



*Knowledge Utilization Colloquium '01
Proceedings*

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Alberta Heritage Foundation for Medical Research



Knowledge Utilization Studies in Practice



Prologue

On the following pages you will find a record of a two-day Colloquium on Knowledge Utilization held in Edmonton, Alberta on April 30th and May 1st 2001. Like many good ideas, the Colloquium began as a convergence of events and travel plans. It developed into a gathering of some 35 participants with an interest in the study of knowledge utilization. Three people with research programs focused on knowledge and research utilization were key to making the Colloquium happen: Carole Estabrooks (University of Alberta, Edmonton), Alison Kitson (Royal College of Nursing, Oxford, UK) and Réjean Landry (Université Laval, Québec). We have agreed to continue to take a leadership role and to facilitate the ongoing development of the Colloquium – expanding its geographic and disciplinary borders and its ability to function as a nexus for scholars in training.

We are grateful to the following funders who made the first Colloquium possible:

- Alberta Heritage Foundation for Medical Research
- Canadian Institutes for Health Research
- Canadian Nurses Association
- Faculty of Nursing, University of Alberta
- University of Alberta

We are also grateful to the representatives of those funding agencies who were able to attend, to the doctoral students who scribed our sessions, the undergraduates who assisted us and to all of the participants who generously shared their ongoing research findings.

We look forward to gathering again in 2002 and to advancing the research agenda on a global level.

Carole A. Estabrooks

Knowledge Utilization Colloquium '01

AGENDA

DAY 1: MONDAY, APRIL 30, 2001

0800-0830 COFFEE AND LIGHT REFRESHMENTS

0830-0900 Introduction and Welcome

Carole Estabrooks

W. (Bill) McBlain

Associate VP Research, UAlberta

Lillian Douglass

Associate Dean, Faculty of Nursing

0900-0915 Objectives and products

Carole Estabrooks/Alison Kitson

RESEARCH BRIEFS - ACTIVE RESEARCH

0900-0930 Promoting action on research implementation in health services - the PARIHS project

Kitson/Rycroft-Malone (UK)

0930-1000 Australian nurses' decision making processes and influences

Bucknall (Melbourne, AUS)

1000-1030 Factors that shape the use of evidence in organizational contexts.

Reay/Golden-Biddle (Alberta)

1030-1100 BREAK

1100-1130 Research-based nursing practice in acute-care settings: Multiple case studies (preliminary results)

Pepler (McGill)

1130-1200 Use of systematic reviews in the development of public health policy

Dobbins/Ciliska (McMaster)

Knowledge Utilization Colloquium '01

AGENDA

DAY 1: MONDAY, APRIL 30, 2001

1200-1230	Transfer and Uptake of Research Knowledge among Rehabilitation Professionals	Pain et al. (Alberta)
1230-1330	LUNCH	
RESEARCH BRIEFS - ACTIVE RESEARCH		
1330-1400	Uptake of clinical practice guidelines by labour and delivery nurses	Logan/Davies (Ottawa)
1400-1430	The determinants of research utilization: Organizational perspectives (preliminary results)	Estabrooks (Alberta)
1430-1500	The national survey of health sciences researchers, decision-makers, and clinicians (preliminary results)	Landry (Laval)
1500-1530	BREAK	
1530-1600	Discussion of Research Briefs	
1600-1700	General discussion: Commonalities, gaps, a beginning research agenda	Kitson/Estabrooks/Landry to facilitate
	Day 2 overview	Estabrooks
1800	Group dinner: Faculty Club	

Knowledge Utilization Colloquium '01

AGENDA

DAY 2: TUESDAY, MAY 1, 2001

0800-0830 COFFEE AND LIGHT REFRESHMENTS

0830-0845 Day 2 Objectives Carole Estabrooks

0845-0915 Knowledge utilization research in the United States Cheryl Stetler

0915-0945 Recap Day 1: What is happening and where we need to go in the KU field Réjean Landry

0945-1000 Discussion

1000-1030 BREAK

1030-1200 Small Working Groups:

Topic 1: The pressing research questions (Estabrooks & Kenny)

Topic 2: Building capacity (Ritchie & Hyndman)

Topic 3: Collaboration & decision-makers (Kitson & Scott-Findlay)

Topic 4: KU & Policy implementation (Landry & Snelgrove-Clarke)

There will be 3-4 groups; topics and number of groups will be finalized during the 0945 hr discussion.

Groups will be mixed across jurisdictions and led by Landry, Estabrooks, Kitson, & Ritchie.

Doctoral students will each "scribe" for a group, working with the group leader to prepare a "brief" for the after lunch session.

1200-1300 LUNCH

Knowledge Utilization Colloquium '01

AGENDA

DAY 2: TUESDAY, MAY 1, 2001

1300-1430	Working Group results (20 -30 min. each including discussion, depending on number of groups)	Group leaders and scribes
1430-1500	Summary of working groups	Profetto-McGrath & Bottorff
1500-1530	BREAK	
1530-1650	Final Discussions (20 min each)	
	Recap - what we accomplished	Kitson
	Products - proceedings, CJNR issue	Estabrooks
	Next steps	Landry
	2 nd Colloquia? nature of?	Group
1650-1700	Wrap-up	Estabrooks

DAY 1

RESEARCH BRIEFS – ACTIVE RESEARCH

Promoting Action on Research Implementation in Health Services (PARIHS)

Alison Kitson and Joanne Rycroft-Malone

“Despite growing acknowledgement within the research community that the implementation of research into practice is a complex and messy task, conceptual models describing the process still tend to be uni-dimensional, suggesting some linearity and logic.” (Kitson, Harvey & McCormack, 1998) Research implementation more closely resembles throwing a bird than throwing a rock. One can predict the trajectory of a rock but the bird has a mind of its own. Successful implementation is a function of the relation between the nature and level of **evidence**, the **context** or environment in which the proposed change is to be implemented and the way in which the change is **facilitated**. **Evidence** is information and knowledge upon which decisions about care are based. Research, clinical experience and patient experience are all forms of evidence and each form of evidence may range in strength from low to high. **Context** is the environment or setting in which the proposed change is to be implemented. Each environment or setting can be understood to fit somewhere along a continuum on each of three aspects: culture, leadership and evaluation. Facilitation is the process of enabling or making things (in this case, change) easier. Sometimes no mechanisms or inappropriate methods of facilitation of change are in place. Appropriate mechanisms for facilitation will differ according to the differing purposes, roles and skills involved. The most successful implementation seems to occur when all three factors are positive: the evidence is strong and matches both the professional consensus and patient experience and preferences; the context is receptive to change in that the culture is sympathetic, the leadership style is transformational and appropriate monitoring and feedback systems are in place; and, change is appropriately facilitated through input from both skilled external and internal facilitators. The least successful implementation occurs when the context and facilitation are inadequate, although difficult contexts can be overcome by appropriate facilitation.

Clinical Encounters

Personal development
Clinical Decision-Making
Types of Evidence
Networks
Facilitation

Strategic Aspects

Politics (National/Regional/Organization/Local)
Policy Implementation
Resources
Networks

Organizational Aspects

Systems/Structures/Processes
Culture
Networking
Evidence-based QA

Principles

Trust
Collaboration
Partnership
Diversity/Synergy

Challenges:

What are the theoretical underpinnings of knowledge utilization?
Where does knowledge transfer stop and knowledge utilization begin?
What is the difference between knowledge utilization and management of change?

Discussion:

The work of the PARIHS team (Kitson, Rycroft-Malone, McCormack, Harvey, Seers and Titchen) is exploring the relation between evidence, context and facilitation and their sub-elements. Are these the correct antecedents to successful knowledge utilization? And how can organizations, teams and individuals improve their capability to utilize knowledge more effectively?

Kitson, A., Harvey, G., & McCormack, B. (1998). Enabling the implementation of evidence based practice: a conceptual framework. *Quality in Health Care*, 7, 149-158.

Australian Nurses' Decision-Making Processes and Influences

Tracy Bucknall

Research using a variety of research methods and sample groups has begun to give insight into the means by which nurses make decisions. These decisions include evaluation decisions (52%), decisions concerning communication (29%) and decisions about interventions (19%). Nurses engage in a continuous cyclical loop of action and reflection. This process includes data collection, data analysis, diagnostic explanation, diagnostic management and reflection. These elements do not necessarily occur in an orderly sequence but rather independently or simultaneously.

Three types of variables influence nurses' decision-making: decision task variables, nurse variables and environment variables. **Decision tasks** vary according to whether the patient problem is structured or unstructured, according to complexity and according to stability. **Nurse variables** include theoretical knowledge, practical knowledge, situational knowledge, nurses' values and beliefs and personal characteristics of the individual nurse. The **environments** in which nurses make their decisions also affect the process of decision-making. Resources, both the physical and staffing resources, as well as the relationships of the clinical environment (nursing appointment levels and experiential hierarchies, multi-disciplinary collaboration, patients, significant others and organizational structure and management) shape the decision-making process.

Nurses reported problems with clinical decision-making; sometimes they lacked knowledge, time to make a decision, or time to implement decisions. In some cases, they reported that problems occurred as a result of a conflict with their personal values or disagreement with others. They identified a number of barriers to research utilization, of which lack of time was most frequently reported (77%). Lack of research knowledge (47%), lack of organizational support (38%) and lack of interest (36%) were also reported.

One important challenge facing researchers in clinical decision-making is appropriate **study design** to capture both cognition and action in complex settings. The few studies on nurses' decision-making have limited application to the real world, since most used simulations. Of the research based in the field, very few use qualitative methods with purposeful sampling.

Context is crucial to decision-making and the assessment of the effect of **context** on decision-making and patient outcomes poses a second challenge to research. The decision-making environment is dynamic and poorly structured, information is often ambiguous and incomplete, decision-making is both independent and interdependent, and thus significant potential for bias and error exists. Most important, decisions are high risk and stressful.

A third challenge for researchers is the identification of **errors** that occur in practice and their relationship to contextual variables. Although some uncertainty accompanies all clinical decisions, significant potential for error exists. Complex decisions lead to thinking shortcuts that may cause bias and error. Awareness and understanding of processing errors and influences may help to avoid problems and improve patient management.

Improving practice requires decision-making skills to integrate new evidence into existing knowledge, as well as knowing how and when to use it.

Bucknall, T.K. (2000). Critical care nurses' decision making activities in the natural clinical setting. Journal of Clinical Nursing, 9(1), 25-35.

Using evidence in an organizational context

Trish Reay, Karen Golden-Biddle, Amy Pablo

Evidence-based decision-making (EBDM) is most likely to be implemented in a sustainable way if it is viewed as a change initiative to be managed. The key areas to consider in implementing change are **organizational structures, organizational systems, support from champions, organizational culture** and **organizational politics**. What **structures** (reporting mechanisms formalized in the organizational chart, for example) exist within the organization to facilitate or block the change? What **systems** for task completion (such as staffing systems, hiring systems, information systems, reward systems, policy-making systems, budgeting processes, etc.) will affect change implementation? The **support of champions** is critical to implementing change. Champions may be formal or informal but they need to possess scientific credibility as well the support of the organization. A number of champions from different areas and from different levels in the organization are essential to implementing change. To implement change, it is critical to diagnose, draw on or reshape **organizational culture** – the underlying norms and values that guide everyday activities, the way things are really done within the organization. If the culture is supportive of using evidence, the change toward EBDM may be quite smooth. If not, it will be necessary both to make the change and change the culture as well. It is also necessary to take account of **organizational politics**, the power relationships in the organization. To take the analogy of throwing a bird rather than throwing a rock a bit further, someone in the organization may have an interest in trying to shoot down the bird, or perhaps distract the bird with food. These are ways in which organizational politics can block or encourage change. Cultural and political issues will make or break change initiatives. If you can change the **CULTURE** of the organization, the people within the organization will find ways to get the resources they need.

Challenges:

We need to make the connections between EBDM literature and organizational change literature. We need to build capacity within the health sector of organizational studies in Canada.

We need to build decision-making models that integrate both individual thought processes and the effect of the organizational context in which decisions are made. This is a challenge because most people believe that they always make rational decisions and we have traditionally tried to work with a rational decision-making model. We need to create a broad definition of evidence.

Discussion:

- Are organizational change and research utilization the same thing?
- Rational piece is important because as academics we cling to the rational model with fierceness.
- How does one support innovation through change management? How does one create a culture that supports innovation?
- Innovation may be defined as, “the use of things that you weren’t considering otherwise”.
- Evidence is evaluated differently based on the culture of the organization.

Factors in the Development of Research-based Nursing Practice in Acute Care: A Multiple Case Study

Carolyn Pepler

The purpose of the study is to examine how and why nursing practice in two types of acute care units, oncology and neurology, is or is not built on research. The data collected include self-report questionnaires for nurses, interview data, focus groups, observation and data on unit research utilization resources and use. Preliminary analysis has included the independent coding of transcribed interviews, the definition of codes, the identification of themes and some summary analysis of questionnaire data. Preliminary results suggest that the nurses on Unit A are more experienced; research is used more often on Unit B. This research raises several methodological issues: deciding on the coding processes for initial data analysis and evaluating the fit of the codes used, linking the codes together, creating propositions to be tested and linking qualitative to quantitative data.

Propositions Arising from the Data

Context

1. Research utilization occurs when nurses have research training in their basic or continuing education, clinical expertise, job motivation, perceived autonomy and self-directedness.
2. Organizational factors, including decentralization, nurses' workload, positive valuing of research, financial resources, and access to literature, increase research utilization.
3. Environmental factors, including peer pressure and a unit culture that stimulates inquiry and learning, influence research utilization.
4. The presence of facilitators who have a solid knowledge of the literature and clinical expertise in the care of specific patient populations increases research-based practice
5. Specific knowledge dissemination strategies, such as practice guidelines, training of opinion leaders and continuing education programs, result in research-based practice.

Process

1. Questions generated from clinical practice become research questions that clinicians rarely have the resources to answer; those questions pursued in the literature stimulate research utilization.
2. One nurse may initiate an idea for research-based practice but two or more are needed to move it from transfer to reception and adoption.
3. Assessment of clinical merit and fit may be the only steps of the utilization models taken prior to implementation
4. Innovations that fit with the nurses' beliefs about clinical practice will be likely to be implemented.
5. Practices based on all steps of models will be more likely to include evaluation and patient outcomes as the research utilization process is completed.
6. Changes in practice and policy that can be directly linked to a research base result from a comprehensive research utilization process.
7. Patients report benefits when nurses are deliberately building their practice on a research basis.

Issues for further discussion:

- We need to refine time as a key variable influencing knowledge utilization, recognizing the multi-dimensionality of the concept and the need to differentiate time from 'energy'.
- How does the issue of unit and organizational culture relate to research or knowledge utilization? Does the culture influence research/knowledge utilization or does research/knowledge utilization influence the culture? How does a research/knowledge utilization facilitating culture evolve?
- Do nurses view attending and presenting at conferences as a reward?

Use of systematic reviews in the development of provincial health policy

Maureen Dobbins, Donna Ciliska

The objective of this research was to gain insight into the process of evidence based decision-making through an examination of the use of systematic reviews by public health decision-makers, and their impact on the development of public health guidelines in Ontario. The researchers sought to determine which characteristics of the innovation, organization, environment and individual most strongly predicted the use of systematic reviews. This study was a follow-up to a previous study designed to identify barriers to using research evidence in public health practice, and to determine decision-makers' perceptions of the usefulness of systematic reviews in program planning.

This previous study, funded by the Ontario Health Care Evaluation Network, was conducted in 1996 and consisted of two telephone administered surveys: a baseline survey and another three months later following the dissemination of five systematic reviews, completed by the Effective Public Health Practice project. The most significant barriers to using research evidence in decision-making were time, timeliness (having access to the research when needed), critical appraisal skills and decision-making authority. In addition, participants perceived that systematic reviews would be effective in overcoming barriers such as time and timeliness, and generally had very positive attitudes towards the usefulness of systematic reviews.

The majority of participants in the current study expressed very positive perceptions of systematic reviews, reported that the reviews were valuable, and indicated that they (systematic reviews) had played a role in the development of the new public health guidelines. In addition, the majority of participants indicated that they expected to use these reviews and others in the future to assist in decision-making.

Since this research used self-report as a major measurement component, future research should focus on identifying more objective outcome measures. For example, a comparison of the previous public health guidelines with the new proposed guidelines would provide a more objective measure of the inclusion of research evidence in the new guidelines, which could be used to corroborate participant's self reports.

Questions:

1. What is evidence? Need to define evidence.
2. Sources of information as an alternative when other studies show that decision-makers do not read but that they do engage in informal exchanges of knowledge, i.e. at lunch. What are your comments?

Answer: The study's results may reflect the culture of public health in Ontario...people are trying to find evidence to justify their practice at the local level. These Technical Review Groups (TRGs) were set up to re-evaluate public health specifically, so they know it was a part of the discussion. Evidence is integrated into process. This population of practitioners/policy-makers in public health is expected to follow guidelines but this expectation is not the same in all settings (such as hospitals).

Transfer and Uptake of Research Information among Rehabilitation Professionals (TURK PROJECT)

Kerrie Pain

The objectives of this project are to evaluate the Edmonton Research Orientation Survey (EROS) as a measure of research utilization and to examine the barriers and facilitators for research utilization in Rehabilitation Practice. The EROS, a 38-item instrument was developed as an outcome measure for a research program within a rehabilitation hospital. It measures 4 factors: **valuing research, research involvement, being at the leading edge and using evidence in practice**. Researchers used a combination of interviews and questionnaires with 165 randomly selected occupational therapists, physical therapists and speech language pathologists. The study found that therapists typically spent less than an hour reading and doing research in a week, with the average being between ½ to 1 hour. Therapists reported moderately low understanding of research design and statistics. Scores for involvement in research were lower than those for valuing research and using evidence. Some therapists reported that research use was limited because of the lack of information for their area of practice. Therapists were most likely to use research when they were changing or developing treatment programs. Speech language pathologists rated their research use higher than did occupational or physical therapists and this may be related to their masters' level training.

Barriers & Facilitators:

Lack of **time** was a major factor influencing the use of research, with therapists balancing priorities among patient treatment, administration responsibilities, and family/personal time. Time is needed for the full spectrum of utilization activities including doing the search, reading, assimilating the information and discussing changes with colleagues. The **work environment** (expectations, support/encouragement, work climate, colleague support) and **resources** (training, time and expenses, workload, technology access/skills, equipment costs, journal subscriptions, research costs) were both significant factors. Therapists reported that they needed the **skills** to search out information, **library services** and **people to help**, including mentors and assistants if they were to use research in practice. They identified **motivators** such as unusual clients, doing a presentation, or students as being important to stimulating research use. **Personal factors** – skills in reading and interpreting, organizational skills, personal interests, learning styles – also affected the level of research use. Therapists indicated that they believed in the importance of research use.

Challenges:

In the development and evaluation of programs to increase evidence-based practice among front-line clinicians, we need to develop clear and accepted definitions of research utilization, research dissemination, and evidence-based practice. In order to evaluate programs we need reliable, valid and responsive measures of concepts. Certain measurement issues – multiple sources of information (primary vs. secondary), adequacy of the research base (general vs. specific), clinical conceptualizations (confusion between doing and using research), assumptions about sources – need to be resolved. We need to develop means to assess behaviour change, since knowledge does not necessarily result in changes in practice. However, some behaviour changes resulting from research information are quite subtle and difficult to assess. Careful research design to evaluate methods of increasing research use is necessary. Differences of conditions or of effectiveness of programs across disciplines must be considered. Because articles tend to be published in discipline specific journals, the transfer of information across disciplines is difficult. Limited opportunities to publish multi-disciplinary studies exist. Working in an applied setting rather than in academia offers certain advantages, but significant disadvantages in terms of credibility and research support.

Uptake of clinical practice guidelines by labor and delivery nurses

Jo Logan, Barbara Davies

Fetal Health Surveillance

In 1995, new evidence-based practice guidelines recommended an increase in professional labour support and a decrease in the use of continuous fetal monitoring for low-risk pregnancies. This qualitative case study sought to increase understanding of how clinical practice guidelines (CPGs) are or are not transferred into practice and to identify barriers to and supports for the use of these guidelines. Researchers conducted focus groups with registered nurse clinicians and in-depth interviews with nurse administrators, educators and physicians and analyzed labour and delivery documents at two tertiary and one community hospital with different levels and types of monitoring and midwifery programs and practices. Several factors were found to influence the implementation of the CPGs. Hospital restructuring was an external factor that affected the outcome but other factors were internal to the hospitals. The availability of fetal monitoring equipment and insufficient dopplers for ease of practice made it easier for clinicians to use fetal monitoring than the less invasive dopplers. Leadership issues and internal politics were important in the implementation of the guidelines. The number, experience and attitude of the nurses proved to be crucial factors in the uptake of the CPGs. Legal, political and policy issues raised by the CPGs affected their use.

Caesarean Section (CS)

There are several CPGs including fetal health surveillance with recommendations directly related to the CS rate such as dystocia, vaginal birth after CS, breech presentation, induction of labour and post dates pregnancy. A multi-disciplinary panel (nurse, family physician, hospital administrator, midwife, obstetrician) visited four hospitals with low CS rates representing different levels of care (rural, level 1, 2 and 3) in order to analyse policies and practices. The panel reviewed written documents (clinical data, departmental policies) and interviewed staff (multi-disciplinary and discipline-specific teams).

The nurses, physicians, and administrators at each of the four hospitals were pleased to be acknowledged as a best practice site and proud of their low CS rates. The panel identified critical success factors for attaining and maintaining best practices, grouped under five headings: attitude, program organization, knowledge and information, connections, and managing change. Based upon the data gathered during the site visits, and through a consensus process, the panel developed concrete recommendations to support an effective best practice program. There are multiple determinants to evidence-based practice. In addition, these methods used to study best practice provide a template for studying other health service delivery trends.

Challenges to the uptake of clinical practice guidelines by labor and delivery nurses:

- Discipline-specific versus multi-disciplinary clinical practice guidelines
- Judgement of evidence (involves values)
- Exploding number of clinical practice guidelines
- Hot topics (C-Sections)
- Why will some organizations take up new knowledge while others do not?
- What interventions to enhance utilization are promising?
- What measures do you use to determine if research utilization occurs?
- Unstable internal and external environments, particularly with respect to clinician workload
- The limited resources available for the practice change

The Determinants of Research Utilization: Organizational Perspectives (Preliminary Results)

Carole Estabrooks

This multi-site study into research use in complex organizations is attempting to understand how nurses use research in their practice and what influences their ability to do so. Using pain management in adult and children as the research context, the researchers hope to build theory in a field that is poorly developed theoretically. These ethnographic case studies involved six months of fieldwork in each of 6 units (2 adult and 4 pediatric units in 4 hospitals) and included participant observation, interviews, focus groups and document analysis. In addition, quantitative data was collected including a research utilization survey, two measures of workload and complexity, The Environmental Complexity Scale (ECS) and the Project Research in Nursing (PRN), assessments of unit culture (NUCATs) and pain measures, the Visual Analogue Scale (VAS) and developmentally based pain scales. This descriptive work is necessary to effective research – without it, variables cannot be determined and neither hypotheses nor theories can be developed.

We have begun to analyze the large volume of qualitative data collected with a preliminary set of ten inductively derived categories: 1) experience, 2) sources of knowledge, 3) what research is, 4) people, 5) interactions, 6) nurse characteristics, 7) places, 8) time, 9) environment and 10) pain. Some of these categories seem to fit together into larger groupings. Sources of knowledge, for example, included interactions with others and experience.

Time is a core variable, but we do not understand it yet. If nurses cite lack of time as a barrier to research utilization, what, exactly, do they mean? Thirty per cent of nurses report that they need less than 30 minutes more per shift to do a good job; 50% say they need less than 45 minutes more per shift.

Challenges:

As a research team, we face a number of challenges; the field itself faces similar challenges.

- We need to **define** research utilization and devise methods to **measure** it: culture and organization; interactions and relationships; time and the organization.
- The field must decide on a **common nomenclature** and common definitions and must **broaden the scope** of thinking and study.
- **Methodological** issues include combining analytic approaches, relating numerical and narrative data, and measurement.
- In practical terms, in this particular study, we must manage communications and expectations, doing qualitative work in a large team context across provinces, and managing large volumes of varying forms of data.

The National Survey of Health Sciences Researchers, Decision-Makers and Clinicians: Preliminary Results

Réjean Landry

The project, Utilization of Health Research Results in Canada, was developed in response to perceptions of underutilization of health research in health services and perceptions that interventions could be developed to increase the use of health research in health services. The research questions involved assessing the extent of use of health research across research domains, the factors that explain use and dissemination of health research and the factors that explain linkage mechanisms between researchers and users of research. Four types of explanations of knowledge utilization have been developed: Engineering, Economic, Institutional, and Social. Social forces are crucial – if we want to foster knowledge use, we must act on the social factors. Data in this study were collected by means of national surveys of researchers in medical schools, of physicians and of professionals and managers in ministries of health, RHA and health care facilities. Measuring knowledge utilization is the challenge. What is it that is being transferred and used by the users? We are attempting to describe a process rather than an event.

Results

Relational capacity, the frequency of person-to-person contact between researchers and users such as managers and professionals, is a powerful predictor of knowledge utilization. The rate of use is lower for basic research than it is for either clinical or epidemiological research. Technical networks are being created. More and more research funders are forcing researchers to make alliances with users and decision-makers. According to decision-maker and user questionnaires, we should describe our dissemination goals and strategies; ensure personal follow up with users to assess both the usefulness of the information provided and the ease with which it could be applied; involve decision-makers on the advisory committee of the research project and involve the users in the definition of the question.

Stages of knowledge utilization

Stage 1 - I have sent my research results to physicians, health care professionals or managers of health delivery organizations.

Stage 2 - In the past five years I have been invited to present my research results to groups who could make direct use of them.

Stage 3 - In the past five years I have been asked to sit on working groups that were involved in efforts to directly apply new knowledge including my own research.

Stage 4 - In the past five years, in recognition of my research work, I have worked as a consultant with groups who deliver patient care.

Stage 5 - The use of my research results has generated formal changes in policies or procedures.

Stage 6 - The use of my research results has generated concrete changes in professional practices or health services.

Examples of **Linkage Mechanisms** include publishing articles in trade journals or newspapers, making presentations to professional conferences, participating in workshops and expert groups organized by users, delivering results directly to users through newsletters, email, or correspondence, putting project information on the Internet, participating in radio or TV programs, and meeting with small groups. Research results may be **adapted** for users by presenting research results in non-technical language, by providing examples or demonstrations of how to use them, by disseminating reports and products appealing to the target audience and by preparing reports on specific topics for policy makers.

DISCUSSION OF RESEARCH BRIEFS

The discussion began with the observations about the presentation of research briefs. The group was impressed by what was presented. General observations included:

- 1) Much of the work seems to focus on the micro rather than the **macro level**. A focus on the macro level could help to create environments where change will happen.
- 2) More attention needs to be placed on **outcomes**. The challenge appears to be how to approach outcomes at the provincial/macro level, how outcomes might drive change, and how researchers (as knowledge generators) can push this knowledge in the policy makers' arena for use in policy decision-making. What outcomes should we be most interested in (e.g. patient-centred care, cost-effectiveness)? Understanding the processes that generate desired outcomes is important. What are the appropriate outcomes at a patient level? At higher levels, what is a realistic outcome when evidence is used to develop a national health policy? Input from policy makers about what outcomes are important may be necessary. Outcomes should be derived from the overall goals. It is important to push on all 3 fronts: efficiency, equity and effectiveness.
- 3) The need for both **descriptive and intervention** research was discussed. We cannot wait for all of the descriptive and theoretical work to be done before we start intervention research. We may need to look at best available evidence to date for interventions. Another way may be to look more closely at magnet hospitals. A link could be created between outcomes in agencies and research utilization. Another way that intervention studies may be useful is that they may help us move the focus to the macro-level in that, although perhaps not interesting to policy decision makers as individual studies, the findings of individual studies could become important when aggregated results suggest cost efficiencies. The window of opportunity for research utilization/knowledge utilization studies will be limited, so we need to take advantage of opportunities now.
- 4) Perhaps expectations for research utilization initiatives are unrealistic. Réjean Landry reported that in surveys of professionals, he has found that 55% use university research in general sense in their activities, while 90% prefer to use technical and internal reports to guide decision-making; in the manufacturing sector, 5-8% of firms use university research to develop and improve products. This suggests that health services can be improved without input from research. The research utilization impact may only be at the "margins." But even with incremental improvements at the margins, the improvement may be significant. An example of this is the creation of a more constructive work environment for nursing staff through research utilization initiatives and how this has been effective in nursing retention at a time of shortages.
- 5) The knowledge exchange encounter is a process. Examples were given. The self-assessment tool developed by CHSRF was used in a community health organization. A researcher and CEO met every month with 4-5 articles of interest to the CEO. They discussed these and then circulated these to staff with the CEO's comments. Amazing example: although the CEO could not give an example of a decision made as a result of these exchanges, changes did occur in the way the CEO thought about things. What is it that we are trying to define and measure? This is about exchange of knowledge. It is more realistic to think of exchange or linkage rather than transfer of final reports. It is an interactive social encounter. In the above example, it was very much an exchange. Changing someone's thinking may be more valuable than giving them a clinical guideline. We do not have all the bits of evidence in nursing or some other areas. If we could capture how that thinking has changed and how that CEO now approaches clinical scenarios and budget decisions, we could develop a significant measurable outcome.
- 6) It is important to consider the knowledge transfer between clinicians and patients. If we understand how professionals influence each other's thinking, then we could enhance ways clinicians transfer knowledge to patients. This dimension is an important avenue of research.
- 7) People use more than research evidence – peer reviews, infection control data, evidence of patient progress and preferences, etc. We have had little systematic discussion of this and we need to better understand the nature of decision-making in clinical settings.
- 8) Doctoral students commented on their interest in conducting intervention studies and looked for support and guidance in moving forward with this work. The need for considering the culture of the organization vis-à-vis knowledge utilization was emphasized, because it is at that symbolic level where many critical changes will be made.

Discussion of Research Briefs (continued)

Question: If we were trying to hammer out 5 or 6 things that are most urgent, what would they be?

1. Programmatic and systematic research
2. Need for definition and clarification of terminology. What is knowledge? Is it research, reviews, clinical experience, patient experience, evidence, etc.? Is research utilization the same as organizational change?
3. Case study research has been important because of the complexities in research utilization. However, we now have an urgent need to begin to share data, to do meta-analysis of studies, to think systematically about conducting case studies that can be compared and contrasted in new ways. These kinds of research are necessary to develop broader generalizations and to move the field to the next level more quickly. Funding for secondary analysis may be a challenge. There may be potential in using frameworks from other disciplines to facilitate cross-case comparisons (i.e. case law - legal processes to develop principles from multiple case studies).
4. It is important not to ignore natural experiments and, therefore, the need to create partnerships between clinicians and researchers and overcome differences in cultures.
5. Need to make good theoretical connections between EBDM and organizational change.
6. The “so what” question needs attention. What is it that we are trying to achieve? Would we recognize it? For example, one of the predictors and/or outcomes may be how curious people are in the organization. Research-based practice is curiosity driven with an open flexible cognitive learning style. This kind of practice may not be achievable in all settings. In long-term care, it may be more about legislative practice because of the staffing patterns. Outcomes should be derived from overall goals of efficiency, effectiveness and equity.

Knowledge Utilization Research in the US: A “Translator’s” View

Cheryl Stetler

Historically, within nursing, little emphasis has been placed on funding research on research utilization (RU); and currently, few nurses have programs of research on knowledge utilization (KU) or, specifically, research utilization. Little recent work has been in the area of KU or RU; and what does exist is often descriptive and focused on reports regarding barriers. Most activity in nursing in this area is service-based and action-oriented. Numerous RU projects, with varying levels of evaluation, have been published and many relate to the Iowa Model and the Stetler Model. Both models, and the work of Goode, have been updated to reflect evidence-based practice.

Widespread attention to and funding for evidence-based practice and related research activity in the United States has been spearheaded by the federal Agency for Healthcare Research and Quality (formerly AHCPR). AHRQ developed a set of practice guidelines in the early ‘90s, often with key nursing involvement. AHRQ now funds Evidence-Based Practice Centers that produce, in many cases, medically oriented evidence reports. AHRQ also has funded two sets of applied research proposals, open to all disciplines, for Translating Research into Practice (TRIP).

A related innovative model for “systematizing quality improvement at the national level,” is the Quality Enhancement Research Initiative (QUERI) and is being implemented by the Veterans Health Administration (VHA). QUERI’s mission is to “translate research findings into outcome and system-wide improvements.” Although the focus is on population-based medical conditions, nurses are involved at numerous levels of the project. The steps of this process are to identify high risk/high volume issues and related best practices; to define practice patterns and outcomes and related variations from the identified best practices; to identify and implement translation interventions to promote the best practices; and then to evaluate improvement of targeted outcomes, including quality of life. The VHA is also funding other KU-related efforts, including an extensive exploration of determinants of clinical guideline implementation effectiveness with a focus group methodology, as well as other special projects on translation.

Challenges/Issues from a User’s Point of View

- Obtaining a balance between a focus on evidence-based practice/research utilization in terms of formal policies and procedures and a focus on the individual professional’s role, responsibility, and accountability:
 - What are we teaching ...and researching.... about RU and the above?
 - What are related implications of the various RU models?
 - How, in turn, is the nature and work of nursing practice viewed?
 - How does RU relate to critical thinking and individualized decision-making in light of generic evidence?
- Is the issue of appropriate variation versus inappropriate variation for the application at the level of the individual client addressed?
- Do researchers measure cognitive use of research? How?
- Use of evidence by managers/leadership – do they walk the walk as well as talk the talk? We need to teach them to propagate an E-B culture, to act as role models (e.g., critical thinking per evidence), and to provide opinion leadership.
- How do we define barriers and what are the implications of our approach to related measurement? When our measurement model focuses only on research utilization as research tasks rather than critical thinking and application of research, are we sending a contradictory message?
- We need to go beyond descriptive research and conduct research utilization intervention research, as other professions are doing, at both the unit and organization level. We need multiple studies of research utilization interventions in nursing and collaborative teams to address academic outreach, individual feedback, opinion leaders, champions, and electronic reminders, etc.
- We need to expand thinking on the methods of research/evaluation of translation so relevant data are obtained regarding strength of evidence, integrity of innovations, and adaptations at the local level, etc.
- We need to explore the accountability of researchers for translation of their findings, as the VHA QUERI project is doing.

Discussion

Importance of the language of knowledge utilization. How to engage the heart as well as the head, via creation of a Magnet-like environment, for example. “Evidence-based quality improvement” as an emerging concept.

Seven Challenges in the Knowledge Utilization Field

Réjean Landry

1. What does Knowledge mean?

Researching the process of knowledge utilization is more difficult; understanding the interactions between researchers and users is more time consuming and this requires considerable trust. Researchers must learn from those in the field. The knowledge is not embodied only in research papers but also in people and in advanced technologies. Most of the presentations yesterday assumed that knowledge is a final product.

2. What is success?

Is success the use of a final product, a process of story telling? Stories make a strong impression; implications are more easily derived from stories. As researchers, we must learn to write/tell stories as well as create scientific reports and clinical guidelines. The stories need to be good, so that people remember the message and implications, as well as the story itself.

3. What about overuse?

We have identified the potential for overuse of certain forms of knowledge such as drugs or technology. This overuse is potentially very expensive to the system. As researchers who advocate research use, we need to be aware of areas where research is used in potentially detrimental ways, including in political processes.

4. Traditional/Emerging Models

The traditional approach is based on good science that leads to practical implications. It is a process of translating research results into a form for practical use. It is rooted in an organizational interest or market model where economic solutions/feasibility are paramount. It is characterized as a “science-push/market-pull” model.

Emerging models include institutional and social models (although we may be moving away from these terms) to emphasize technical and social networks. The institutionalized interactions and alliances between researchers and users are important. We need to build social networks beyond the existing partnerships. We must ask what types of networks and values are important? Is it the intensity of interaction among a variety of actors that improves utilization? Or is it the frequency of interactions?

5. Why are networks important?

Networks facilitate the exchange of information and ideas. Networks have become the most important factor to explain innovation. Through personal interactions people become exposed to new ideas and are able to make sense of the information with which they come into contact. It is in the interactions that the “translation” takes place.

6. Knowledge Utilization (or Knowledge Transfer) in a Larger Context

Knowledge utilization is one stage of a process that also involves:

- Creation of knowledge (research)
- Identifying sources of knowledge (not just research)
- Acquisition of existing knowledge
- Translation of information into knowledge
- Use of knowledge
- Translation of knowledge into practice
- Training: What and How? We must educate students to be not only researchers but also translators of research into practices and guidelines.

7. Next Steps

We must change our research models to identify innovation in health services as the dependent variable with knowledge utilization as one of the explanatory variables. We must then become involved in knowledge implementation with the measurement of associated organizational change.

WORKING GROUPS

Working Group 1: The Pressing Research Questions

Led by: Carole Estabrooks

Participants: Joan Bottorff, Tracey Bucknall, Deb Kenny, Kerrie Pain, and Jo Rycroft-Malone

**Innovation
Collaborative
Broadening the Agenda**

**Measurement
Methodological
Programmatic Research**

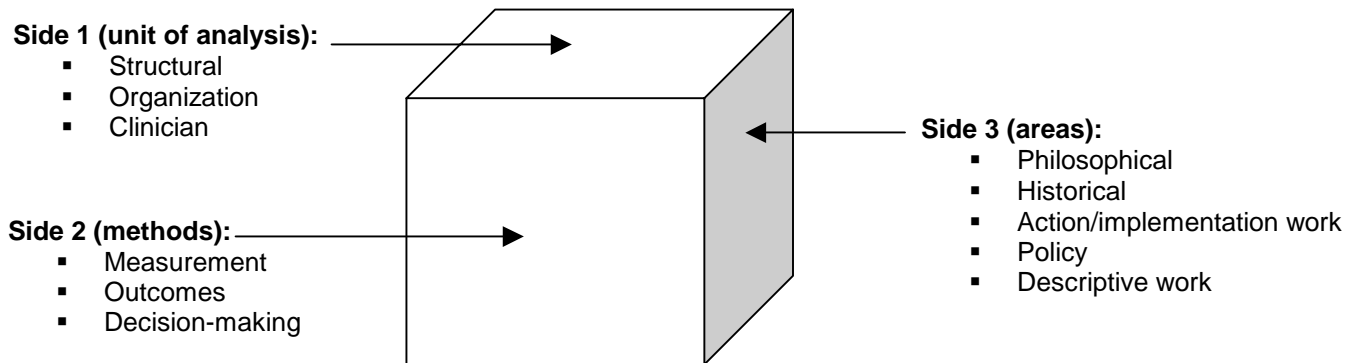
In order to advance the field we need to find a way to synthesize all the data and knowledge and to move from descriptive work to a more complex level. Abstracting the concepts from the data, meta-analysis of the findings and finding the questions within the data are all necessary to building the theoretical foundations of this research area. For example, time recurs again and again as a significant but poorly understood concept. Perhaps we could use a matrix as a framework to coordinate and direct research efforts.

Report of Group: The Pressing Research Questions:

The group determined the key research issues to be the following:

- The research needs to be programmatic, where researchers build one project from the results of their past work
- Research should be collaborative and interdisciplinary
- The research agenda should be broadened to include determining the structure of evidence and innovation in intervention work. We need to move beyond a strict research use agenda; research into the use of evidence would be broader than research into the use of research.
- Measurement issues will be resolved after conceptual issues are identified and more precise
- Methodological issues include 1) the units of analysis beyond the individual level and 2) the use of qualitative designs to test interventions or generally extend the use of qualitative designs

Multidimensional Cube:



- The cube could be used to locate our work and ourselves; it is also useful to determine where we need to go.
- The Cochrane Collaboration could be seen as one foundation for the cube; interest in the synthesis of research (meta-synthesis, meta-analysis) as the foundation of the cube was also expressed
- Dimensions of cube includes forms of research: policy, philosophical, historical, case study; thematic areas, units of analysis
- The purpose of the cube would be to direct a program of research, direct the identification of future case studies and plan helpful comparisons

Ensuing discussion:

One research agenda could examine what we could learn from the pain research, another could examine organizational culture and the role of facilitators and another could examine the role of the public.

Working Group 2: Capacity Building

Led by: Judith Ritchie

Participants: Peter Coyte, Barb Davies, Paul Hough, Kylie Hugo, Kathryn Hyndman, and Janice Lander

- Theories from the Social Sciences, Policy, Science, Marketing, and Economics can inform health and human services.
- Basic research on knowledge utilization is one aspect of building capacity. We may need to change the nature of research training, with more experiences built in and with the possibility of trans-disciplinary work among groups of students.
- Capacity could be developed at another end (i.e., the decision makers). Here the decision makers would identify what evidence they need to make decisions.
- At the national level in Canada, knowledge utilization centres are under development. CHSRF is interested in linkage and exchange and CIHR is involved in funding. This becomes more complex at the International level. What are the resources in countries like England, Australia, and Europe? Canada is positioned to be a leader in the knowledge utilization field.
- The kinds of skills for knowledge brokers are different than those needed to create knowledge
- Ways that could be used to promote linkage across sectors could include bringing a policy person to the research setting; or release time to move a clinician to the research setting; or move the researcher to the policy level, the decision making level, or to the clinical level. This is the principle of immersion in another sector, the trans-sectoral exchange. Exchanges could be for up to 6 months.

Strategies

- One idea is to build capacity between the people who make the decisions and the information out there. The translators in this case would be the decision makers who would need training. We need to consider how decision makers would apply the information in the local context, or in one jurisdiction—confirmation in a local context.
- Culture is an important factor that needs to be accommodated. Standards may vary in different settings.
- We need to invest in research creation capacity in Canada and utilize the worldwide information reservoir.
- Interpreting the evidence requires critical appraisal skills as well as skills in applying it
- Could a knowledge broker be someone without research skills?
- Where should knowledge brokers be positioned? In facilities? In universities?

We need to build capacity in order to:

- Build theory and conceptual frameworks in this field
- Conduct research
- Build social and technical networks
- Use (interpret, transfer, use) in decision making

Principles Within the Strategies

- Traditional (basic) research training
- Inter/transdisciplinary training so we can have new designs, theories, and understanding of issues in relation to context
- Skill development in relation to behaviour change & facilitation
- Cost shared-transsectoral exchanges
- Training needs to be across all levels of education & sectors within Kitson's "outer box" in the model

Strategies

- Funding trainingships & linkage & exchange programs
Creating international linkages for research funding
- Developing knowledge brokers
Role would include doing applied studies in knowledge utilization; networking.
Would need transdisciplinary research training in what knowledge exists, analytical skills and use
- Specialists in knowledge utilization areas
Role to focus on new strategies & technologies & testing strategies
- Putting resources into the "interface" between those who know and those who make decisions
The knowledge brokers
- Create CBCs (Capacity Building Centres) or Knowledge Brokerage Complexes (KBCs)
The focus would be interdisciplinary & focus across CIHR Institutes

Working Group 3: Collaboration and decision makers

Led by: Alison Kitson

Participants: Michelle Campbell, Maureen Dobbins, Lynne Duncan, Patricia Griffin, and Shannon Scott-Findlay

Collaboration

- Collaboration should not be forced; it should unfold naturally and be based on trust
- Different models of collaboration need to be identified
- Academic culture does not always facilitate collaboration
- Barriers research may be useful in developing relationships with decision makers
- We need to step out of the Science-Push/Market-Pull Model
 - We need to attract and empower decision-makers. Part of the problem is the way we conceptualize the process –the researchers have the knowledge and will give it to the decision makers. But the decision-makers may think differently about issues. We must build relationships with them – then they will want to interact with us. The users will have the ability to determine how to use the information.
- Different approaches are necessary for different people in the organization. For example, nurses would utilize leg ulcer research differently than managers and CEOs.
- Whose job is it to put research into practice? We are creating a new breed of professional – nursing researchers who can talk to CEOs, physicians, etc.
- We have begun to describe the various roles that researchers/translators/decision-makers play in this area. We are not clear of how they can and do work together
- It starts and ends with CULTURE
 - Differences in culture found in Carolyn Pepler's study – two different units with different cultures – why??
 - What are the levels of culture – hospital? Unit? Subgroup unit cultures?
 - What about Magnet Hospitals – is it that the culture is more homogeneous throughout?
- Valuing decision-making - There is an imbalance in the system in how much value is placed on decision-making (e.g., nurses do not tend to value their decisions as much as physicians value theirs). But valuing decision-making makes what you have to offer worth listening to.
- Clinical analogy – In the clinical situation, one begins with the agenda of the patient/client
 - We have identified issues with linkages to decision makers and the importance of different models of collaboration
 - We need to consider how to engage with decision makers
 - We need to assess what needs to be in place to facilitate these relationships

Decision-makers

Political/policy decision makers

Organizational decision makers

Influence of stakeholders on these people (researchers, public, legal issues)

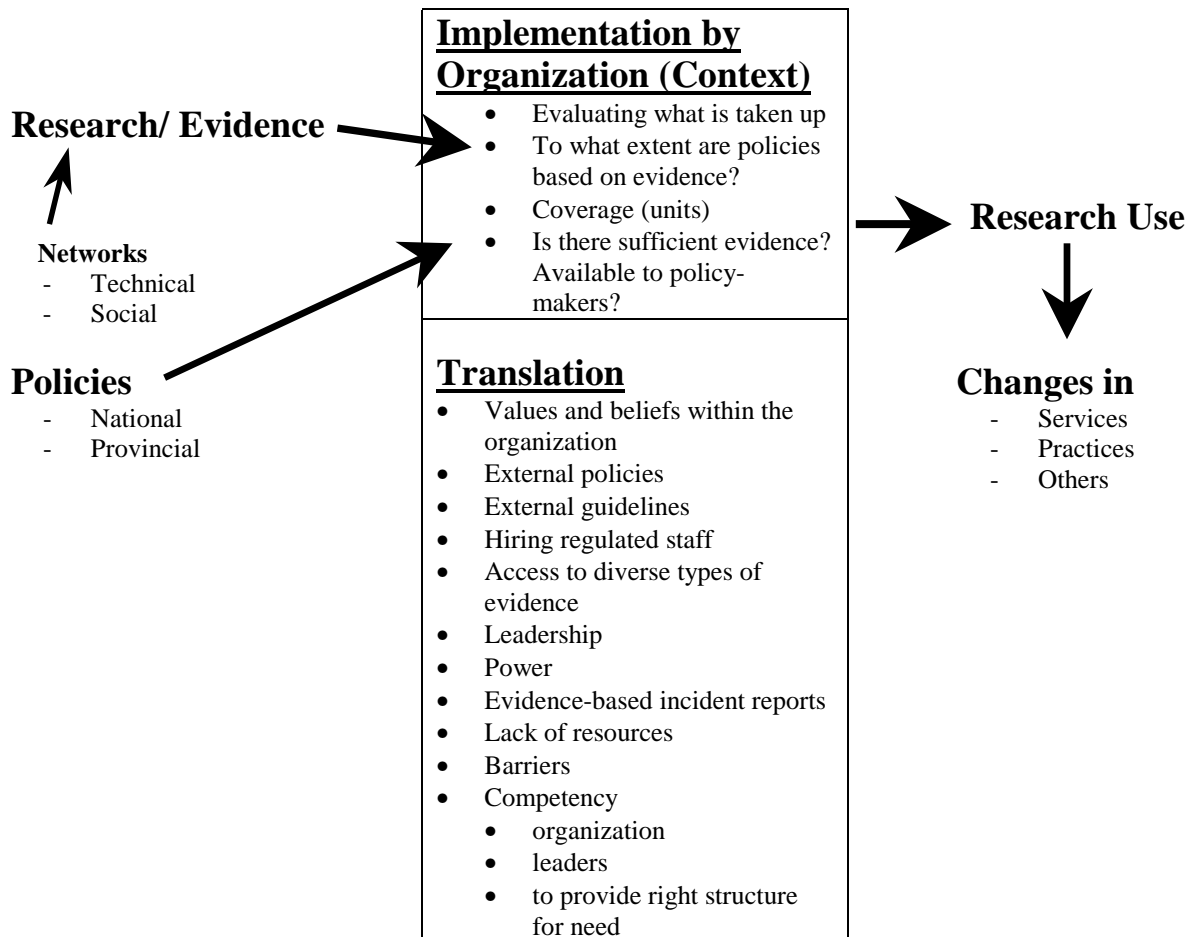
Important points

- Messages that go to people at different levels of the decision-making hierarchy need to be tailored to the role that the person performs.
- Do we need three different types of people in this field?
 - developers – extroverts, opinion leaders
 - scientists – systematic, measurers
 - people in the middle – people with scientific training who can look both ways to manage the change
- Who is attracted to this field? What are the skill sets of people who work in this field?
- Educational issues related to capacity building in this field (as we need to be able to collaborate with decision-makers). We need to develop innovative approaches to work collaboratively so that we move the field forward.

Working Group 4: Knowledge Utilization and Policy Implementation

Led by: Réjean Landry

Participants: Greta Cummings, Susan Duncan, Sandra MacDonald-Rencz, Erna Snelgrove-Clarke, and Cheryl Stetler

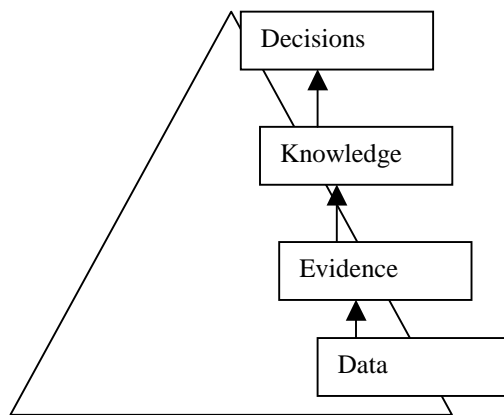


Opening the “black box”--organizations

- It is important to identify the significant elements in the black box – in order to take knowledge into organizations
- Many approaches to policy implementation
- Changes in structure
- Policies are put out and organizations are expected to implement them, but this implies that organizations may not always do the expected implementation.
- There are many layers to implementation.
- Organizations may not want evidence – this makes knowledge utilization a non-issue for them
- Organizations may not value research – we need to integrate the cost factor and demonstrate the economic value of research.
- The core values of the organization may not change but at another level, such as the level of beliefs, change may occur. Beliefs and values overlap but values are demonstrated by behaviour, which may sometimes conflict with stated beliefs.
- What processes within an organization should be studied? By whom, with what resources, for how long, what should the benchmarks be, the coverage (one unit or many units)?
- What happens in a real organization? Example of high rate of back injury among nursing staff on the lift team. The evidence-based incident report became a lever for changing thinking, based on research (at a low

level) and a conceptual framework. Nurses began to answer different questions, and to think at a different level.

- What are the organizational competencies that are needed for an organization to use knowledge in its structure? Competencies and skills among leaders, as well as organizational competencies beyond the individual. This has a link with the organizational structure.
- Power is a really important driver, and the leadership within the organization. Power makes such a difference as to how things are going to be implemented.
- The trick is to find the values – do you have operating principles? Belief drives people, the values they hold are demonstrated by how they behave.



Knowledge Utilization and Policy Implementation

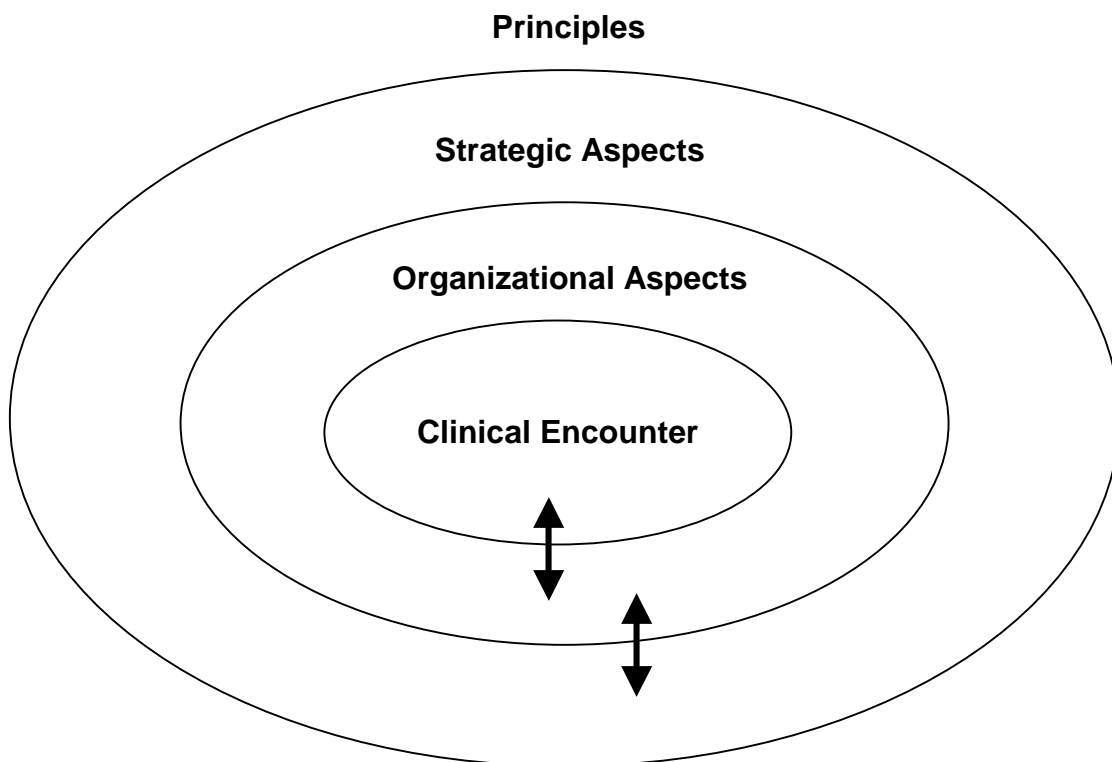
- Knowledge utilization and policy implementation are not mutually exclusive; knowledge can be used to change the system
- Policy can be defined as prescriptive, laws, and the way they are followed in an organization. Implementation really applies to the organizations, i.e. govt., health boards
- Policy directs how an organization is constructed and how that organization changes in what it is doing.
- We need to evaluate the evidence on which the policy is based – to what extent is evidence used in policy development? Is the evidence implemented? Is evidence available to and for people that can make policy? If so, is it sufficient?

Research Directions

- On one hand we have researchers; on the other the users of the research. We need some sort of translation between the two.
- We must develop a research program that is attractive for funding agencies and that will generate something of interest for the participants. Education and academia can move this forward as well if they understand and reward this activity.
- Research that demonstrates the value of basing practice on evidence is needed
- The message that in order to survive we need cost-effective practices is not out there.
- Perhaps we cannot trust some core values.
- We have the tool, the evidence based incident report, but how is it used, and to what extent on each unit?
- What are the questions we would ask based upon this tool? Where are decisions made, who made them, what are the criteria? Often decisions are not done with finances in mind, but based upon values.
- Upon what basis do they make decisions?
- Decisions are often made based upon nothing but evidence, but evidence of a very low order – data.
- Data, evidence, knowledge, wisdom form a pyramid, with data at the base and wisdom at the peak of the pyramid. The values are on the side of this pyramid. Most administrators go straight from data to making the decision.

DISCUSSION HIGHLIGHTS OF WORKING GROUP REPORTS

Alison Kitson gave an overview of the mission of the groups. With the backdrop of the model proposed by Alison (three levels of work – clinical encounter, context of organizational factors, strategy at the macro level), the mission of the groups was to focus on strengths and agendas that we can take forward in the future work of this collaboration – tangible deliverables in the area of quality improvement. She proposed that factors would have different impact on knowledge utilization depending on the level (in the organization) at which the knowledge was being used (see model).



Group 1 – The Pressing Research Questions

Presented by Carole Estabrooks

1. The group determined the key research issues to be:
 - That the research needs to be **programmatically**
 - That it must be **collaborative**
 - That the **agenda must be broadened** to include determining the structure of evidence and innovation in intervention work
 - **Measurement issues** need to be addressed after **conceptual issues** are identified and made more precise
 - **Methodological issues** include:
 - the units of analysis, beyond the individual level
 - conceptual issues
 - extended use of qualitative designs

2. Multidimensional Cube (presented by J. Bottorff)
 - Dimensions of cube includes forms of research: policy, philosophical, historical, case study; thematic areas, units of analysis
 - The purpose of the cube would be to direct a program of research, direct the identification of future case studies and plan helpful comparisons
 - **Cube Analogy**

One side (unit of analysis): structural	Organization Clinician
Second side (methods): measurement	Outcomes Decision-making
Third side (areas): philosophical	Historical Action/implementation work Policy Descriptive work

- The cube could be used to locate our work and ourselves; it is also useful to determine future directions
 - The products of Cochrane, Campbell and other Collaborations could be seen to be a foundation for the cube
3. It might be worthwhile to look at marketing this initiative to all of the CIHR institutes
 - We need to think if we should broaden our scope initially
 - We need to be realistic and look at groups such as the Cochrane to understand the extent of the effort and resources required
 4. One could plan a research agenda to look at what we could learn from the pain research, another to look at organizational culture and the role of facilitators and another to examine the role of the public.
 - Agenda must have social relevance
 - The issue of whether there were adequate journal outlets in this field was discussed

Group 2 – Building Capacity

Presented by J. Ritchie

1. We need to build capacity in order to:
 - Build theory and conceptual framework in this field
 - Conduct research
 - Build social and technical networks
 - Use (interpret, transfer, use) in decision making
2. Principles within the Strategies
 - a. Traditional (basic) research training
 - b. Inter/transdisciplinary training (so we can have new designs, theories, and understanding of issues in relation to context)
 - c. Skill development in relation to behaviour change & facilitation
 - d. Cost shared trans-sectorial changes
 - e. Training needs to be across all levels of education
3. Strategies
 - a. Funding traineeships and linkage and exchange programs...creating international linkages for research funding
 - b. Developing knowledge brokers...role would include doing applied studies in knowledge utilization; networking. Would need as a start, transdisciplinary research training in what knowledge would be important
 - c. Creating specialists in knowledge utilization areas...role to focus on new strategies and technologies and testing strategies
 - d. Putting resources into the “interface” between those who know and those who make decisions...resources into the knowledge brokers
 - e. Building capacity building centers (CBCs), both on the research and training center (home of the knowledge brokers) – would focus across all of the CIIHR Institutes
4. International Networks
 - a. Are there funding mechanisms to develop international linkages?
 - b. Are there opportunities for funding within CIHR? CIHR is working on this area for consortium funding, it will be coming in the future.
5. Discussion:
 - a. The strategies to get the information in practice may be based on the disciplinary focus. How will the gender and power issues play out in moving this area forward if the experts or stakeholders are primarily female members of the discipline of nursing. How transdisciplinary can we be without clouding the disciplinary issues?
 - b. We hear a lot about knowledge brokers... we have about 100 across the country in universities. We spent about 2.2 million on knowledge brokers. The best article about knowledge brokers is in a magazine published by the Canadian Biotech Association. Organizations often assume that if they have a knowledge broker, the process will be done.
 - c. *Caution: It is important to not translate functions like knowledge facilitation, brokerage into roles prematurely.* Perhaps we shouldn't speak about knowledge brokers, but knowledge brokerage, not facilitators, but facilitation. Once we put it into roles, we make the tasks static and concrete – this is not helpful

Group 3 – Collaboration and Decision Makers

Presented by Maureen Dobbins

1. Collaboration is important to the field
 - a. 3 roles are particularly important: researchers, translators, decision-makers
 - i. We are not clear on how these roles fit or how we can facilitate working collaboratively
 - b. Collaboration should not be forced – should unfold naturally and be based on trust
 - c. Different models of collaboration need to be identified
2. Decision-makers: political / policy decision-makers: a whole range of determinants other than evidence that will influence decision-makers
 - a. “Linker” literature should be explored – for instance, the linker literature in the middle
 - b. Messages that go to people at different levels of the decision making hierarchy needs to be personalized to the role that the person holds
3. We need 3 different types of people to move the agenda forward: developers (champions), scientists, and people in the middle
4. Consider who is attracted to this field and consider the skillsets of people who work in this field
 - a. Are researchers attracted to this field a little different to begin with?
 - b. Educational issues related to capacity building in this field (as we need to be able to collaborate with decision makers)

Group 4 – Knowledge Utilization & Policy Implementation

Presented by Dr. Réjean Landry

1. Trigger: problems perceived by organizations – inconsistencies, variations, etc. in practices
2. Implementation model
 - a. Evidence and policies are transformed through organizations (processes)
 - i. How evidence is processed within organizations
 - ii. How is evidence implemented?
 - iii. Tool: the evidence-based incident report
 1. Allows you follow the knowledge as it travels
 - iv. How does evidence travel within the organization?
 1. To that extent?
 2. With what coverage (in what units?)
 3. With what results?
3. Barriers and facilitators of Knowledge Implementation within organizations:
 - a. Lack of resources:
 - i. Solution – important for decision-makers to identify and consider the costs and other resources required to implement evidence-based policies, practices
 - b. Differentiate values and beliefs
 - i. Beliefs: “I believe that it is right to...” “I think that it is right to...” – what types of questions we would ask to understand beliefs?
 - ii. Values – different values and belief systems within organizations and stakeholders
 - c. Networks between outsiders and insiders regarding evidence
 - d. Operating principles concerning:
 - i. evidence – cause and effect models
 - ii. the right
 - iii. processes such as collaboration
 - e. Power and leadership (champions)
 - f. Where are decisions made about clinical decisions and resources allocations? Who has the last word?
 - g. On what bases – including evidence – do they make decisions?
4. Learning Organizations - Concept of the learning organization as the organizational type that is most likely to have the competencies to use knowledge
 - a. Do the organizations that have the competencies to implement knowledge?
 - b. Collaborative competencies
 - c. Acquisition, assessment and translation
 - d. See Peter Senge: The learning organization
 - e. Another useful book is: Images of Organizations by G. Morgan

SUMMARY COMMENTS

Joanne Profetto-McGrath and Joan Bottorff

Advancing the Knowledge Utilization field requires:

- Increased **programmatic research** at all levels – individual, network and international
- Extending the **unit of analysis** beyond the individual to include the organizational and structural levels
 - Innovative approaches
 - e.g., the use of evidence-based incident reports to track how evidence travels through and is processed by organizations
 - Consideration of power and gender issues
- Using advanced, **comparative** designs and approaches
- **Collaboration** in varied ways with different types of people
- **Building capacity** in innovative ways
 - Specialist training in knowledge utilization through new degree programs and capacity building centres
 - Strong interdisciplinary networking (possibly funded by CIHR)
- Stimulating **innovations** in knowledge transfer and utilization, using new tools such as those used in technology transfer
- Identifying **priorities** for organizational change and for potential solutions to barriers to knowledge utilization through consultation with others in “learning organizations”
- Working toward **consensus** on the focus of the work – i.e. should the agenda be broadened beyond research utilization?
- Making **definitions** and **measurements** the priority

RE-CAP OF ACCOMPLISHMENTS

(Alison Kitson)

- As technical experts, we have experienced **social networking** through social exchange at this meeting.
- We have experienced the synergy created by the diversity of this group – we should celebrate this diversity and make it work for us in extending the networks.
- We need to reflect on how open we really are to the ideas of others. Understanding the diverse ideas of others poses a significant challenge. We will meet this challenge through the act of listening if we stay open and do not close down.
- We now have “bird cages” as well as rocks and birds.
- Can we liberate these small groups to move forward in identified areas of focus: pain, childbirth, and organizational culture?

NEXT STEPS

(Réjean Landry)

- The group has accomplished some serious work, especially concerning models, measurement and data.
- The priority may be to look at the organizational factors – to open the black box – paying particular attention to the importance of social factors.
- We must be more focused on determining our units of analysis.
- Vast quantities of qualitative data may exist but we do not have enough good quantitative data.
- We need to develop our network and reinforce what we have achieved and we need to expand our network to more users and decision-makers.
- We need to be more specific about knowledge transfer and translation.
- We need to talk more about products: how to write short reports about best practices, how to customize the output for users.
- Practical consideration should be on our agenda:
 - Seize the opportunities as they emerge.
 - Health Canada may offer funding opportunities.
 - We need a list serve for this group – a place where we can exchange information.

WRAP-UP OF COLLOQUIUM

(Carole Estabrooks)

Two **products** of interest:

1. **Proceedings** of the meeting will be produced in pdf and paper format.
2. Possibility of a Canadian Journal of Nursing Research (CJNR) special supplement for 2002 was discussed
 - Such a supplement would allow us to gather a series of related papers in a peer-reviewed venue
 - CJNR issue may include a combination of technical and conceptual papers
 - This will require further discussion; Carole Estabrooks, Alison Kitson and Réjean Landry will propose a plan
 - The purpose of the supplement would be to provide a snapshot of the state of the science, conceptual and methodological issues
 - Different ways that the contents of the supplement could be determined
 - We could use the issue/themes list identified in this session to direct the organization of the special issue: e.g. the unit of analysis, thematic analysis, organization/facilitation issues, and social networks. This would extend the field beyond what was reflected in the last issue of the CJNR on research/knowledge utilization
 - Doctoral students may be able to make a joint contribution through preparing one of the articles

Alison Kitson offered to host the next meeting of the group in **Oxford in early July 2002**. This would also include a workshop for graduate students to be held at St. Catherines. The group agreed to this idea and supported the notion of inclusiveness, suggesting that clinicians, policy-makers, etc. be invited to participate on Day 1 of the conference. The network may also be extended to include institutional ethnographers, anthropologists and others who may make a contribution to the field.

Thanks were extended to all of those who worked to make this meeting happen – Katie Hesketh and the members of the KUSP team (Kylie Hugo, Connie Winther, Huey Chong), doctoral students who scribed (Greta Cummings, Susan Duncan, Patricia Griffin, Kathryn Hyndman, Deb Kenny, Jo Rycroft-Malone, Shannon Scott-Findlay), undergraduate assistants (Kathy O’Leary, Andrea Wood) and those who traveled so far. Thanks were also extended to the funding agencies that supported this event.

Epilogue

Great excitement was generated during the two days of discussion at the Colloquium in late April and early May of this year. Most of the participants were gathered for the first time as a group of researchers interested in a common agenda – knowledge utilization and its many expressions. Lively debates and the seeding of ideas across disciplines and jurisdictions made the discussions intellectually exciting. The presence of six doctoral students in the research/knowledge utilization field in health care was particularly important to the field. These young scholars are essential to building research capacity in this field. Those of us who will continue planning and participating in future Colloquia know that we need to increase the numbers of scholars in training at future Colloquia and broaden the range of disciplines from which they come. We must also reach to the ranks of undergraduate students in our respective fields and countries and begin their training as well.

We formed many associations and friendships during these two days – possibly because the knowledge utilization field does not belong to any one discipline but requires a cooperative effort by many scholars from varied backgrounds. We hope that we will continue to form productive relationships in Colloquia to come.

Second International Knowledge Utilization Colloquium

July 1-2, 2002: Knowledge Utilization Colloquium
July 3, 2002: Knowledge Transfer Workshop/Conference
Location: St Catherine's College, Oxford, UK

Reservations have been made for 30 people for the Colloquium (July 1-2) and for 80 for the Workshop/Conference (July 3)

The Royal College of Nursing Summer School, "Fostering a Culture of Effectiveness through Practice Development," a five-day residential International Summer School will be held June 24th – 28th 2002 at St. Catherine's College in Oxford.

For information on any of these events, please e-mail: alison.kitson@RCN.ORG.UK

Knowledge Utilization Colloquium '01

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³ Promoting action on research implementation in health services

⁴ Knowledge Utilization Studies Program

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Knowledge Utilization Colloquium '01

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