at the numbers."

Technology Barriers

- Multiple log-ins for all the different programs (hassle)
- Lack of portability "locked to a desktop".
- Multiple sources of voicemail (time consuming to check messages in multiple places).
- "Too many ways to contact people."
- Rose Connect needs a 'search' function.
- Not being familiar with the technology leads to frustration

Internal Barriers

- Costs, resource and time constraints
  - A culture of urgency and reaction, never enough time
  - Make quick decisions to "just make the problem go away".
  - Decisions are made quickly as a short term fix rather than looking at the long term picture.
  - It's too difficult and time consuming to get the evidence and information you need, so you just give up.
  - "Unrealistic expectations of time."
  - "It can take a long time to get approval but we sometimes have to make decisions in minutes or in a day."
  - Multiple consultation slows the process
- Lack of trust within the organization.
  - Confidentiality
  - Past negative experience with some previous members of senior management team. Therefore, reluctant to ask again.
- Scope and authority
  - Ambiguous organizational priorities and objectives
  - Ambiguity around scope and authority leads to disempowerment
  - Conflicting messages from corporate – one area is supportive of the decision, another area isn't.
  - Conflicting expectations and priorities from corporate, CCAC and clients.
  - Corporate has a global perspective and different priorities than we do at the local level.
  - Other SDCs that are focused more on their local outcomes, than the organization as a whole.
  - You are told to "consult widely" but when you do, you are questioned as to why you did that.
  - Rapid growth has lead to a lack of clarity as to where to go for information.
  - Bottlenecks occur with too many decisions coming through one person.
  - "There are times when I am told, 'you will do as I tell you'."
  - "We're limited in terms of what decisions we make."
  - "I find many decisions are not that independent at Saint Eliz."
  - "Unrealistic targets or targets I don't understand."
  - "There is no established structure to know which problems go where."

- Evidence-based decision making
  - No practice of evidence-based decision making
  - Decisions are made without the rationale behind them.
  - No prior warning of new initiatives.
  - People with strong opinions have a large influence
  - In the absence of factual information the organization relies on anecdotal information and opinions.
  - Not enough research or planning before implementing
- Workload
  - A top-down layering of initiatives and heavy workloads lead to burnout.
  - Front-line staff get bogged down with a lot of new changes and initiatives which leads to negative attitudes.
  - "Everyone is extremely busy so response times are not as effective as they could be."
- Lack of standardization
  - Different departments work in silos.
  - Ineffective Human Resource processes. "HR is under-resourced."
  - Disconnect between payroll and HR.
  - "Our business practices don't have the same rules and rigor that other companies have."
- Communication
  - Virtual nature of the organization - "Communication is a challenge."
  - Getting a hold of people at corporate - "The people you talk to have no authority to make decisions and people with authority are not immediately available."
  - "I don't feel like I'm as connected to the staff as I sometimes would like to be."
  - Breakdowns in communication.
- Teamwork
  - Lack of cooperation among stakeholders can lead to a stalemate
  - "The personalities of people can interfere with a group being able to make a decision."

External Barriers

- Competitive market prevents you from building relationships with other providers.
- We have no control over things such as volume.
- There can be a conflict of interest when trying to do private business.
- Uncertainty in the health care system.
- Lack of stability, not knowing who will get the next contract.
- Limited human resources.
- Political climate
- "We're contractually obligated to do things in a certain way."

Saint Elizabeth Health Care
University of Iowa Hospital Site Visit Findings

The University of Iowa Hospital (UIH) was identified as a Leader in the use of evidence and has been implementing an evidence based practice program for over six years. To build on and learn from the wisdom and expertise this institution has, a site visit was undertaken on June 21-22, 2005.

Two observers went to the University of Iowa Hospital, (one of them being myself) and met with many key representatives and experts from both the hospital and the affiliated school of nursing for hour long discussions over the course of two days. One observer focused on the area of organizational, culture, philosophy, leadership, and supportive infrastructure investments related to the use of evidence. The other observer focused on the processes, systems, infostructures, data collection methodologies, analysis and reporting mechanisms. The discussions were based on identified learning needs of the observers and expertise and concrete real-life examples of the experts and representatives from the Chief Nursing Officer through to the frontline staff.

When the two observers returned to Saint Elizabeth Health Care, a debriefing session was held using an Appreciative Inquiry framework (Hammond, 98). This approach emphasizes what works best in organizations rather than focusing on what is not working. The result of an Appreciative Inquiry is a series of statements grounded in experience that describes an organization working at its highest potential. The intent of this inquiry was to document successful strategies and best practices observed within the University of Iowa Hospital that supported the utilization and uptake of evidence. Using this methodology, several strategies were identified. The strategies were then organized into themes of education, reward and recognition, performance expectations, infrastructures (that included structures, processes and people), infostructures, culture, and external/environmental. Utilizing the framework created by Dobbins and colleagues (Dobbins et al, 2002) the themes were then categorized. This framework is based on the Diffusion of Innovations theory (Rogers, 1995) and depicts the five stage process involved in implementing an innovation within an organization. This framework has been utilized and applied throughout the assessment phase of the intervention project and will also provide the model for defining barriers and enablers to evidence based decision making at SEHC as well as guide the strategies and implementation plan for the project.

The five stages of the framework (Dobbins et al 2002) include: knowledge, persuasion, decision, implementation, and confirmation. During the knowledge phase the relevant evidence is identified and appraised. Once the evidence is determined to be of high quality the next stage is the persuasion stage. In the persuasion stage the characteristics of the innovation, the individual, organization, and environment are examined in order to determine their influence on the adoption of an innovation, such as the use of evidence in decision making. In applying this framework to our analysis the successful strategies observed at UIH were categorized as those aimed at the individual, the organization including culture, and the environment. Characteristics of the innovation itself, evidence practice, were not addressed in this site visit assessment and report. The following is a description of the results presented within this framework using the categories of Individual, Organization, and External/Environment.

INDIVIDUAL

Education

Education and skill development that focused on an introduction to evidence based practice, search skills, and research analysis skills was offered to all levels of management within the organization. Annual competency days or retraining days were also offered to refresh and sustain skill development. Access to the evidence based practice unit staff for ongoing education and knowledge exchange supported some of the just in time education required. An innovative approach to frontline staff education that was observed as having a significant impact on the use of evidence in frontline practice at the unit level as a bottom up approach was the Internship program. During the site visit, the observers met with several of the Evidence Based Practice (EBP) Interns. Each had identified a clinical question in their specific clinical area and had formulated a proposal requesting an Internship position supported by their manager. Six internship positions are awarded on an annual basis, and are undertaken for a period of 12- 18 months. Interns participate in the following activities during the internship: an Internship orientation program that includes education focused on accessing, assessing, adapting and applying evidence; identification of a team of mentors including clinical experts, the respective manager and members of the EBP Unit, the development of a learning plan, and a literature review pertinent to the clinical question. Once the literature has been reviewed, additional sources of information may be accessed and analyzed such as current internal practice, practitioner preferences, and best practices external to the organization.

Recommendations are then developed for the change in practice that may also require a change in policy, procedures, tools and equipment. Then, together with the team, the Intern develops an educational program and plan for the nursing staff on the unit, along with any required documentation to support the change in practice. Quality indicators are developed and a process is created to collect data on the practice change. The practice change is sustained through supportive leadership, the local team of champions, changes in policies and procedures, tools at the bedside that reinforce practice change and continuing education. The intern becomes a local expert regarding the knowledge in the area and completes the internship with the writing of an article thereby adding to the body of knowledge regarding the practice change. In addition the intern is frequently accessed by staff on the floor for assistance with accessing and assessing evidence and information from the literature.

The internship program is very successful as it addresses issues and practice questions of interest to the frontline staff and results in changes that are meaningful and relevant. All Interns and support teams that were interviewed as part of this site visit exhibited overwhelming support for the internship, along with a better appreciation for the research process and the use of evidence in practice. Many of the staff involved in the internship has gone on to pursue and obtain degrees at the next level.

Performance expectations

The utilization of evidence in practice, program planning and in the near future in all management decision making was clearly identified as a performance expectation right from the Senior level through to the front line staff. Performance expectations are made clear through job descriptions, management competencies and performance appraisal tools.

Reward and Recognition:

The reward and recognition program at the University of Iowa is extremely pivotal to the success of research utilization. Participation in an Evidence Based Practice (EBP) activity is given high profile within the organization and beyond. Above and Beyond awards are given

based on involvement in any activity related to the use of evidence in client care, education, quality improvements, and participation in research activities. Anyone can nominate staff for these awards including patients and their families, colleagues, managers, and administrators. Pins are given out for these awards and it was noted at the site visit that all staff wear these proudly. Annual recognition events are held that provide the opportunity to formally recognize those that have received above and beyond awards, and the Interns present their projects during a recognition night to which their family and friends are invited. Talent walls exist within the units where achievements of staff on the unit are posted including education certificates, Internship completion certifications, and poster presentations undertaken by the Interns.

ORGANIZATION

Infrastructure

Structures – Research/Quality/Practice integration

There are many structures that are well aligned to support evidence based practice at this site starting with the philosophy statement that shapes the vision and strategic directives. Leading the implementation of the strategic directive is the Chief Nursing Officer (CNO) who is a member of the Senior Management team. A Senior Researcher, Marita Titler reports directly to the CNO. Under Dr Titler's direction are the Quality Committee, Research Committee, Clinical Outcomes and Resource Management and Evidence-based Projects. These systems have divisional and unit research and quality activities and accountabilities reporting to them from all levels and are integrated and aligned within the system. Managers and Advanced Practice Nurses are accountable for processes and quality indicators and report on these through their Quality Committees. Resources and governance are aligned with performance expectations and acknowledged through recognition and rewards. UIH Department of Nursing uses a Shared Governance Model lead by the CNO, Nursing Leadership Council and Nursing Administrative Operations Council. Councils for Nursing Management, Staff Nurse and Advanced Practice Nurses and committees such as Quality Management, Professional Nursing Practice, Human Resources, Staff Education, Nursing Research, Nursing Information and Patient Education report to these bodies. Carved communication pathways have been created within this system to ensure integration and alignment.

Process

The UIH uses the Iowa model to support and clearly define the process for evidence based practice that can also be applied to evidence based decision making. The model supports quality management, and evidence based practice principles and functions. Policies and procedures are research based with measurement identified for process and outcome. A system is in place to collect this information that is fed back to the quality management committee who then determines the requirement for change in policy.

It was evident in our discussions with representatives from the University of Iowa Hospital that the use of evidence was 'part of the way things are done here'. This means that the concept is not just given 'lip service' but is fully supported through messaging and operationalization at all levels from the Board of Directors to the staff nurse at the bedside. The vision lives through alignment and support of processes and is a means to achieving increased recruitment and retention; decreased vacancy in nursing positions; decreased use of agency staff; and achievement of Magnet Hospital Status. The CNO ensures that resources are available to support the internship programs, educational programs, and recognition events that are aligned with the evidence based movement.

People

Engagement of all levels of staff:

Engagement in the EBP philosophy, vision and process was exhibited at all levels of staff throughout the organization. Engagement is led by a network of Senior Leaders, Advanced Practice Nurses and the Managers and is done in a number of ways including having key EBP representatives at all discussion forums and recognition activities for nursing staff. There is also support and 'buy-in' from physicians and multidisciplinary staff that are part of the care team. . Identification and recognition of early adopters and investing in their development along with rewarding the local champions in various units is another strategy used to engaged staff. Access to the experts within the Evidence Based Unit for support and education as well as access to PhD prepared staff with expertise in methodology and access to financial resources to support research activities is a strong people component for sustaining the vision.

Infostructure
A key barrier to the use of evidence to guide practice identified by Marita Titler (Titler et al, 2001) included conflicting research results, research reports that are difficult for staff to understand, and relevant studies not being compiled in one place. The UIH has overcome these barriers by providing streamlined access to many sources of information. Information is organized in a meaningful way, reports are timely and accurate, data is available in a just in time way that staff can directly access. Easy and accessible computer stations exist on each unit that provide access to search engines and retrievable literature at the click of a mouse. While on one unit nurses were observed searching for evidence regarding best practices in relation to a clinical practice issue they were debating. The Advanced Practice Nurses along with the Evidence Based Unit and Managers also support staff in their critical inquiry and pursuit of evidence.

Organizational Culture
A vision for evidence practice exists at the University of Iowa Hospital and this vision seems to live within the culture of the organization. Communication and messaging is consistent from the top down and the bottom up with quality client care being central to evidence based practice. "Using evidence in all we do" is a subtle message but clearly understood by staff throughout the institution. A culture of inquiry, support for asking questions and challenging the status quo is evident at all levels within the organization.

External/Environmental
Strategies that support research utilization observed at UIH that are external to the organization included the affiliation with the University itself. Access to educators, PHd prepared staff, and colleagues knowledgeable about research further supports evidence based activities that are taking place within the institution. Access to literature and a librarian was seen to be a significant support that enabled staff access to evidence.

The creation of an external professional practice consortium exposed staff to other sources for learning and knowledge exchange. The opportunity to discuss best practices and relevant evidence provided a synergistic learning environment outside of the institutional walls.

Achievement of magnet status as a hospital this year really seemed to bring everything together as achieving magnet status acknowledged and rewarded everyone in the hospital for the investment, and commitment to research utilization.

Saint Elizabeth Health Care
SEHC ORGANIZATIONAL ASSESSMENT FINDINGS

In identifying and describing the barriers and facilitators for the use of evidence in decision making that exist at SEHC the framework created by Dobbins and colleagues (Dobbins et al 2002) was utilized. Characteristics of the innovation, individual, organization, and environment are described as either barriers or facilitators for the adoption of the innovation, the use of evidence in decision making.

FACILITATORS/ENABLERS

Enablers

Characteristics of the Innovation

- Management staff believe that there is room for improvement in the current decision making practices
- The use of evidence in decision making at SEHC is well aligned with the organizations vision of becoming a phenomenal knowledge and care exchange company
- There is a high degree of consistency with the innovation and the values of the organization and the management staff
- Research utilization exists within our clinical practice area in program planning, educational program development, and with the work currently being undertaken with the adoption, implementation and sustainability of best practice guidelines for nursing practice
- Evaluation of intervention strategies used to move forward with adoption of the innovation can be defined at various levels although primarily in terms of behavioral measures in the short term

Characteristics of the Individual

- Authority and Autonomy for decision making within management
- Majority of the management staff are well aligned with the vision of the organization and see the use of evidence based decision making consistent with this vision and with their own values

Characteristics of the Organization

- CEO committed to the innovation
- Senior VP, Knowledge and Practice position well aligned and focused to lead innovation
- Recent positive changes in relation to the manager to staff ration in particular in relation to the SDC Managers
- Organization values the use of research evidence in clinical practice and understands the value of evidence based decision making at the Senior level
- Multiple communication systems: voice mail, email, teleconferences, intranet, online educational programs, face to face meetings, internal communications publication, website, mail outs
- Centralized and decentralized decision making structures that support autonomy and decision making at the right place by the right staff with the right information
- Managerial attitude and support at the senior level is significant
- Resources within the knowledge and practice team well aligned with the innovation

Characteristics of the Environment

- Positive relationship between the Senior team and the Board of Directors

- President of the Board committed to the use of evidence in decision making
- High level of competition for contracts within the environment of managed competition for the delivery of home care
- SEHC known as an innovative leader in home and community care

Barriers

Characteristics of the Innovation

- Management staff are not clear (in particular at the SDC level) how they might use research evidence in their decision making practices
- Lack of familiarity of the staff with the literature, specifically with the management literature
- The innovation will be difficult to implement on a small scale as the strategies for change require large investments, however it is focused in on specific management levels and a phased in approach will be utilized

Characteristics of the Individual

- Varying management attitudes regarding the use of research evidence
- Varying educational levels of management staff
- Lack of knowledge and skills regarding accessing, appraising and applying research evidence
- Managers state that they have insufficient time to access and review the literature

Characteristics of the Organization

- SEHC is a large organization with over 3000 employees, and 21 sites across the province
- No access to research literature virtually, and minimal access to research literature through journals due to the challenge of the multi sites
- Varying managerial attitude towards evidence based decision making
- Lack of educational programs, supports for enabling managers to use research evidence in decision making
- Evidence reports currently not timely or meaningful and cannot be easily accessed

Characteristics of the Environment

- Multiple sites across the province including both urban and rural that can present a challenge to communication and access
- External pressures from Community Care Access Centres that impact on decision making autonomy particularly at the SDC level
- Unstable health care environment

Saint Elizabeth Health Care

Evidence Based Decision Making
Creating the Foundation
October 12, 2005

Agenda

1200 -1230	–	Lunch	
1230 – 1245	–	Welcome and Introductions	All
1245 – 1315	–	Overview and Expected Outcomes of the Day o Words from our CEO – Shirlee Sharkey • Context and Background • Results of Organizational Assessment	Nancy Lefebre
1315 – 1345	–	Evidence Based Case Scenarios • Peter Massel – Senior VP Finance and IT • Helene Lacroix- Nursing Practice Officer • Alan Gardiner – Rewards Program Manager • Pat Malone – Corporate Integrity Officer	
1345 – 1400	–	Break	
1400 – 1545	–	Future State • Organizational Strategies for Success • Individual Strategies for Success	Maureen Hennessy
1545 – 1615	–	Supports and Tools for EBDM • Decision Making Process and Framework • Business Intelligence Awareness	 Karen Ray Mary Lou Ackerman
1615 – 1630		Wrap Up – Nancy and Maureen Evaluation Next Steps	

Saint Elizabeth Health Care
Evidence Based Decision Making
Creating the Foundation
October 12, 2005
Objectives

- To gain an understanding of how evidence-based decision making is aligned with the organizations vision and strategy today
- To become familiar with language and concepts of evidence-based decision making
- To share results of the organizational assessment
- To develop a preliminary description of the future state for an evidence-based decision making culture
- To identify organizational strategies for success in achieving the future state
- To identify individual strategies for success in achieving the future state
- To introduce tools and supports for moving forward with evidence-based decision making
- To prepare for October the 13th educational session

Saint Elizabeth Health Care

Evaluation Survey for SEHC EIDM Launch
October 12th

Please rate the following items on a scale of 1=strongly agree, 2=moderately agree, 3=slightly agree, 4=neither agree or disagree, 5=slightly disagree, 6=moderately disagree, 7=strongly disagree

1. I have a good understanding of how EBDM is aligned with the organizations vision and strategic direction.

   1 2 3 4 5 6 7

2. Today's presentations provided information regarding the organizations current practices regarding the use of evidence in decision making.

   1 2 3 4 5 6 7

3. I had the opportunity to contribute to the discussions today regarding the future state and strategies for creating a culture that supports EBDM at SEHC.

   1 2 3 4 5 6 7

4. The decision making tools and supports presented today will be applicable to my work setting.

   1 2 3 4 5 6 7

5. I am more familiar with the concept of Evidence Based Decision Making.

   1 2 3 4 5 6 7

6. Today's presentations provided information about how managers can apply evidence to decision making.

   1 2 3 4 5 6 7

7. What did you like most?

_____
_____
_____
_____

8. What did you like least?

_____
_____

_____

_____

9. Would you like more information and education regarding Evidence Based Decision Making?

Yes No

If yes, what specifically would you like presented and discussed to further your understanding of evidence based decision making?

_____

_____

_____

_____

Thank you for completing the survey!

Saint Elizabeth Health Care

EIDM Launch Evaluation Results
October 12, 2005

n=16 participants/60%

1. I have a good understanding of how EBDM is aligned with the organization's vision and strategic direction.

   Mean=2.75 moderate to slightly agree
   4 respondents rated 5-6

2. Today's presentation provided information regarding the organizations current practices regarding the use of evidence in decision making.

   Mean=3.25 slightly agree to neutral
   4 respondents rated 5-6

3. I had the opportunity to continue the discussions today regarding the future state and strategies for creating a culture that supports EBDM at SEHC.

   Mean=2.75 moderate to slightly agree
   4 respondents rated 6-7

4. The decision making tools and supports presented today will be applicable to my work setting.

   Mean=3 slightly agree
   4 respondents rated 5-7

5. I am more familiar with the concept of EBDM.

   Mean= 2.8 moderate to slightly agree
   4 respondents rated 5-7

6. Today's presentations provided information about how managers can apply evidence to decision making.

   Mean= 2.75 moderate to slightly agree
   4 respondents rated 5-7

7. What did you like most.

   - Case scenarios or examples
   - Participation in activities
   - Discussion and sharing of ideas

8. What did you like least.
   - Future state discussion

- Too fast
- Full day versus half day; too much information

9. Would you like more info and education.

    - Yes, more sessions
    - Detailed discussions and examples of how it applies to SEHC
    - Information on how to 'circle back' and evaluate your decision

Summary:

- Overall, participants liked the session and found it useful
- 4 participants consistently found the session poor
- Most participants liked the interactive/application strategies such as case scenarios and discussion
- The information regarding the 'future state' was the most problematic
- Most would like additional education on applying EBDM to their every day work life at SEHC and how to evaluate the decisions that they are making

Management Decision-Making: *Art or Science?*

October 13, 2005
9:00 am - 4:00 pm

Sunnybrook and Women's College Health Sciences Centre

R.S. McLaughlin Education Centre - Auditorium

Room EG18a

2075 Bayview Avenue

Toronto

Speakers

Elizabeth M. Davis, RSM
Chair, Board of Trustees, Canadian Health Services Research Foundation

John Lavis
Associate Professor and Canada Research Chair in Knowledge Transfer and Uptake, McMaster University

Jean-Louis Denis
Professor, Université de Montréal
CHSRF/CIHR Chair

Workshop Objectives

1. To provide information on what influences and contributes to management decision-making related to evidence.
2. To inform managers how to find the evidence and how evidence can be applied to making decisions.
3. To provide a forum for dialogue and debate among managers from three unique health care agencies related to management decision-making.

Registration Information

Please send your intent to attend to:

Jessie DeSouza
Ph: 905-940-9655 Ext. 2141
Fax: 905-305-1544
Email: jdesouza@saintelizabeth.com

Space is limited to 40 managers per organization.

SUNNYBROOK & WOMEN'S
Sunnybrook and Women's College Health Sciences Centre

Saint Elizabeth HEALTH CARE

TORONTO Public Health

EXTRA/FORCES

CHSRF FCRSS
Canadian Health Services Research Foundation
Fondation canadienne de la recherche sur les services de santé

Management Decision-Making: Art or Science?

Sunnybrook and Women's College Health Sciences Centre
2075 Bayview Avenue
R.S. McLaughlin Auditorium (Room EG18a)

October 13, 2005
0900-1600 hours

Agenda

0900-0915	Welcome & Introductions	Heather McPherson Elise Comtois
0915-1015	Using Research-Based Evidence in Health Care Organizations	Sister Elizabeth Davis
1015-1030	Break	
1030–1130	Receptive Capacity of Organizations to Utilize Research-Based Evidence	Jean-Louis Denis
1130–1200	Case Scenario- Part I	Maureen Cava
1200-1300	Lunch	
1300-1400	Push, Pull & Exchange: Being Proactive in the Context of Decision-Making	John Lavis
1400-1430	Finding the Evidence – Principles & Theories	Bruce Gardham
1430-1445	Break	
1445-1545	Case Scenario – Part II	Maureen Cava
1545-1600	Closing Remarks & Evaluation	Nancy Lefebre

EXTRA/FORCES

Evaluation Survey for Management Decision Making: Art or Science' Workshop

I am employed at:

1. Sunnybrook and Women's Hospital
2. Toronto Public Health
3. Saint Elizabeth Health Care
4. Other Explain_____

Please rate the following items on a scale of 1=strongly agree, 2=moderately agree, 3=slightly agree, 4=neither agree or disagree, 5=slightly disagree, 6=moderately disagree, 7=strongly disagree

10. The information presented today was new to me.
    1 2 3 4 5 6 7

11. The information presented today will be applicable to my work setting.
    1 2 3 4 5 6 7

12. The information presented today is relevant to my professional development.
    1 2 3 4 5 6 7

13. Today's material was presented effectively.
    1 2 3 4 5 6 7

14. Today's presentations provided information about what influences and contributes to management decision making related to evidence.
    1 2 3 4 5 6 7

15. Today's presentations provided information about how managers can find evidence.
    1 2 3 4 5 6 7

16. Today's presentations provided information about how managers can apply evidence to decision making.
    1 2 3 4 5 6 7

17. Today's interaction between participants was effective.
    1 2 3 4 5 6 7

18. What did you like most?

_____

19. What did you like least?

_____

20. Would you like more interactions with colleagues from other organizations such as this venue
    Yes No

If yes, what topics would you like presented and discussed?

_____

EIDM Workshop Evaluation Results
October 13, 2005

All Participants n=51

1. The information presented today was new to me.
   Mean=2.8 moderate to slightly agree
   6 respondents rated 5-6

2. The information presented today will be applicable to my work setting.

   Mean=2.5 slightly agree to neutral
   7 respondents rated 5-6

3. The information presented today is relevant to my professional development.

   Mean=2.1 moderately agree
   7 respondents rated 5-7

4. Today's material was presented effectively.

   Mean=2.8 moderate to slightly agree
   7 respondents rated 5-7

5. Today's presentation provided information about what influences and contributes to management decision making related to evidence.

   Mean= 2.5 moderate to slightly agree
   7 respondents rated 5-7

6. Today's presentation provided information about how managers can find evidence.

   Mean= 2.6 moderate to slightly agree
   7 respondents rated 5-7

7. Today's presentation provided information about how managers can apply evidence to decision making.

   Mean= 2.6 moderate to slightly agree
   7 respondents rated 5-7

8. Today's interaction between participants was effective.

   Mean= 2.6 moderate to slightly agree

7 respondents rated 5-7

9. What did you like most.
    - Case scenarios or examples
    - Participation in activities
    - Discussion and sharing of ideas
    - John Lavis
    - Sr Elizabeth Davies

10. What did you like least.
    - Presentation by librarian
    - Need more time to network
    - Too much information presented today
    - Too didactic

11. Would you like more info and education.
    - Yes, more sessions
    - Integration/collaboration opportunities
    - Detailed discussions and examples of how to apply to work setting

Summary:

- Overall, participants liked the session and found it useful
- 7 participants consistently found the session poor
- Most participants liked the interactive/application strategies such as case scenarios and discussion
- The information provided by the librarian was helpful, but not presented well
- Most would like additional education on applying EBDM to their every day work life

EIDM Workshop Evaluation Results
October 13, 2005

Saint Elizabeth Health Care Results n=15

1. The information presented today was new to me.

   Mean=2.7 moderate to slightly agree
   3 respondents rated 5-6

2. The information presented today will be applicable to my work setting.

   Mean=2.4 moderate to slightly agree
   2 respondents rated 5-6

3. The information presented today is relevant to my professional development.

   Mean=2 moderately agree
   2 respondents rated 5-7

4. Today's material was presented effectively.
   (different than overall group)

   Mean=3.2 moderate to slightly agree
   2 respondents rated 5-7

5. Today's presentation provided information about what influences and contributes to management decision making related to evidence.

   Mean= 2.7 moderate to slightly agree
   2 respondents rated 5-7

6. Today's presentation provided information about how managers can find evidence.

   Mean= 2.6 moderate to slightly agree
   1 non respondent; 3 respondents rated 5-7

7. Today's presentation provided information about how managers can apply evidence to decision making.
   (different than overall group)

   Mean= 3.1 slightly agree
   2 non respondents; 2 respondents rated 5-7

8. Today's interaction between participants was effective.

Mean= 2.9 slightly agree
2 non respondents; 2 respondents rated 5-7

9. What did you like most.
    - Case scenarios or examples
    - Participation in activities
    - John Lavis
    - Sr Elizabeth Davies

10. What did you like least.
    - Presentation by librarian

11. Would you like more info and education.
    - Yes, more sessions
    - Integration/collaboration opportunities
    - Detailed discussions and examples of how to apply to work setting

Summary:

- Overall, participants liked the session and found it useful
- 2-3 participants consistently found the session poor
- Most participants liked the interactive/application strategies such as case scenarios and discussion
- Most participants did not find the presentation by the librarian helpful

Saint Elizabeth Health Care
Request for Research Evidence Form

Requestor Information

Name:
SEHC Office:
Telephone Number:
e-mail:

Dates

Today's Date: (dd/mm/yy)
Request to be completed by: (dd/mm/yy)

Request Information (Based on the IDEA Framework)

Identify the decision to be made:

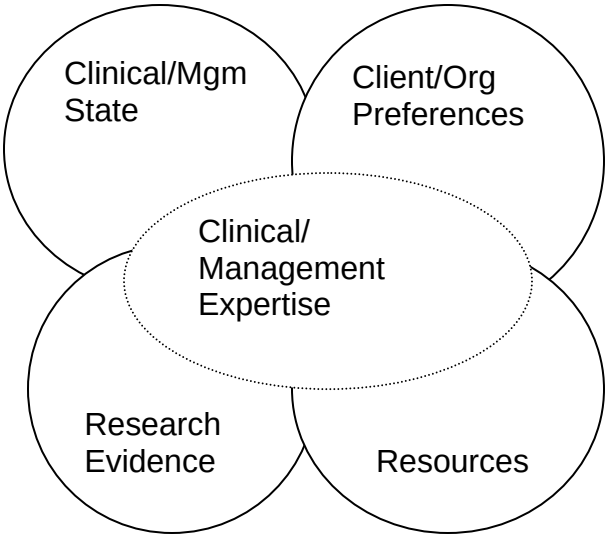
What is the question for which you require best evidence? (including population of interest, intervention/exposure/outcome, situation/circumstances of interest):

Indicate the type of decision:

Clinical ☐
Organizational ☐
Operational/administrative ☐
Ethical ☐
Other ☐ (describe)

Determine your decision making needs:

Using the diagram below as a model, describe any information you already have to complete the five areas of decision making.
Clinical/Management State
Clinical / Organization Preferences
Research Evidence
Resources
Clinical/Management Expertise



What research do you need to help make the decision?

Explore the options

What options are you currently considering?

	Options	Pros	Cons
Option #1			
Option #2			
Option #3			

This section is to be completed by the Evidence/Research Team

Request Completed on (dd/mm/yy):
Request Completed by (name): _

Summary of Response:
Action taken by Manager
Evaluation of Results:

REPORTS AVAILABLE IN PHASE I

CCAC BILLING

- CCAC STATUS REPORT

COORDINATOR

- PROVIDER LIST - SUMMARY
- CHART AUDIT-CLIENT
- CHART AUDIT-PROVIDER
- ABOVE FREQUENCY SUMMARY
- ABOVE FREQUENCY DETAILS
- PROVIDER AVAILABILITY DETAIL
- PROVIDER AVAILABILITY SUMMARY
- CLIENT LIST-SUMMARY
- COORDINATOR ACTIVITY-CLIENT
- COORDINATOR ACTIVITY-PROVIDER

MONTH END

- ON/OFF DUTY - PROVIDER DETAIL
- ON/OFF DUTY - PROVIDER SUMMARY
- ON/OFF DUTY - TREATMENT SUMMARY
- PRODUCTIVITY REPORT
- LONG TERM CLIENTS
- CONTINUITY BY SERVICE-NEW RFP TEMPLATE
- CONTINUITY BY TEAM-NEW RFP TEMPLATE
- CALL LENGTH-DETAIL
- CALL LENGTH-SUMMARY
- ACTIVITY REPORT
- CONTINUITY OF CLIENTS-NEW RFP TEMPLATE
- TIMESHEET SUMMARY
- VISIT SUMMARY BY TREATMENT-ALL
- VISIT SUMMARY BY TREATMENT-PRIMARY
- RN/RPN UTILIZATION

OTHER

- PROVIDER SERVICES FOR SPECIFIC DAYS
- PROVIDER ADMIN SERVICES FOR SPECIFIC DAYS
- PROVIDER SERVICES FOR A PERIOD
- TREATMENT BREAKDOWN BY PROVIDER TYPE
- CLIENT SERVICE FOR SPECIFIC DAYS
- CLIENT SERVICE FOR A PERIOD
- PROVIDER ADMIN SERVICES FOR A PERIOD
- OFFSITE STORAGE

PRIVATE BILLING

- PRIVATE INVOICE ACTIVITY
- PRIVATE INVOICE AR-AGING REPORT
- PRIVATE INVOICE SUMMARY

For more information on

BUSINESS INTELLIGENCE AWARENESS

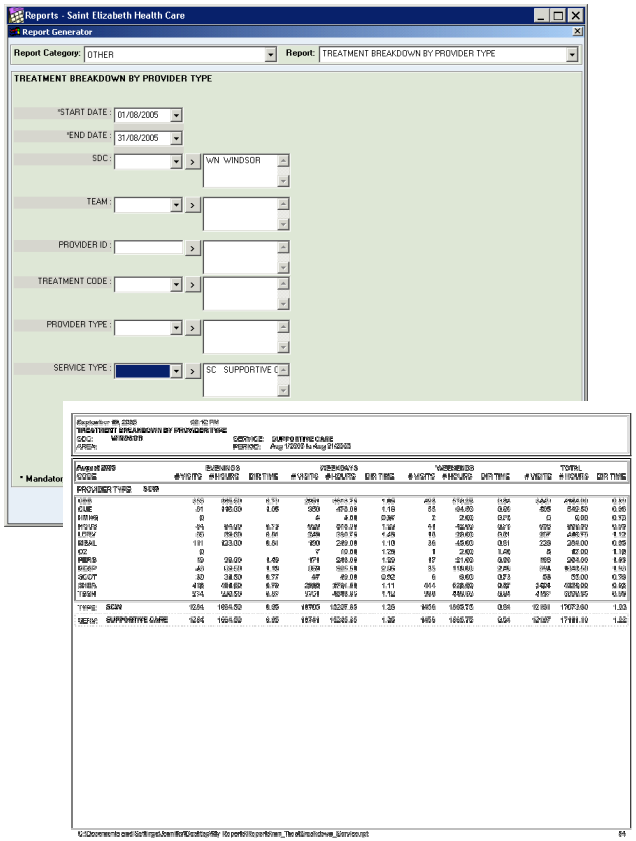
contact the Information Management Team

Mary Lou Ackerman
Vice President Information Management
mackerman@saintelizabeth.com

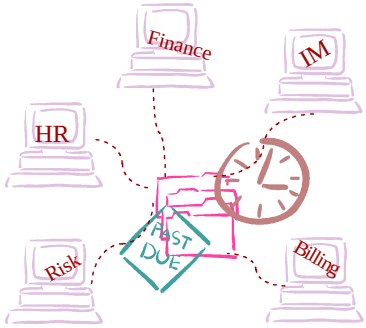
Jennifer Hunt
Information Systems Analyst
jhunt@saintelizabeth.com

BIA

THE SOLUTION TO ACHIEVING INTUITIVE CONFIDENCE



Business



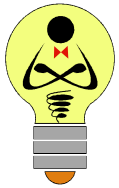
How can we make the information work for us?
How can we make smarter decisions?
How can we make our business intelligent?
Is the right information available, and where do I find it?

What stops us from making these decisions TODAY?

- No direct access to the information
- Delayed response times on information requests
- Inconsistent information throughout departments due to separate data systems

WHAT IS THE SOLUTION? … How do we increase our information intelligence?

Intelligence



The Information Management team offers the solution!

BIA

Business Intelligence Awareness

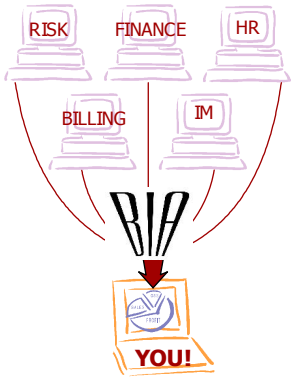
Beginning in October 2005, BIA will facilitate timely access to accurate information which will translate into increased business intelligence power!

Phase I will provide:

- Direct access to information via Citrix
- Flexible reports with multiple options for filtering, grouping, and sorting
- Clear and structured data
- Central repository of all the SDC information
- Ability to export and save report data locally
- Seamless updates to the reports collection

WHAT DOES THE FUTURE HOLD? … How will we become more aware?

Awareness



The Information Management team will continue to develop the solution into a true Business Intelligence Awareness tool! BIA will include:

- An Integrated Reporting Solution
- Smarter reports, able to identify if KPI (Key Performance Indicators) are on track
- Dashboards to highlight problems and successes
- Pre-populated Performance Indicator Reports
- Ability to research problems by drilling down into the information
- Ability to make smarter decisions

BIA is the road towards INTUITIVE CONFIDENCE!