INTERIOR HEALTH KNOWLEDGE TRANSLATION CASEBOOK:

SHARING STORIES OF EVIDENCE-INFORMED PRACTICE

Interior Health

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FOREWORD

Interior Health (IH) is one of 5 geographic regional health authorities in British Columbia, Canada, serving over 737,000 residents with a variety of health services, including acute care, home and community care, mental health and addictions, public health and corporate services (IHA, 2008). A significant proportion of our diverse and rapidly changing population is considered to be rural/remote (~ 3 people/km^2), which has the potential to contribute to challenges in sharing information. The need to ensure that evidence informs health planning, policy, resource allocation, management, and clinical service delivery is now well recognized within and between each IH service area. Innovation, evidence-based practice, and promoting a learning organization are three of the guiding principles (IHA, 2008).

Knowledge translation (KT) is a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of populations, provide more effective health services and products and strengthen the health care system (CIHR, 2004). In other words, KT is about turning research into action, closing the gap between *knowing* and *doing,* and applying evidence from a variety of sources to practices, decisions and policies with an end-goal benefit to the health services and populations we service.

The Interior Health Knowledge Translation Casebook: Sharing Stories of Evidence-Informed Practice is the culmination of 5 years of research capacity enhancement within Interior Health and a collection of 30 examples of evidence-informed practices within the region.

However, current literature continues to suggest the uptake of existing research can be haphazard, inconsistent, and unpredictable in healthcare settings (Eccles et al., 2005). As a result, there remains much to be learned not only about how we can increase the application of research - whether it's the implementation of scientific discoveries or changes to current health care practices and policies - but also how we can learn from others involved with knowledge translation and work together towards 'best practices' in healthcare. Herein lies the importance of sharing our own stories of evidence-informed practice. Whether it be communicating standards of care between regions or collaborating with academic researchers to develop practice-relevant questions, sharing stories of existing KT initiatives is central to our value of evidence-based practice.

The *Knowledge Translation Casebook: Sharing Stories of Evidence-Informed Practice* is a culmination of many years of research capacity enhancement within Interior Health, primarily led since December 2005 by the IH Research Capacity Enhancement Team and funded by the Michael Smith Foundation for Health Research – Health Services and Policy Research Support Network. The team has strived to achieve sustainable research capacity within IH, translate and applying research and build/enhance research partnerships, throughout their time with IH (2005-2010). We hope that the stories contained within this casebook help inspire others within the organization to support their work – practices and decisions – with evidence, collaborate with others, and communicate the benefits of this translation in years to come.

In this casebook, you will learn about some very diverse and interesting KT initiatives, written in very diverse and interesting styles. This series of KT stories provides valuable insights into the real world of evidence-informed practice and knowledge translation within the Interior Health region.
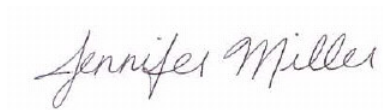
A number of important lessons can be learned from our local KT experiences:

- **"Evidence" is Broadly Defined**– whether the evidence comes from academic, peer-reviewed research publications, clinical expertise, patient choice or a combination of these, the definition of evidence may differ between individuals/groups. For example, several stories in this casebook prepared/used syntheses of literature (Southern Medical Program Planning and Rural Service Planning) and others consulted with experts in their field (Creating Meaningful Change for KGH Nurses and Treatment of Tobacco Dependence) to inform changes in practices/decisions. Other stories relied on existing best practice guidelines (Laser Use in Rehab Services, Transient Ischemic Attacks, and Chronic Disease Management Practices) where another adapted a validated framework (New Graduate Nursing Education Program) to inform their work. Wherever possible, inclusion of relevant, good quality sources of evidence is a key to the foundation of evidence-informed practice.

- **Involve End-Users in a Team-based approach** – successful and integrated knowledge translation actively seeks feedback from end-users *throughout* the project or process. In this casebook, several stories describe the formation of collaborative working groups (Facility Planning, PRH Lab Processes, Core Functions for Public Health) or communities of practice (CoPs; IH Transfusion Practices and Parenteral Therapy) consisting of content and/or research expertise, in order to look into the evidence that could guide their work. Other stories describe key partnerships – both formal and informal – between clinical staff, regional decision-makers and/or provincial groups (Next Generation Clinical Leadership, 80/20 Project, CONNEX, and EK Primary Health Care). Yet more stories describe the need for partnerships with academic researchers (Frail Elderly and Seniors Falls Prevention) within the KT process.

- **Tailor Messages to Meet the Team and End-User Needs** – knowledge translation best practices ensure that evidence that is helping to inform changes in practice and/or decisions are tailored to the audience who is receiving them. In this casebook, several stories outline how the project and/or team was successful at promoting the uptake of research and best practices using unique messaging techniques (Tobacco Reduction for Fathers, Brief Interventions in Tobacco, and Culturally Appropriate Health Promotion Materials).

- **Involve "Champions" who Broker the Evidence** - By whom should research knowledge be translated? The credibility of the messenger is considered important and building credibility to act as a messenger can be very time-consuming and skill intensive. Several stories within this casebook describe key individuals within Interior Health who have helped to facilitate evidence-informed practices, including clinicians - nurse practitioners (Integrated of NPs) and registered respiratory therapists (IHN-COPD Project) – or larger IH groups (Partners in Care, IH Research Capacity Enhancement Team).

- **Anticipate and Overcome KT Challenges** – As is evident by the impact/evaluation – preliminary or formal – of a number of KT stories in this casebook, knowledge translation is not without its challenges. A number of stories cite barriers such as time for uptake/reflection upon research information (McNair Unit), project scope and management of assumptions (Quality

Decision Marking in Public Health Protection), organizational changes (Early Years Nutrition). Anticipating barriers and implementing strategies to overcome them is a key to successful KT and changes in evidence-informed practices.

- **Communicate the benefits of KT to others** – continual communication of evidence-informed practices is important for sharing research information and promoting a learning organization. Whether it be presenting on research projects to colleagues and/or researchers (Postoperative Delirium and Aging with Schizophrenia, Cognitive Behavioral Therapy for Seniors) or recognizing the benefits of sharing and implementing research findings with patients/clients (Pet Therapy), sharing stories of our locally relevant evidence-informed practices and examples of knowledge translation will only help benefit the delivery of health services and the populations we serve.

The interior region of British Columbia – including Interior Health, academic campuses and community groups - has a unique opportunity to participate in, translate and apply evidence of any form. This applies not only to existing health care services but also to develop new and innovative ways to deliver services within the current economic climate in an imaginative and sustainable manner. Learning from others in the field is one step to support innovative health services, support new infrastructure and health care strategies, all with an overall goal of improving the health of our communities and future generations to come. Ultimately this is why many of us are in health care in the first place.

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Knowledge Translation Strategies to Design a Tobacco Reduction Program for Fathers

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Background

Approximately 21% of the young men and women in Canada continue to smoke cigarettes during their child-bearing years and the health risks of tobacco exposure for young children are well-known (CTUMS, 2008). Although researchers have focused on women's smoking during pregnancy and the postpartum period, little attention has been given to expectant and new fathers' smoking (Oliffe et al., 2010).

In the *Families Controlling and Eliminating Tobacco* (FACET) program of research, funded by CIHR (Canadian Institutes for Health Research) a small group of university researchers began to investigate couples' experiences related to tobacco reduction in pregnancy and the postpartum period. The findings provided preliminary insights into the smoking patterns of new fathers, and the basis of further research to explore the lineages between fatherhood, smoking and masculinity. Using an innovative photo-elicitation research strategy, "focus" became the imperative in the next study. Participating fathers used cameras to illustrate their experiences around smoking, in addition to being interviewed. The findings revealed that men's smoking is often a deeply ingrained part of their lives and a longstanding source of enjoyment and reward. Having a baby was viewed as a significant transition period and the roles of protector and provider were difficult to reconcile with being a smoking dad. Most of the fathers were uncomfortable with smoking in the presence of a new baby and they expressed strong desires to reduce or quit. In some couples, men's continued smoking created tension and conflict with their non-smoking partners, and created additional difficulties for women to maintain their tobacco reduction/cessation and smoke-free homes for their children.

To identify the most effective ways to use the knowledge gained about fathers smoking to mobilize tobacco reduction interventions for expectant and new fathers, the FACET investigative team grew to include tobacco control specialists from the Interior Health Authority and the Vancouver Coastal Health Authority, as well as a Knowledge Broker (KB). As a team, we recognized the importance of engaging fathers and their partners, and joining forces with experts in the community who were working in health promotion and tobacco reduction who could provide the team with directions for moving our findings into a gender appropriate tobacco reduction initiative for expectant and new fathers.

Knowledge-to-action: Exchanging knowledge in the field

The men jumped out of their chairs and were eagerly shifting puzzle pieces around well before the buzzer sounded to begin. Their enthusiasm mounted as they began to negotiate with each other over the colours, shapes and placement of the pieces. Concentration intensified as the timer ticked away but was nicely tempered with bantering and laughter. Heard above the din of activity were questions about the composition and meaning of the pictures they were piecing together.

The men in the above scenario were participating in a research consultation session for expectant and new fathers who smoked during their partner's pregnancy and/ the postpartum period. The purpose of the session was to share current research findings about fathers and smoking, and to actively seek advice from the participants about how best to use this knowledge to support expectant and new fathers' tobacco reduction/cessation.

The discussion surrounding the puzzle images, which were displayed on large wall posters, was animated and the ambiance relaxed. The men were stimulated by the research findings depicted in the images and they offered meaningful observations. They were engaged with the research team in a way that inspired many of them to inquire about returning another time. The men also expressed gratitude for the food, the travel support and the cash honorarium. They left with the gift of a booklet ("Finding the Pieces that Fit… To Quit") as a remembrance of the learning they engaged in and for those who continue to smoke, as a reminder to quit.

During the discussion phase of this consultation session, the men were encouraged to move beyond their personal experience, to use their expertise <u>to think creatively</u> and <u>to be solution-oriented</u>.

In addition to consultation sessions with expectant and new fathers, the investigative team also met with new mothers whose male partners smoked and health professionals, service providers and policy makers working in the area of tobacco reduction. The same group strategies were repeated at each session. However, the process was iterative to allow for "learnings along the way" to be included in the next session and to narrow in on what would work for fathers. During the sessions, fathers and their partners learned about our research findings in an innovative way and the community professionals who participated not only learned about the FACET research findings but also the perspectives of the fathers and their partners. The research team learned from fathers about what works for them and we learned from professionals about possibilities for implementation.

The research team synthesized the findings from the consultation sessions to identify innovative directions for documents and programs that would best meet the needs of fathers as well as foster

ongoing peer support to sustain their TR and quit efforts. In addition, the team captured some important messages that fathers believed would be effective. For example, one father suggested:

> *"Regardless of saying – "tell me what I can get", "stroke my ego" and all that jazz, I mean at the same rate, if you hit hard – I know if I saw a commercial where a kid woke up and said "Where's my Daddy?" Daddy's gone… you know, if Dad quit smoking, then he'd be here to make you breakfast."*

Knowledge-to-action: Informing Healthcare Practice

Participants at the consultation group sessions engaged with the research findings in ways that were designed to be memorable and to promote action. As well, they were given spiral notebooks as take-home reminders with the message "Finding the pieces that fit . . . to quit." Having listened to what other smoking dads were saying and then contributing their own thoughts as "insider experts," the fathers and partners seemed more motivated to re-think their smoking behaviour and to initiate change. Many participants lingered long after the conclusion of the session to continue the conversations. Health professionals valued the opportunity to contribute knowledge gained from experience to inform future research. They appreciated learning about current research findings that could enhance their practice. They also used the time to network amongst themselves to share ideas and to meet new people.

Knowledge-to-action: The Role of the Knowledge Broker

The addition of a Knowledge Broker to the investigative team brought an additional skill set to the FACET toolbox. Experienced in leadership, communication, collaboration and experiential group activities, the KB designed and implemented the innovative processes inherent in the consultation group protocols. The KB's ability to facilitate the group sessions efficiently and effectively (establishing safety and trust, fostering meaningful discussion, encouraging creative thinking) was instrumental in gaining the rich data essential to the success of the research project. The activities of the KB have bridged all aspects of this research and continue to provide the momentum for innovation in KT.

Knowledge-to-action: Lessons Learned

Valuable lessons were learned during the process of this knowledge-to-action research project. We learned that knowledge translation is an effective mechanism with which to foster successful research partnerships, that the sharing of expertise requires valuing of a wide range of knowledge, and that developing innovative programs with new evidence needs creative ideas from many people. We learned that the role of a knowledge broker is a valuable asset to a collaborative research team. And we also learned that knowledge translation is a successful way to transmit research findings to inform healthcare practice.

Knowledge-to-action: Partnering for innovative program planning

Incorporating the lessons learned along with the rich data collected has led to the development of an innovative tobacco reduction program tailored for expectant and new fathers. The program is unique in the way that it highlights men's masculine ideals to promote health, and talks directly with men about tobacco reduction, health and fatherhood. A pilot project is planned to evaluate this new initiative.

To our knowledge this is the first Canadian tobacco reduction program to target fathers and, as such, will provide an integral foundation on which to develop men centered interventions dedicated to reducing the health effects of tobacco in young families. With further development, this innovative program has great national and international franchise potential and could effectively guide design, implementation and evaluation components of other group-based men's health promotion programs.

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Secondary markers in risk stratification: Implementation of the Canadian Cholesterol Guidelines to promote best clinical practice in a chronic disease management setting

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Introduction

The Vascular Improvement Program (VIP) is a multi-factoral risk factor reduction clinic for both primary and secondary prevention of cardiovascular disease. VIP serves the TCS region and is located in Kamloops at Royal Inland Hospital. VIP focuses on the maintenance and improvement of both cardiac and vascular health through a one year multidisciplinary program of health education, counselling, self-management goals, cardiac rehabilitation and intervention. Specialized physician evaluation and management is available for cardiovascular risk assessment including advanced lipid measurement and cardiac diagnostics.

All patients are stratified for their risk of cardiovascular events using the Framingham Risk Assessment to determine a Framingham Risk Score (FRS). In terms of cholesterol screening, basic cholesterol (lipid) profiles are done on all patients. The cholesterol targets used are based on current published guidelines as well as expert opinion reviewed by VIP Program Leads and Medical Director. There are many markers identified for risk stratification and treatment. VIP has targets established for primary lipid markers such as low-density cholesterol (LDL). This submission deals with cholesterol management – specifically the secondary markers homocysteine and C-Reactive Protein (CRP): using evidence based guidelines to develop policy, treat patients and to change policies and practice as new research comes to light.

Background

2003: Initial lab guidelines for VIP were based upon the most recent cholesterol guidelines[1] in addition to discussions with Lipid Clinic experts at St Paul's Hospital.

The position on CRP and homocysteine from the 2000 recommendations (Fodor et al., 2000) were: "there are many emerging risk factors for CAD such as elevated levels of lipoprotein (a), fibrinogen, C-reactive protein and homocysteine that are likely to be incorporated into risk-calculation equations in the future." The evidence was reviewed and the following position was determined:

> Homocysteine and CRP were measured at the discretion of the specialist for all patients referred to the specialist arm of the clinic. For patients with a positive family history (primary relative <55 male: <65 female) for cardiovascular disease, homocysteine and CRP was routinely measured.

2004: The 2003 Guidelines (Genest et al., 2003) had been published and described using high-sensitivity C-reactive Protein (hsCRP) rather than CRP as a sensitive and objective marker of

inflammation. hsCRP was thought to add prognostic information to the risk factor screening tool (Framingham) in terms of predicting coronary artery disease events. The guidelines working group did not provide firm recommendations regarding the use of hsCRP. However they did say that the information may be helpful in risk stratification.

With homocysteine, the position was that there was insufficient evidence to warrant broad homocysteine screening. Several ongoing trials were anticipated to shed more light on this issue. One of the areas being looked at was whether vitamin supplementation was beneficial. In the interim period the treatment of homocysteine concentrations greater than 10 μmol/L with folic acid and vitamins B12 and B6 may be warranted in high-risk patients who have renal or cardiovascular disease.

This information was discussed with the VIP Medical Director and Program Leader and reviewed with St Paul's Hospital to determine how to interpret this information for best clinical practice:

The VIP Policy and Procedure was revised:

> *C-Reactive Protein:*
>
> a) Individuals at high risk (i.e. clinical CAD, PVD, diabetes) who have serum lipid profile that meet targets and who are not currently candidates for statin therapy;
> b) In primary prevention in patients calculated to be at moderate risk to assess need for drug or other treatment;
>
> Homocysteine:
>
> Patients with a positive family history of premature coronary artery disease, cerebrovascular disease, peripheral vascular disease, aortic aneurysm (first-degree relative i.e. parent, sibling, child < 55y male, < 65y female) and/or the presence of premature coronary artery disease, peripheral vascular disease, cerebrovascular disease, aortic aneurysm;
>
> Practice Outcome:
>
> The screening as outlined in the policy would allow for decisions regarding treatment including vitamin supplementation, lifestyle and medication. For example, some patients were advised to take B12 vitamins based on high levels of homocysteine.

2006: The lab guidelines were changed again based upon the 2006 Clinical Position Statement (McPherson et al., 2006). The information regarding the outcome of the above-mentioned homocysteine trials had been published and the following statement was made:

Homocysteine measurement is expensive, and it is not generally recommended because recent randomized clinical trials do not indicate a benefit in treating CAD patients with folic acid and Vitamin B12 supplements. Treatment with vitamin supplements to lower homocysteine levels is not currently recommended Class 3, Level A (Genest et al., 2009).

More clarification was given regarding hsCRP with the caveat that debate remains: "hsCRP measurement may be useful in the further definition of CAD risk for patients with a FRS between 10 and 19 % (moderate risk; Class IIb, level C; Genest et al., 2009).

Practice Outcome:

This spurred a change in clinical practice to no longer measure homocysteine as part of the lipid screening profile and this was written into the revised policy and procedures, which were completed in 2008. The wording regarding hsCRP did not change significantly from the previous VIP Lab Guidelines.

Currently: The 2009 Canadian Guidelines (Genest et al., 2009) have reviewed new evidence regarding hsCRP and more clearly outlined the specific patients where hsCRP measurement may be useful (Class IIA, level A evidence). VIP medical and clinic staff met regarding lab guidelines and changes are currently being made to the lab guidelines document to reflect this new evidence.

Summary

Evidence-informed Patient Care

Following current guidelines allows for improved assessment accuracy and optimal treatment for patients. For example, someone who is calculated as moderate risk with the Framingham risk stratification tool may actually be determined to be at high or low risk with the addition of hsCRP screening. This knowledge allows for better targeted treatment. A low risk profile may mean that health behaviour change (nutrition and exercise) would be initial therapy. A high risk profile may mean health behaviour changes as well as medication may be necessary to lower cholesterol.

Translating Evidence into Practice

Systems are in place to track new evidence and guidelines through Medscape alerts for cardiology; regular updates from key national organizations such as the Canadian Cardiovascular Society. Journal articles are disseminated to staff by the clinical coordinator by email and/ or mail slot. This allows circulation to part-time employees who may not see each other face-to face on a daily basis.

> *Review of new evidence and published guidelines is accomplished in staff meetings and through a journal club where implications and changes as they relate to patient care and program policy is discussed*.

Review of new evidence and published guidelines is accomplished in staff meetings and through a journal club where implications and changes as they relate to patient care and program policy is discussed. Consensus is reached and policies are revised and approved by the medical director. In the clinic, lab flow sheets are adjusted to reflect any changes; ongoing communications by email and staff meetings continue to ensure that new guidelines are being followed. This cycle continues as new evidence comes to light. Constant review is critical in order to deliver evidence-informed practice.

Efficiency

Systematic review of procedures when new guidelines are published is important. One potential impact is cost savings: expensive tests are no longer ordered when they are no longer informed by evidence (i.e. homocysteine).

Overcoming Challenges

> *A grounded understanding of the research and review leading up to publishing of guidelines is instrumental when translating the guidelines into patient care policies.*

Recognition that nothing is stationary when working towards evidence-informed practice is essential: change is constant in terms of guidelines and cardiovascular care. One of the key points is that guidelines for care are generally reached through a rigorous interpretation of research which then require expert consensus which is not always unanimous. Furthermore, published guidelines are subject to interpretation and debate by the wider cardiovascular community. A grounded understanding of the research and review leading up to publishing of guidelines is instrumental when translating the guidelines into patient care policies. In addition – there is limited time available to review literature and implement policy change. Close networking with other chronic disease management programs and health care providers provides a platform for sharing to occur on a local, provincial and national level. The Cardiac Community of Practice is another forum within the health authority where this networking and discussion occurs. Collaboration with colleagues avoids "re-inventing the wheel" through sharing of already developed tools.

Successful Strategies

VIP has a great team, with staff who are committed to lifelong education. "Quick Tips" are added to staff meetings regarding new research. Interior Health librarians are very helpful with information requests. In conclusion, VIP follows a multi-pronged approach to facilitate the translation of guidelines and research into practice.

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Translating Evidence into Practice:
How a Canadian Health Authority is Transforming
Decision-Making through Geriatric Redesign

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Background for the Project

Interior Health (IH), a geographic health region in British Columbia, Canada, serves a challenging, urban, rural and remotely distributed and expanding aging population. A request was submitted to the Research Department for evidence pertaining to care of the frail elderly, in particular preventable hospitalization. The *purpose* of the resulting literature synthesis was to use research evidence and engage leaders in informing the redesign of geriatrics programs and evaluate the initiative's effectiveness as a sustainable method of evidence-informed decision-making.

Support of Research Evidence

Managing the frail elderly or seniors at risk in the community in order to improve healthcare provision and optimize patient health outcomes is a pressing need worldwide (Rodat and Zadorrian, 1996, Rueben et al, 1997, Kodner and Kyriacou, 2000, Bergman et al, 1997, Beland et al, 2006). Frailty increases morbidity, mortality, and the need for hospitalization (Fried et al, 2001). Within Canada and particularly here in Interior Health (IH), there are multiple strategies planned and underway to address the complex care required for the frail elderly, who by nature place great demands on the heath care system. As such, a comprehensive synthesis of the literature on strategies shown to be effective in delaying or preventing frailty or decline in the already frail, as well as strategies for managing current seniors at risk in the community was deemed important to assemble.

Research Evidence

In order to identify literature that would support evidence-informed decision making in the areas of elder care, specifically interventions and strategies aimed at maintaining those seniors at risk in their homes, we undertook a search of several databases including Pubmed, Medline and Cochrane. Several search terms (and corresponding synonyms) were used to identify key research papers: frail elders, community health care, rapid response team, case management, exercise, nutrition, social factors and nurse practitioner. Over 100 articles dating from 1996 to the present were found and reviewed for relevant content. From these references, some additional older key articles were reviewed and cited. It is important to note that the document presented more of a scoping review synthesis of the

literature and was not intended to be a systematic review. The key findings were summarized in both bullet point form and also in the form of a diagram (Figure 1) for ease of use and reference.

Recommendations for Practice

Key Findings for Decision Makers

- Care interventions for the frail elderly should be targeted, well coordinated and communicated, comprehensive and multidisciplinary in nature with single-point entry (Figure 1);

- Comprehensive cost-effectiveness data are not clear within the literature;

- Early accurate evaluation of the frail elderly is key to optimizing treatment and services prescription for optimal health outcomes; and

- Preventative measures such as nutritional assessments, physical activity interventions, fall risk assessment and falls interventions, immunizations and medication reviews are important to slow decline or maintain function in the frail elderly.

Implications for Management

- There are a variety of care components (green), as well as interventions and services (yellow) that are supported by the literature; and

- Note the key attributes (blue) of successful services for the frail elderly in the centre of the figure below.
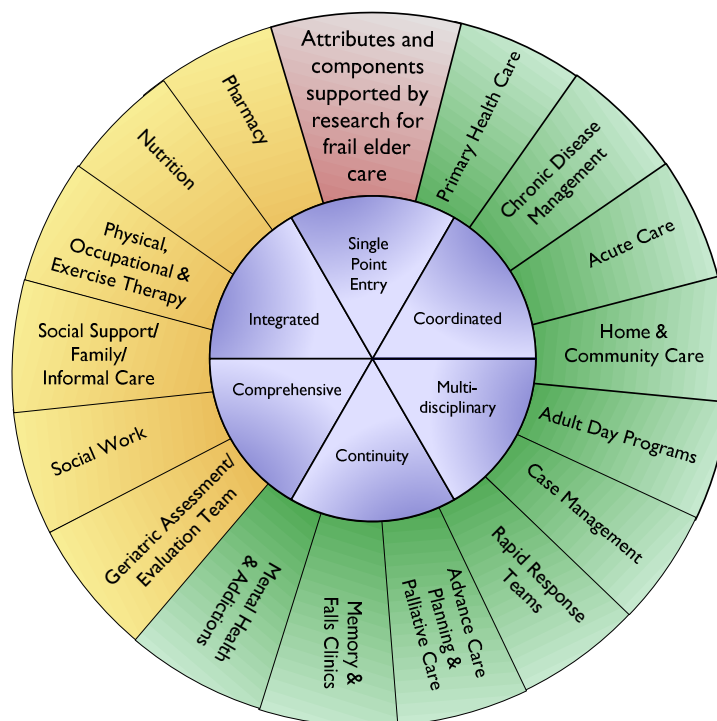

Figure 1: Attributes and components supported by the research for frail elder care

In conclusion, innovative healthcare services for the frail elderly, that are *community-based, targeted, integrated (case management),* and *multidisciplinary (social and medical)* are sound ethical practises (Boult, 1999, Kodner and Kyriacou, 2000). Ensuring that the continuum of care provided to the frail elderly is both integrated and coordinated *prevents fragmentation* of delivery resulting in inappropriate utilization of healthcare services and negative health outcomes (Mollica, 2003, Beland et al, 2006). The comprehensive managed-care model may be one method of providing this type of care for our most ill elderly population.

When health care providers implement services, the desired patient outcomes should be predetermined and stated prior to implementation so that the value of particular services can be determined, monitored and continued/adjusted/eliminated when indicated (Diwan et al, 1997). Thorough, early patient assessment is key to the appropriate treatment and service prescription for the frail elderly and is more accurately completed by multidisciplinary teams and/or geriatric specialists.

Impact of Research Evidence

 As mentioned in the introduction, leaders in seniors' care sought out assistance from an IH Research Facilitator (RF) to help direct them in determining what evidence to use to inform decision-making regarding the development of sustainable future geriatrics programs for communities with rapidly growing aging populations. As a result, the RF reviewed, evaluated and synthesized research evidence. The Geriatric Services Review outlined seven recommendations from the evidence, two of which were a need for consistent evidence-informed protocols and continuous, integrated care coordination. The Review guided the development of a project charter, logic model and a criteria table outlining evidence-informed practices and services. A working group was formed including the RF whose role was to act as a resource and to further facilitate the use of evidence to detail optimal geriatric programs and service guidelines.

 Preliminary evaluation has demonstrated that the translation and facilitation of evidence by the RF was pivotal in the redesign process and has informed the recommendations for policy reformation. Decision-makers reported that without this facilitation the process would not have been as timely, well informed or well-received by senior executive. Further, evaluation indicated that this process may be applied to other program areas. Keys to the success of this transfer of knowledge are the relationships developed between the RF and the clinicians and decision-makers who require the research evidence and the physical presence of the RF at meetings to answer questions, edit, and make suggestions regarding the development of the policies and protocols.

Summary

Outcomes from this process will be applied to guide future knowledge translation activities in other program areas using *actively facilitated research evidence*. Evidence-informed decision-making in geriatric redesign involves many important components, including active participation of willing decision-makers and the active involvement of a RF to facilitate translation of research evidence. This innovative initiative demonstrates an efficient method for knowledge translation in practice and has yielded significant impacts at practice and health organization levels. The frail elderly document itself

is undergoing a second edition and has subsequently been used to support position papers in other health authorities as well as the BC Ministry of Health.

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Transient Ischemic Attacks:
Improving Access and Implementing Best Practice

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Background

According to the Heart and Stroke Foundation of BC and Yukon (2005), stroke is the third leading cause of death in British Columbia and the number one cause of acquired long-term disability. Stroke is one of the most financially significant conditions to treat. Following a Transient Ischemic Attack (TIA), 5% of patients have a stroke within 2 days and 10-15% within 3 months (Coull et al, 2004). Patients who experience these transient events often do not present to their family doctor or the emergency department, and when they do, historically, there has not been consistent practice in assessment and treatment.

Evidence Informed Practice

The Canadian Best Practice Recommendations for Stroke Care (2008) identifies early initiation of urgent assessment protocols and rapid access to diagnostic screening as evidence-informed practice guidelines for TIA. The University of Oxford EXPRESS study (2007) demonstrated that the standardization and early initiation of urgent assessment protocols and diagnostic screening after TIA was associated with an 80% reduction in the risk of early recurrent stroke. The main improvement in outcomes was accomplished by seeing 60% of the patient referrals within twenty-four hours (Rothwell et al., 2007). The Heart and Stroke Foundation, on behalf of the Ontario Stroke Strategy, has reported similar findings. Numbers produced from Ontario demonstrates that the number of strokes can be reduced up to 50% if evidence-informed practices in TIA prevention are implemented. A subsequent analysis of the University of Oxford data showed early initiation of stroke prevention treatments was also effective in reducing admissions to hospital, hospital bed-days and acute costs (Luengo-Fernandez et al, 2009).

The EXPRESS study further demonstrated that rapid access to patient assessment and diagnostic imaging is effective if a system is established that supports patients having access to services on an outpatient basis (Rothwell et al., 2007).The Canadian Best Practice Recommendations for Stroke Care (2008) expands on this by identifying that part of evidence-informed practice recommendations for patients who have suffered from TIA includes referral to designated TIA Rapid Access Clinics in order for these patients to receive a thorough outpatient assessment and the completion of appropriate vascular imaging. These recommendations state that vascular imaging may include CT angiography, magnetic resonance imaging and carotid ultrasound. More importantly, this imaging should be performed within 24 hours of the onset of symptoms to provide the best chance at preventing a complete stroke.

Implementation

Interior Health (IH) has participated in the BC Stroke Strategy since its 2005 inception. Development of coordinated, evidenced-informed stroke care across the province has been a primary objective since that time. Toward this end, IH moved forward in implementing pilot outpatient TIA Rapid Assessment Clinics in two locations. The first IH TIA Rapid Assessment Clinic opened in September 2009 in Kamloops, BC; by November 2009 a second clinic had opened in Cranbrook, BC. Prior to these clinics, a retrospective chart audit showed that the time from event to a consultation with a stroke specialist averaged 21 days, well exceeding current evidence-informed practice recommendations of 24hours. Immediately following the implementation of the TIA Rapid Assessment Clinics, the wait times for TIA patients to receive appropriate diagnostics decreased to an average 1.9 days.

Dr. Todd Collier, a Royal Inland Hospital-based neurologist provided significant consultative support and direction for this project. Additionally, site leads were identified in a number of potential locations, with a physician lead, Dr. Errin Sawatsky, in Cranbrook at East Kootenay Regional Hospital. Senior Executive support via Andrew Neuner, COO for TCS, was essential to capitalize on the momentum built at the provincial level and to ensure sponsorship for IH Regional Stroke Strategies.

While rapid assessment clinics are well established in Vancouver Coastal Health and Vancouver Island Health Authority, the particular challenges in examining a process for implementing such clinics within IH are mainly related to geographical and resource challenges. Regional Stroke Strategy is committed to increasing access to urgent and appropriate stroke care, regardless of the location of the patient. One of the most formidable challenges in this regard is that neurologists are not evenly distributed throughout the region.

The model for pilot TIA Rapid Assessment Clinics established in Interior Health included the evidence-informed practice recommendations surrounding outpatient access to urgent assessment and screening following an acute episode as well as considerations regarding prevention and lifestyle modifications. Canadian Best Practice Recommendations for Stroke Care (2008) published recommendations surrounding lifestyle and risk factor management for patients who are at risk for stroke. As there are such programs that currently exist within Interior Health, it was a natural fit to partner with existing integrated health programs to deliver this new model of service for patients with TIA symptoms. This allows the program to expand the patient population currently served and provide a more comprehensive service based on evidence-informed practice. It supports the coordinated efforts of the regional stroke strategy in expediting both access to assessment, as well as treatment services. It also addresses some of the challenges of limited human resources over vast geographic boundaries. Key to this was engaging other specialists (i.e. Internal Medicine) to become stroke care experts and support the program in centres where neurology services do not currently exist.

> *Implementation of these clinics has been a highly rewarding experience, in no small part due to the enthusiasm and commitment of the staff of the pilot clinic sites, their administration, and leadership in Diagnostic Imaging, Radiology, Patient Registration, and Clinical Records.*

Impact

Implementation of these clinics has been a highly rewarding experience, in no small part due to the enthusiasm and commitment of the staff of the pilot clinic sites, their administration, and leadership in Diagnostic Imaging, Radiology, Patient Registration, and Clinical Records. A comprehensive communication plan was implemented to update the local Emergency Rooms and Family Doctors about the new clinics. This communication plan has proven to be a vital component in the success of these clinics. In keeping with communication, feedback to physicians about the appropriateness of referrals was undertaken in an attempt to reduce the anticipated mimic rate. Not only has this proven to be an effective method to close the feedback loop but it has also assisted with continuity of TIA care for patients upon return to their family physician.

Initial data suggests that time from event (TIA) to assessment and diagnostics has decreased from 21 days to less than 48 hours. However, the EXPRESS study also demonstrated that an appreciable difference in reducing significant acute cerebral vascular syndrome (ACVS) was not achieved until a change in process was implemented in which treatment was initiated at the time of the clinic visit. With the implementation of these clinics, initiation of treatment can be expedited. In addition, this project has been a move towards the awareness and standardization of evidence-informed practice management of patients with TIA, despite geographical location within a health region. The current model for these clinics also capitalizes on a Population Health approach to the care of this at-risk population- a practice that had not been previously established. In addition, this project is attempting to demonstrate that the implementation of these clinics can be done with little financial burden for the health region. In the coming months, the efficacy of the project will be evaluated, with the expectation that these clinics have been successful in reducing the time from event to assessment and treatment. More importantly is the possibility of avoiding the devastating, personal, financial, social and occasionally fatal effects that can accompany a completed stroke.

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Mandate Continuum Framework:
Quality Decision Making in Public Health Protection

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Background

In recent years, Interior Health Public Health Protection has become increasingly complex as the public demand greater accountability from its decision makers. For this reason it is more important than ever that Public Health Protection works together with their stakeholders & clients to make fair, reasonable and demonstrably justifiable decisions around the administration of Public Health Law. The result of increasing public pressure for transparency and accountability and a new approach to legislation left Health Protection staff and management struggling to transition and adapt to these paradigm shifts. There were no teaching tools or program curricula available to assist. Challenges surfaced that pointed to a need for a consistent and comprehensive approach to a new era of applying public health law and included silos of practice from previous health regions creating inconsistent service delivery that resulted in confusion for businesses and the general public.

The intent of the Mandate Continuum Framework is to provide Health Protection staff with a comprehensive tool to assist in making quality decisions that will result in achieving public health objectives and the reduction of public health risk. The transition from prescriptive-based legislation to outcome-based approaches challenges existing practices. In response to this challenge, the comprehensive mandate process was developed to provide assistance for integrating elements of the public health mandate and professional practice, ultimately engaging staff to make appropriate decisions with confidence. The vision of *less risk better health* and the outcome of service delivery excellence are achieved by transitioning from culturally ingrained assumptions to evidence-based best practices, improved reputation through professional accountability, and enhanced communication through recognition of the importance and complexity of relationships that influence decisions.

Evidence Base for Framework

Research about the components of quality decision making was carried out and included systems thinking, critical thinking, discretion and fettering of discretion, procedural reductionism, risk assessment, ethical decision making, professionalism, and accountability. A 'future state' framework was created that described service delivery excellence and included components of culture, communication, and credible reputation achieving our program vision

Mandate Continuum Implementation

The Future of Health Protection

of Less Risk Better Health (based upon Conference Board of Canada 2002). The underpinnings of this future state were to recognize the levels of power and influence on the Health Protection
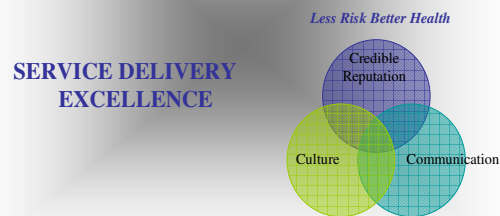
Program and who and how they interact, who can and should be making quality decisions, and what strategies should be used and when. The framework was pee-reviewed internally with Public Health, critiqued and revised. A component of the framework included curriculum development; staff were trained by peers (using a train-the-trainer model) and subsequently rolled out, evaluated and supported with additional field tools and manuals. For additional information, please contact Gretchen Komick at 250-868-7853 or email at gretchen.komick@interiorhealth.ca.

Evaluation and Impact to Date

There are preliminary indications of positive impact of the framework's development and implementation including:
- ✓ Service delivery excellence
    - o Increased professional autonomy
    - o Meeting Public Health objectives and alignment with IH strategic and operational direction, and senior government
    - o Quality decisions that are reasonable and demonstrably justifiable
    - o A creditable reputation with private and public sector stakeholders
    - o Effective communication
    - o Cultural success and self learning
    - o Increased success in the administration of Public Health law (Compliance and Enforcement)
- ✓ Public Health Risk reduction
- ✓ Health Authority liability risk reduction
- ✓ Increased leadership, accountability and responsibility
- ✓ An overarching framework for the progressive compliance and enforcement processes
- ✓ Staff supported with tools for integrating the Public Health Mandate with professional practice
- ✓ Limit procedural reductionism in the administration of Public Health Law
- ✓ Higher level of competency and capacity in supervisors to provide adult learning based training and facilitation

Lessons Learned

A number of key lessons were learned through the framework process including, the importance of multi-sector/multi-level feedback to bring clarity to the structure and presentation of the material, feedback to help identify our blind spots and pre-conceived assumptions, the use of external consultants to better structure and clarify the content/processes through the use of hard questions related to audience, and feedback helped to clarify and limit the scope of the initial phase of the project. Additional facilitators and barriers to the process are noted below.

Facilitators	Barriers
Audits (Ombudsman, Auditor General, PHOs, Internal Auditors)	Historic practice ("the way it's always been done")
Timing and evolution of service delivery practice	Geographical size of Interior Health
Changing regulatory environment	Financial restraint
Persistence	

Conclusion

Development and implementation of the Mandate Continuum Framework is beginning to address a number of factors and can be translated to various groups and/or health system communities including:
- ✓ Improved reputation and transparency of decisions
- ✓ Improved effective communication
- ✓ Reasonable and demonstrably justifiable quality decision making
- ✓ Reduced risk by preventing disease and injury, and promoting health
- ✓ Improved health status
- ✓ Increased equity of health status
- ✓ Increasing autonomous professional environment
- ✓ Improved accountability of decision makers

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Clinical Engagement Empowers a Change Initiative: CONNEX

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Background

Interior Health has undertaken a large initiative, internally branded as CONNEX, to move from their current information system to a new standards-based clinical information system. While the new software provides Interior Health with an opportunity to improve the safety and quality of care, the technology by itself is not a solution. "Ignoring cultural and process changes that must accompany technology improvements invariably results in information systems that deliver few (if any) benefits" (Poats and Salvaneschi, 2003). This theme is repeated often in the literature. A report from the National Institute of Health (2001) states "the greatest risk to the successful implementation of an enterprise-wide system is the failure to take into consideration major aspects of Organizational Change Management." From its conception, the CONNEX initiative was seen as a large change initiative; introducing changes not only to technology, but also to people and to processes.
An extensive amount of literature is available on the topic of Change Management. In fact, a Google search for "change management" returns 245 million results and "change and transition" yields over 66 million returns. Refining the search to "change management for clinical information systems" narrows the results to 3.5 million, and "adoption of clinical information systems" returns just under one million results. Clearly, there is much information available to guide organizations in managing change when introducing new clinical information systems.

Knowledge Translation and Exchange

Many articles on change management in clinical information systems stress the importance of incorporating strong clinical representation through all phases of a project. These clinicians are often referred to as "champions" and act as advocates and communication channels to provide input into the project, as well as communicate the project to their peers.

> *While recognizing the importance of clinical engagement, the challenge was how to accomplish this across an organization that employs more than 18,000 people in many different health care settings, over a very large geographical area.*

In addition to the advocacy role, clinical engagement for the development of standards was a critical step for the CONNEX initiative to be a success. Interior Health's current software systems are not standardized and support different practices across the organization. A prerequisite to creating and implementing new technology was to assess current processes, and define how those processes can be standardized and optimized. Clinician involvement was required to ensure the standards would align with patient care processes and support clinical practice. While recognizing the importance of clinical engagement, the challenge was how to accomplish this across an organization that employs more than 18,000 people in many different health care settings, over a very large geographical area. Clinical Working Groups were formed to provide a venue for clinicians to come together from across Interior Health and across the continuum of care.

Kotter's (1996) model for leading change (as cited by Bolman and Deal) provided a framework for the initiative, as well as for engaging clinicians. Kotter describes eight strategies that are successful in change initiatives. The first is to create a sense of urgency for the change: people must have a reason for doing something different. Clinical Working Group members were brought together for initial meetings and discussed how they currently use the Clinical Information System to support their practice. Through these discussions as well as mapping out a patient/client's journey through the health care system, clinicians identified where processes were inconsistent, where inefficiencies and gaps existed, and where change was needed.

Kotter's second strategy is to elicit executive support. Senior management commitment has been essential to the success of the Clinical Working Groups. Management teams identified representatives to participate in the groups and supported clinicians to attend initial and ongoing meetings.

Kotter's third strategy for leading change, the need for a clear shared vision, is consistent in change management literature, and very applicable to the CONNEX initiative. The slogan for CONNEX is "connecting people, information and care" and the key objectives are to have a system that is user-friendly, consistent and provides clinicians with the information they need to deliver quality care. This vision was created by focusing on what clinicians voiced as their frustrations with the current system.

Kotter discusses the importance of communication and this is repeated in the change management literature. The vision and strategy must be communicated; it must be ongoing, include a variety of approaches, and it must include the benefits to the end user. Clinicians need to understand not only what is happening, but why it is happening, and what it means to them.

Another strategy identified by Kotter in leading change is to remove obstacles and empower people to move ahead to achieve the vision. The CONNEX Clinical Working Groups provides a good example of this. Over four hundred clinicians are involved in over twenty-five groups. In many cases this is the first time clinicians have had an organization-wide, facilitated forum to discuss how they use the information system to support their practice. They have created standards for nomenclature, referral processes and clinical documentation. Through this empowerment, clinicians have been very willing to collaborate and reach consensus on making changes in order to increase efficiencies and improve patient safety.

Kotter indicates that people must see signs of improvement within twelve to twenty-four months, and the establishment of short-term goals is important. While CONNEX is a project that spans more than three years, clinicians have been able to recognize benefits early in their participation. Through the clinical working group meetings, clinicians have had the opportunity to discuss their current practice, practice standards, and evidence-informed practice.

The literature and past experiences strongly support clinical involvement in the development of a new clinical information system. Clinical Working Groups have been one of the methods of engaging and empowering clinicians. Rather than the change happening to clinicians, clinicians are helping to create the change. As Interior Health moves forward with this large change initiative, clinical engagement will continue to be a critical success factor.

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Using Evidence and Collaboration to Improve Lab Processes

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Background - Review

In September, 2008 a review was undertaken at Penticton Regional Hospital (PRH) to identify causes of, and solutions to, Lab Order Entry errors. A literature review was conducted to identify "best evidence" that could inform practice. Documents outlining practice at Fraser Health Authority and the Calgary Health Region were also reviewed. "Best evidence" literature suggests that computerized physician order entry eliminates the need for nurses to process physicians' orders, ultimately reducing steps and errors in the ordering process. While relevant, the information from the literature was not organizationally feasible to informing practice changes at PRH; computerized physician order entry is a significant change that is not planned in the near future.

More information was needed to understand why Order Entry errors were occurring. A root cause analysis, utilizing a variety of data collection methods, was completed. Observation of the process, from the time of the physician writing the order to the laboratory department receiving the order, was completed on a number of units; an Order Entry error log was kept by the lab staff; surveys were completed by both nursing and laboratory staff; and process

> *A root cause analysis using a variety of data collection methods (observations, logs, surveys and focus groups) was completed to identify, validate and recommend how to address existing gaps.*

maps were created for the lab order entry process. Two focus groups were then held, with nursing and lab staff participating to review and validate the information, to identify gaps, and to make recommendations to address the gaps.

A similar review was completed at East Kootenay Regional Hospital (EKRH) in November, 2008. This review utilized similar methodology and used a collaborative approach with nursing and lab staff. The reviews at PRH and EKRH were tremendously helpful to better understand the Lab Order Entry issues. Findings from both reviews indicated the processes from a physician writing an order, to the completion of the order, are complex and included many failure points where error or confusion can occur.

Findings and Actions Taken

Some of the common issues were found to be within the computer information system (e.g. limitations in the current software functionality and system design; inconsistency in test names between the nursing system and the lab system). Other common issues related to underlying deficiencies in practices or processes. Two examples of this include the incorrect labelling of

specimens and the incorrect collection of specimens. Projects were undertaken to address these process issues.

PRH completed a project to address a gap in the collection of specimens; the earlier review indicated that nurses do not always know which containers and collection methods to use when collecting specimens for histology and cytology. The use of an incorrect preservative, or the incorrect amount of a preservative, can result in a pathologist not having the information required to make a diagnosis, thus impacting patient care.

EKRH chose to address an issue with lab specimens being rejected due to improper labelling, a potential for subsequent mix-ups in patient identification. This was a reoccurring problem that had not been successfully resolved despite concerted efforts by management.

Again, PRH and EKRH used similar processes to fully understand and address these issues. The General Electric (GE) Change Acceleration Process (CAP) was used as a framework for both projects. CAP is a set of principles designed to increase the success and accelerate the implementation of organizational change efforts (GE Capital, 2010). The PRH and EKRH teams collected data that would help them understand current practice. Similar to the initial reviews, the tools used included observations, surveys, analysis of patient safety data, collection of applicable hospital policies and procedures, and process mapping.

An all day focus group was held at PRH in April of 2009. CAP tools were used to help to review the data, define the problem, prioritize issues, brainstorm and prioritize solutions and then create an action plan to implement the agreed-upon solutions. The Quality and Patient Safety Manager facilitated the PRH group to implement the solutions. This included the development of posters, with pictures and directions, for histology and cytology specimen collection; it also included the development of clinical practice standards for histology and cytology specimen handling at PRH. Education was provided to Nursing Staff via three venues: a presentation at Nursing Competencies Day; a presentation to the Nurse Managers and Patient Care Coordinators; and drop in sessions on the nursing units by the Staff Development Educator.

At EKRH, in March 2009, representatives from nursing, lab, porters, unit clerks, and patient registration met in a facilitated session to review the ongoing problems with mislabelled and unlabelled histology specimens. Existing processes from patient registration to the sample leaving the area for delivery to the laboratory were examined. A gap analysis was performed through identification of numerous failure points; brainstorming provided solutions which were then prioritized, and an action plan was developed. Changes in process were implemented that ensured the patient's personal health number was used as the unique identifier. Additional process changes addressed responsibilities for printing identification labels; reducing the time a specimen was left in the room after the procedure; establishing a two person check policy in the operating room; speeding the delivery of the specimen to the lab; and ensuring the disposal of unused labels. All changes have been implemented, and easy to use reference material posted in all prep areas are ongoing reminders to nurses of the correct process.

> *A gap analysis was performed through identification of numerous failure points and brainstorming provided solutions which were then prioritized to help develop an action plan.*

Conclusion

The PRH and EKRH experiences indicate that a concentrated effort is sometimes required to successfully address issues, even if the fix at first glance appears relatively simple. The collection of data and a thorough understanding of current processes and practice are needed in order to identify issues and gaps. It is critical to have representation from all impacted stakeholders throughout the entire improvement process, from the discovery of the gaps to the development of recommendations and implementation of actions. This multidisciplinary team approach not only results in improved processes and practices, but equally as important, it results in improved interdisciplinary relationships as staff recognize and appreciate the interrelatedness of their roles.

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Aging with Schizophrenia:
When Physical and Mental Health Needs Coalesce

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Background

The purpose of sharing this story is to describe how research that identified factors affecting the quality of life of those aging with schizophrenia influenced my occupational therapy practice in residential services in both the North and Central Okanagan. Clinical observation suggested that most of the residents I worked with who had a secondary diagnosis of schizophrenia had unmet emotional and social needs. The result of a literature search using the IH library services web cite indicated that when medical and psychiatric needs of those aging with schizophrenia coalesce, attention may be diverted away from mental health issues to focus on age related physical changes and chronic medical issues (Bartels, 2004). Research also confirmed my observation that there was a high level of unmet social needs of this population (McNulty et al., 2003). Elderly people with schizophrenia were found to be more predisposed to residential care than other older adults (Walkup and Gallagher, 1999). Also, marked positive symptoms (such as auditory hallucinations and persecutory delusion) and negative symptoms (such as apathy and social withdrawal) were found to be more prevalent for those with schizophrenia living in long-term facilities, than for those elderly community dwellers with schizophrenia (Harvey et al., 1998).

Evidence-Informed Practice Strategies

My research search identified successful therapeutic intervention strategies that showed promise in reducing negative symptoms and/or the high rates of distress/anxiety with this population, including:

- Art (Ruddy and Milnes, 2007);

- Music (Gold et al., 2005);

- Physical activity (Faulkner and Biddle, 1999; Faulkner and Sparkes, 1999; Pelham and Campagna, 1991);

- Animal assisted therapy (Barker and Dawson, 1998; Barak et al., 2001);

- Sensory experiences (Champagne and Sayer, 2003; Costa et al., 2006); and

- Spiritual engagement (Tepper et al., 2001; Kehoe, 1999).

Research also showed that a high level of engagement in occupations (i.e. daily activities) was associated with better self-ratings of quality of life and fewer psychiatric symptoms, especially negative symptoms (Bejerholm and Eklund, 2006). The opposite was found to occur with less engagement. Most relevant was research indicating that activities had to be meaningful in order to elicit a sense of self and social identity with this population and aid management of their schizophrenia symptoms (Bentall, 1990; Tepper et al., 2001). Research suggested that criticism by caregivers was found to increase stress and anxiety, which exacerbate psychotic symptoms and therefore focus should be

placed on positive abilities and behaviours instead (Kuipers, 2006). Those who experience delusions have an absence of a feeling of identity (Noel-jorand et al., 2004). By developing a minimum sense of identity, positive symptoms were reduced.

Impact of Evidenced-Informed Practice

After reviewing the literature, a key step in translating the research into practice included determining which activities were meaningful to the individual with schizophrenia. Since I had attended several Interior Health (IH) research courses and conferences, I was better able to analyze the qualitative and quantitative studies I read, and select therapeutic interventions that promoted best practice. In other words, for an individual experiencing positive symptoms, it was easier to re-direct their attention, when the activity they were directed to, was more meaningful to them (e.g. listening to music). Further, strategies were used to promote the positive self-identity of a woman, with a primary diagnosis of terminal lung cancer, and a history of schizophrenia, who was experiencing treatment resistant positive symptoms that were disruptive to nursing care. Due to her compromised respiratory system, she was unable to propel a manual wheelchair and was dependent upon staff. I used strategies suggested in the literature to identify meaningful activities, such as reviewing her life history (social, education, work etc.) and previous role identities. (Cather, 2005; Helfrich and Kielhofner, 1994; Mattingly, 1991). This strategy included providing positive feedback to the individual throughout her mobility and cognitive assessment, as well as her successful practice with an electric power wheelchair. Her self-identity changed from a dependent person to a more independent one, which resulted in more appropriate social behaviour and subjective improvement in her quality of life.

Implications of Evidenced-Informed Practice

In my OT practice, I did not experience any barriers in implementing what I learned, nor in disseminating the research results to others. I was able to share what I learned from this experience in a presentation at a conference at Okanagan College to students, therapy assistants and others in the field. The presentation was evaluated by the participants and the feedback was positive. As well, two articles I wrote were published in peer-reviewed journals (Dixon, 2008; Dixon, 2009) and some of this information was included in a public education handout by the Manitoba Schizophrenia Society. However, it is unknown to me if the dissemination of this information changed the practice of others or had any impact on changes to health services policy. The implication for practice is that team members in both physical and mental health settings need to be sure they are assessing and treating individuals, who are aging with schizophrenia, in a holistic manner and not overlook unmet needs because of preconceptions introduced by the practice setting. Practitioners, who are well versed in both physical and mental health settings, are in a unique position to provide best practice to this aging population.

> *It is recommended that team members in both physical and mental health settings assess and treat individuals who are aging with schizophrenia in a holistic manner. Practitioners who are well versed in both physical and mental health settings are in a unique position to provide best practice to this aging population.*

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Primary Health Care in Action: Rural Delivery of Health Care through the Team Approach at Sparwood Health Centre

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Executive Summary

Evidence-based practice has been the driving force behind the ongoing evolution of the services provided within the Sparwood Health Centre. Using the BC Expanded Chronic Care Model (ECCM; BC MOH, 2007a), the Sparwood Health Centre health care providers have worked collectively as a team to assist members of the community in achieving Sparwood Health Centre's Vision - "Healthy People, Healthy Community". Drop-in group medical appointments (DIGMA), educational group health sessions, individualized care plans and a coordinated team effort assist the client in achieving optimum health while understanding and adopting self-management of their health challenges.

> *Using the British Columbia Expanded Chronic Care Model, the Sparwood Health Centre health care providers have worked collectively as a team to assist members of the community in achieving the Centre's Vision - "Healthy People, Healthy Community".*

This story will review some of the evidence that has been used in the development of our services as well as an overview of those services. The DIGMA, the Heart Education and Recovery Trail (HEART) program and health education sessions are examples of research in action. In this paper, an overview of the HEART program is discussed. Sparwood, a small rural community in the south-eastern corner of British Columbia (BC), offers some unique challenges and opportunities to put research and evidence into practices and action.

Literature Review

The British Columbia provincial government has adapted the chronic care model as put forward by the Improving Chronic Illness Care (ICIC). They have worked together to develop the BC Expanded Chronic Care Model (ECCM; BC MOH, 2007a). This work is well documented and researched by well-known health professionals such as Kate Lorig, known for her work in chronic disease self-management.

The BC Primary Health Care Charter recognizes that there is great potential for primary health care to improve the health of the population and contribute to the sustainability of the health care system. Within that recognition is the innate understanding that all partners work together towards promoting and supporting a healthy population (BC MOH, 2007b).

The Chronic Care Model is an evidenced-based guideline or synthesis of system changes useful to guide quality improvement (Wagner et al, 2002). Interventions based on the ECCM have been demonstrated to show improved self-management skills, possible cost reduction (e.g. reduced hospital visits), and improved health outcomes (Bondenheimer et al, 2002). Clients need education to make decisions around managing their own health including making reflective changes in their lifestyles (Rowntree, 1999). Although we do promote self-management as the cornerstone of chronic disease management, *education and self-management* of chronic health conditions such as diabetes are more cost effective than the cost of treatment of complications or in-hospital management of diabetes (Health Canada, 1999).

It has been suggested that those who adopt the ECCM be compared to pilots (health professionals) brought on board a ship to help the captain (the patient) navigate through shallow waters (health challenges) before the captain (the patient) continues on the journey alone. However, upon review, evidence suggests that self-management education programs have only a small to moderate impact on patient outcomes. The benefit may be limited and not applicable to all chronic conditions (Warsi et al, 2004). In a similar review of group programs it was found that most "best practice" programs were limited in their reach and effectiveness (Wagner et al, 2002). As such, it is necessary to look at the relevance and success of using the ECCM model within different settings. More specifically, Sparwood has unique challenges and opportunities to put research and evidence based practices into motion. The DIGMA, the HEART program and health education sessions are examples of research in action.

Heart Education and Recovery Trail (HEART) Program

In 2008, there was a change in the staffing within our chronic disease management team. This change led to the development of the Heart Education and Recovery Trail (HEART) program, a way of meeting the needs of patients in a rural setting following a cardiac event. The HEART program is a partnership between the Chronic Disease Management team members, the Primary Care Nurse, the family physician and Home Care Nursing.

> *The program empowers patients and assists them in accepting responsibility to manage their own post cardiac condition with the support and information from*

HEART provides timely post-event education for the patient and his/her family members as well as ongoing support from the health care professionals on the team. Referrals from across the Elk Valley are sent to the Home Care or Primary Care nurse regarding enrolment in the HEART program after a patient's cardiac event. The program empowers patients and assists them in accepting responsibility to manage their own post cardiac condition with the support and information from professionals (i.e. the pilot brought on board). This multidisciplinary patient focused approach assists the patient in understanding his/her disease process and moving towards the activated, informed patient of the ECCM model (BC MOH, 2007a; Wagner et al, 2001). Patients are encouraged to set goals based on their individual needs. Follow-up is provided by the Home Care Nurse. Patients who have come through the HEART program are now accessing the other health education sessions available in the Elk Valley.

Conclusion and Lessons Learned

The HEART program has learned several lessons around role clarification, referral processes, and patient responsibilities. Home Care Nurses have had to learn the role of educator/coach within the group setting. Screening and calling new referrals is a task that has been added to our Primary Care Nurse's responsibilities. The referral process for the HEART program within rural British Columbia can be improved as patients or physicians may not be aware of the program and an integrated electronic referral system is not yet in place.   Additionally, educating the patient that their health is ultimately their responsibility is a paradigm shift for patients and their families.

The team approach within the Sparwood Health Centre helps to ensure that the patient has access to assistance in a timely manner. This improved access has resulted in enhanced care for the residents of our communities. Our overall philosophy and team approach is driven by the BC Primary Care Charter (BC MOH, 2007b). Our proactive team approach is a prime example of the BC Chronic Care model in action. There are ongoing challenges for program but through the collaborative effort of the health care team and with feedback from the patient participants, the HEART program continues to grow and evolve.

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How Research Guides the New Graduate Nurse Education Program

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Background

Interior Health (IH) is located in southeastern British Columbia (B.C.) hosting over 18,500 employees and providing health care services to over 736,000 people living mainly in rural and remote communities (IH, 2009a; IH, 2009b). In 2007, the number of registered nurses in B.C. between the ages of 40 and 59 was 59.2%, making these nurses eligible for retirement within the next few years (Canadian Nurses Association, 2009). With this knowledge a great deal of interest has gone into the recruiting and retention of new nurses in the province.

Research is presently showing that between 35-61% of new graduate nurses will change the area that they are working on or leave the nursing profession all together during their first year of employment (Boychuk Duchscher and Cowin, 2006). Due to this alarming rate of movement and exodus, a great deal of research has been done regarding supporting, understanding, recruiting and retaining the new graduate nurse (Boychuk Duchscher, 2001; Boychuk Duchscher, 2004; Goodwin-Escola et al., 2009; Meyer Bratt, 2009; Young, 2009; Strauss, 2009). Interior Health has acknowledged this research and concern for new nurse retention and as a result, the New Graduate Nurses Education Program was created through the Professional Practice Office to support new nurses during their first year of employment in IH.

The New Graduate Nurses Education Program

The New Graduate Nurses Education Program is based upon work by leading Canadian researcher, Judy Boychuck Duchscher and aims to assist new nurses in transitioning in to the nursing work environment with positive results.

The New Graduate Nurse Education Program consists of extended orientation as well as three education/support days hosted for the program participants called "Passage to Practice Days". The New Graduate Nurse Education Program is based primarily on work by leading Canadian researcher, Judy Boychuk Duchscher RN, PhD. Dr. Boychuk Duchschner's stages of transition (2007; Figure 1) features three stages manifesting over the first 12 months of ones' nursing career. Each of the three education sessions is strategically placed through the year based on Dr. Boychuk Duchschner's stages of transition. Each education session consists of a variety of nursing-related topics and is wrapped up with a revisit to the transition model as well as time to see how each of the new graduate nurses is doing with their transition. Clinical Educators throughout IH are accessed for their knowledge and expertise when hosting some of the education sessions.
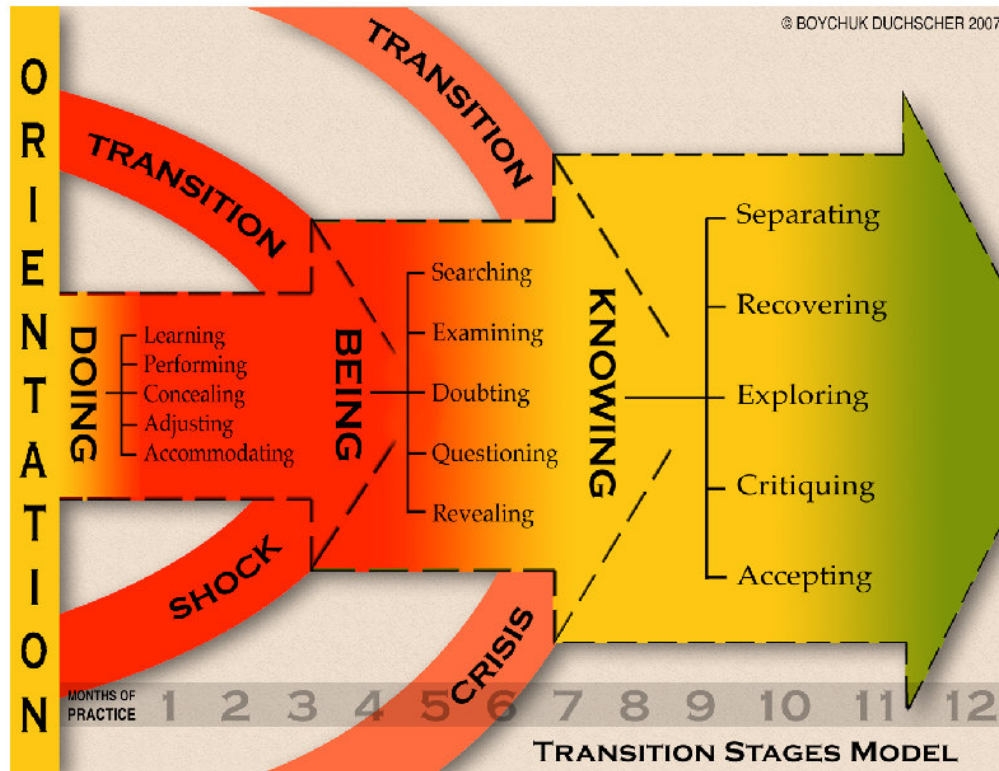
Figure 1: Dr. Boychuk Duchschner's Stages of Transition Model

For many of our facilities there is limited financial budget for the orientation of new staff. The New Graduate Education Program provides the funding for extended orientation. Often noted on many units, new staff would typically receive two to six shifts of orientation and now they are being offered more depending on the needs of the individual. Dr. Boychuk Duchscher describes this stage of the new graduate transition as the "Doing" phase (0-3 months of practice). This is typically the most difficult time in the new grad's transition as they are trying to move from a learning role into one of professional practice. Often they are overwhelmed with the pace and accountability of the work that is required of them, in order to care for their clients in the manner they desire (Boychuk Duchscher, 2001). This is also the time that the first Passage to Practice Day is hosted. The topics include: understanding the new graduate transition, how to have a difficult conversation and discussion on the various resources available to assist the new graduate nurse with their professional development needs. This aids in assisting the managers, new graduate and fellow staff during this challenging time when extra support is needed.

The next stage is that of "Being" (from 3 to 8 months of practice) this is when the new graduate starts to search for a deeper meaning to their practice. This too can be challenging as they struggle to refine their practice, maintain their standards of practice and find a balance between their work and personal lives. The second Passage to Practice education day is scheduled during this time and provides education on topics such as Rapid Assessments, code situations, sepsis and client case scenarios.

The third and final phase of transition is that of "Knowing". This is usually after the eighth month of employment and it is typically when the new graduate begins to recover from the previous two stages. They are often beginning to seek out new educational opportunities to further their practice

and inquiring into what the future of nursing holds for them. This is what the third Passage to Practice Day is focused on.

Impact and Implications

The impact of using this research has been tremendous. As a coordinator and educator for the New Graduate Nurse Education Program it has allowed me to understand and define my role as well as that of the New Graduate (NG) Nurse. Each year we evaluate the program through surveys and one-to-one conversations with managers, frontline staff and participants in order to adapt the program to the existing needs of our nursing community. The feedback from the program participants is mainly positive; for example in the 2009 NG survey, 86% of NG positively agreed that the extended orientation assisted their new grad transition.

We have also demonstrated retention of our new graduate nurses likely as they state they are supported and more content presently in their employment. In 2008, The New Graduate Nurse Educational Program hosted 134 new graduate positions, as of January, with an attrition rate of 22%, well below the noted Canadian average range of 35-61% (Boychuk Duchscher et al., 2006). Some of the 22% attrition rate can be accounted for as new nurses leave rural communities for employment opportunities in larger urban centers. An additional challenge, as is the case with most programs in healthcare, is that of fiscal constraints that may hinder the expanded implementation of such programs into other areas.

Overall, The New Graduate Nurse Education Program continues to be a successful program and a great deal of that success is due to the use of research to enhance and strategize the delivery of the program's services.

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Improving Retention and Recruitment in Smaller Communities:
The 80/20 Project

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Background Evidence

Canada faces a growing shortage of nurses that is expected to reach crisis proportion within the next decade. Since the late 1990s there has been a growing body of research demonstrating the negative effects of the nursing shortage on the working life of nurses and the quality of health care provided to Canadians. The evidence related to the impact of the nursing shortage has consistently found heavy workloads, excessive overtime, high rates of injury, absenteeism, and stress, inadequate numbers of managers, and few opportunities for professional development. The research on retention and recruitment has shown that nurses want more education and professional development opportunities, time to be involved in research and practice initiatives, greater support from nurse leaders, and a reduced workload. If we are to meet the health care needs of Canadians we will need to find ways to encourage more experienced nurses and newer nurses to continue in their profession and build capacity in the system.

> *The implementation of the 80/20 project has enhanced both nurses' satisfaction with their practice and patient satisfaction with their care.*

An innovative model has been developed in response to these concerns. The 80/20 Pilot Project is based on a professional development model in which nurses spend 80% of their salaried time in direct patient care and 20% of their salaried time engaged in professional development. The implementation has been shown to enhance both nurses' satisfaction with their practice and patient satisfaction (Bournes and Ferguson-Pare, 2007). A study that evaluated the implementation of an 80/20 professional development model at University Health Network, a large university-affiliated teaching hospital in Toronto, found that the study unit experienced a number of positive outcomes (Bournes and Ferguson-Pare, 2007). These positive outcomes related to overtime, sick time, patient satisfaction scores, staff satisfaction and staff turnover.

Context for the Project

Building on the evidence presented above, the purpose of this BC 80/20 project is two-fold. Firstly, to demonstrate how a model which promotes professional development opportunities for both new and experienced nurses in one unit will enhance their work experience, create a positive environment for

both nurses and patients, and lead to better recruitment and retention of nurses. Secondly, to engage a nurse union, employer, university, and government in a collaborative partnership to address specific and urgent nursing workforce retention and recruitment issues to supplement the normal labour relations and collective bargaining environment.

The provincial partners for the BC project are the Interior Health Authority (IH), senior management of the Royal Inland Hospital (RIH), the British Columbia Nurses' Union, Thompson Rivers University (TRU), and the BC Ministry of Health Services. The BC project is one of 10 workplace based pilot projects in a Canadian Federation of Nurses' Unions (CFNU) initiated project supported by Health Canada. The overall project is intended to (a) enhance retention and recruitment of nurses and (b) establish collaborative partnerships between employers, unions and governments in the implementation of these projects. These partners have come together to implement the 80/20 Pilot Project as a 9-month recruitment and retention initiative to help address the current nursing shortage.

The implementation dates for the 80/20 Project are from April 1, 2009 – February 28, 2010 on one innovation unit at Royal Inland Hospital (RIH) in Kamloops. RIH is finding it increasingly difficult to recruit needed health care providers including nurses. Given the aging work force and the possibility of a substantial number of nurses retiring within the next few years, the Interior Health Authority, senior management of the Royal Inland Hospital and the British Columbia Nurses' Union are implementing the model as a recruitment and retention initiative to help address the current nursing shortage.

The goal of the 80/20 staffing model is to enhance RIH as a desired work place by providing the time for nursing staff to develop leadership and clinical skills and an opportunity for staff to explore other work related activities. The project is a visible sign that the employer values health care workers and is committed to investing in the knowledge and skills of employees. Each of the participants had the benefit of (a) developing an individualized learning plan with the guidance of an assistant professor from TRU and (b) ongoing support from a Clinical Nurse Educator who is dedicated to the project.

Project Impact

Since the project is not complete, the effect and impact of the evidence-informed project is not yet known. However, preliminarily feedback from staff participants is positive. Nurses are excited about the project and some feel re-inspired in their chosen profession. In addition, the multi-partner model has created a collaborative approach to addressing nursing workforce issues.

Formal assessment of the effect and impact will occur through a variety of evaluative processes. Firstly, this project is one of 10 provincial projects that will be evaluated using the Outcome Mapping evaluation framework administered by Tomblin Murphy Consulting, Inc. This comprehensive evaluation framework will examine (a) the project findings, (b) collaboration and partnerships, (c) sustainability and (d) transfer of knowledge. Evaluative data will be collected at baseline, mid-point and follow up timeframes and through on-line journals (surveys) with

> *The multi-partner model used in the 80/20 project has created a collaborative approach to addressing nursing workforce issues. As a result, nurses are excited about the project and some feel re-inspired in their chosen profession.*

participants, focus groups (with participants and steering committee members), and quantitative human resource and administrative submissions. Secondly, with support from TRU, one-on-one interviews with participants will be carried out at the end of the project to elicit qualitative data related to the experience.

Once the evaluations are completed, results will be shared through a variety of forums. Plans are currently underway to present at professional conferences, in journals and throughout partner organizations.

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Partners in Care Project

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Background Information

The Interior Health (IH) Partners in Care Project was launched in June of 2008. Building on information obtained during a review of acute care nursing services within Interior Health (Corpus Sanchez, 2006) and substantial evidence regarding the current and worsening nursing shortage (Canadian Nurses Association [CNA], 2009), the goal of the Partners in Care Project is to optimize the care that is provided to patients, while making the most valuable use of nursing and other caregiver resources to ensure sustainability over the long term.

According to the CNA (2009), continuing with past workforce utilization patterns of registered nurses (RNs) will result in a significant shortage of over 60,000 RNs in Canada by 2022. However, the CNA also predicts that by increasing RN productivity by 1% per year, this predicted shortage could be reduced by about 47% over the same time period. Further evidence also indicates that nurses are generally underutilized with respect to their scope of practice appropriate to their area of clinical practice and that several environmental, systemic and human factors negatively impact the provision of high quality, safe, efficient and effective patient care (Corpus Sanchez, 2006; Institute of Medicine, 2004).

> *The Partners in Care Project aimed to actively engage nurses in creating healthy work environments that support nurses to engage in meaningful work, better meet the patients' requirements for care and practice to their full scope, within a philosophy of client-focused care.*

Based on this evidence, the Partners in Care Project set out to actively engage nurses in creating healthy work environments that support nurses to (a) engage in meaningful work, (b) better meet the patients' requirements for care, and (c) practice to their full scope, within a philosophy of client-focused care. While focusing primarily on nursing practice, the project also actively involves all members of interprofessional clinical teams in the ongoing development of a redesigned model of care delivery. This approach of actively engaging nurses and other clinical team members in the change process creates meaningful and sustained change (Institute of Medicine, 2004). In addition, the General Electric Change Acceleration Process (CAP) has been used to strengthen the change process within this project.

Knowledge Translation and Exchange

The Partners in Care Project was founded on knowledge gained through other studies and projects, which demonstrated that there are many issues (shortage of nurses and other professional staff, aging

patient population and workforce, inefficient care delivery processes, role and scope confusion, etc.) in the acute care environment which negatively impact both patients and staff. This project has provided staff with the permission, knowledge, skills and authority to create positive, meaningful and lasting changes to their work environments which will benefit both patients and staff. Starting on 2 pilot units (Penticton Regional Hospital and Kelowna General Hospital) and guided by a Steering Committee (comprised of Union, Human Resources and Administrative representation), the project was launched in June 2008. Staff on the units are involved in a variety of teambuilding, leadership workshops and activities intended to create positive and lasting changes in the work environments, including:

1. Strengthening frontline leadership skills – Frontline leaders participate in the IH *Next Generation Clinical Leadership* program;

2. Empowering and strengthening teamwork on the units – Frontline clinical staff participate in the IH *Leader Within* course focusing on personal leadership skills, personal awareness and conflict resolution;

3. Assessing the current state on the units through "Functional Analysis" observational studies and identifying priority areas for change; and

4. Implementing evidence-based changes to enhance care delivery, creating fundamental changes to practice, including:

   - Adopting SBAR as a consistent framework for patient-related communication;
   - Developing a process of quick priority patient assessments and incorporating into practice;
   - Standardizing basic bedside safety equipment and incorporating a system for monitoring;
   - Including frontline nurses in multidisciplinary patient care planning sessions;
   - Performing hourly rounding for patient safety and falls prevention; and
   - Incorporating 'LEAN' processes to increase unit efficiency.

Project Impact and Lessons Learned

While still in its infancy, the results of this project have not yet been fully realized or reported. Evaluation of the impact of this project will consist of quantitative evaluation of the specific initiatives (e.g. effect of hourly rounding on patient fall rate) and qualitative evaluation of the staffs' perspectives of positive workplace improvements. Once the changes are fully implemented and reported on the pilot units, the results and initiatives will be shared within the respective facilities before being spread throughout the health service areas and the health authority as a whole.

This project has not been without its challenges. The 'openness' of the approach to exploring opportunities for change and the limited structure in terms of a framework from which to focus the exploration initially left staff feeling suspicious and overwhelmed. However, by supporting the frontline leaders to take the most prominent role in leading the initiative and actively involving the IHA Change Imperatives Team, the project began to move ahead.

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*Please note: although not all were cited in the summary above, these references provide greater background and detail to the body of knowledge supporting the Partners in Care work.

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Prevention of Seniors Falls in the Community

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Introduction and Background Information

One in three older adults falls every year. However, frailty, falls and loss of independence are not inevitable consequences of the aging process and there are many older adults who maintain good health, independence and remain active in their families and communities. Our population is rapidly aging. It is, therefore, of great importance to consider what protective factors facilitate healthy aging, and to advocate for policies and services that ensure older adults within the interior region have an equitable chance of avoiding falls and experiencing good health in their later years.

The traditional public health approach to preventing senior's falls typically involves identifying individual risk factors and then prescribing the appropriate intervention to the individual. Initial discussions with community partners revealed that fall prevention projects that focused on risk factor reduction for individuals were resource intensive and often led to volunteer burnout. Sustainability of the projects was also a consistent issue, with inadequate funding and rising costs. There are roughly 65,000 older adults living within the Interior Health region, and the health authority has limited resources to cover this vast geographic area. In discussion with Public Health colleagues and leadership, it became clear that the Population Health Unit did not "own" the issue of Seniors Falls – rather, with one staff member dedicated to addressing the issue of senior's falls at the community level, Population Health is only one of many stakeholders in falls prevention. The unit recognized that there was a need to develop an approach that targeted building the capacity of communities as a whole, rather than working with relatively small numbers of individuals within a particular community.

When evaluating community-level protective factors, it becomes evident that the built environment strongly influences the potential for people to fall and suffer injuries. These influences are both direct, e.g., through design of sidewalks, stairways and other passageways, and indirect, e.g., designing neighbourhoods that isolate rather than include seniors, leading in turn to increasing frailty and an increased risk of injury should a fall occur. Access to comprehensive health care services - including provision and monitoring of types and levels of medications, and access to adequate vision care - are essential in preventing fall-related injuries in older adults. But other factors play an equally important role in supporting a healthy aging process, including: individuals' social and economic conditions; their home and housing situations; their level of family support; the existence, or lack, of friendship networks; and, the physical design of their communities. Given the broad range of factors affecting senior's health, positively influencing policies and services to support them requires an interdisciplinary approach. This is essential to the success of community-based falls prevention initiatives that will achieve a long term reduction in the number of falls in the Interior region.

> *Given the broad range of factors affecting senior's health, positively influencing policies and services to support them requires an interdisciplinary approach.*

The Knowledge Translation Process

Knowledge Translation activities such as community presentations, teleconferences, newsletters, and participation in working groups, not only provide policy and decision makers with information on preventing falls; they also create a comprehensive picture of circumstances facing seniors in a particular community, and can help to increase the capacity of local partners to prevent senior's falls and improve their overall health outcomes. Currently IH is knowledge-sharing with a range of key local partners and identifying local opportunities for collaboration. Some of those partners include: elected officials and municipal planners, who guide the development of the built environment; non-profit and community based agencies, which provide social programming and advocacy voices within the community; and, health authorities, that provide essential health services within the community. Population Health and Public Health partners have responded as opportunities presented themselves to build relationships and support the development of evidence-informed, community-based strategies to addresses senior's falls at a population level. Successful examples of local partnerships include:

- Supporting Age Friendly Community planning in Cranbrook, Kamloops, Revelstoke, Nakusp, Creston, Logan Lake, Vernon and New Denver
- Presenting on community approaches to falls prevention and facilitating community dialogues in Peachland, Ashcroft, Soda Creek, Sugar Cane, Canoe Creek and Clearwater
- Providing input on Official Community Plans in Kelowna, West Kelowna, Armstrong and Nelson

Through working together, key partners have formed strong working relationships, and there is a clear sense that the many initiatives underway in the interior are making important differences in the health of older adults. Provincial funding of Age Friendly Communities and Active Transportation grants has contributed to the success of current initiatives, indicating movement in the right direction.

Conclusion and Implications

Population Health is able to assist policy makers and communities in addressing the issue of senior's falls specifically and, more broadly, in promoting healthy aging, by developing key partnerships and providing evidence-informed input to local initiatives. The process of improving health by adding value to existing projects and services within community can extend beyond seniors falls. Recognising the diversity of knowledge and expertise health care employees possess, significant health improvements, and subsequent health care savings could be achieved by developing effective partnerships in sectors such as housing, recreation, transportation, land use planning, licensing, and social programming by supporting effective knowledge sharing practices both within Interior Health and with external agencies.

The implementation of population health strategies for falls prevention has been positive, but not without significant barriers. There is difficulty demonstrating short term health improvements on an individual level when the health outcomes of the strategies involving local projects are not directly observable. It is also difficult to attribute a reduction in seniors' falls to Interior Health's involvement rather than to circumstances within the community that are unrelated to our work. To overcome

these barriers, the creation of partnerships with academic organisations is essential. It will allow the health authority to pursue a more detailed and ongoing dialogue with researchers and planners and, ultimately, provide evidence to guide public health's support of policy makers in achieving significant population based health improvements.

> *Public health can be improved by identifying and making some what simple changes to modifiable community-level characteristics.*
>
> *Masotti 2006*

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McNair Unit: A Smoke Free Success Story

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Smoke Free Environments at Interior Health

Considerable evidence has emerged in recent years that smoke free policies are a powerful tool to reduce tobacco use and exposure to second-hand smoke. Research indicates that smoking bans in public places are the most effective means of reducing second-hand smoke exposure, and have a significant impact on tobacco use by decreasing consumption, increasing quit attempts and bolstering successful cessation (Hopkins et al., 2001, Fichtenburg and Glantz, 2002). They are also influential in reducing serious hospital admissions. Smoke free policies have been demonstrated to reduce an individual's cigarette consumption by up to 29% or by 3 cigarettes a day (Fichtenburg and Glantz, 2002), while doubling the likelihood of quitting successfully (Bauer et al., 2005). Based on this evidence, it makes sense for Health Authorities to adopt smoke free policies, to provide a safe and healthy environment for their staff, patients, clients and visitors, and to support those who want to reduce or stop their tobacco use.

Along with the other Health Authorities in BC, Interior Health implemented the Smoke Free Environments (SFE) policy in May 2008. The policy prohibits tobacco use in or on all Interior Health owned, operated or contracted premises, facilities, grounds and vehicles, with the exception of cultural ceremonial use of tobacco. Interior Health is a large, complex organization comprising over 200 sites, with 17,000 staff, 1100 physicians and serving 54 Aboriginal communities. Implementation of the SFE policy required knowledge translation at several levels: with IH leadership, staff, physicians, patients and communities. Participation by varied stakeholders and consultation with affected populations was vital from the outset. The Interior Health Senior Executive Team demonstrated clear support for key stakeholders to participate on a Corporate Implementation Team (CIT) and four HSA-based Implementation Teams.

Changes in the System

Several system changes implemented as part of the SFE Policy involved the integration of evidence-informed tobacco reduction practices, including:

- adding Nicotine Replacement Therapy (NRT) to the IH formulary;
- training over 1000 staff and IH partners in Brief Interventions in Tobacco;
- availability of counselling services and starter kits of NRT for employees wishing to quit smoking;
- education and communication tools targeted to patients, visitors, staff and managers;
- including Smoke Free Policy enforcement in the IH Security Contract; and
- Tobacco Cessation Care Planning with those residents who were given an individual exemption at residential care sites.

These measures were not only grounded in evidence with regard to policy implementation, but also resulted in IH adopting practices that have made IH facilities healthier and have supported tobacco users (both patients and staff) to take steps to stop smoking and improve their health.

In addition to the work conducted by the CIT and HSA Teams to prepare for the implementation of the policy, individual teams throughout the health authority drew upon evidence in their own disciplines to assist their staff and patients to adapt to the transition. Several success stories have been recorded; one of the most compelling is the early closure of the smoking room at the Kelowna General Acute Inpatient Psychiatric Unit.

A Success Story – Smoke Free KGH Acute Inpatient Psychiatric Unit

A major concern about implementing a smoke free policy at IH was how to make the transition as smooth as possible for mental health and addictions clients, an estimated 70% of whom use tobacco. At the KGH McNair Unit, planning began in September 2007 to make sure they would be problem-free when the policy came into effect in May 2008.

"We have a large number of patients who smoke, and they're not able to leave the area on their own," explains John Yarschenko, Manager, Mental Health Acute Inpatient Unit. "That presented more of a challenge, so we had to plan well in advance." As things turned out, preparations went so well that the McNair Unit went smoke free a full three months before the official implementation date. "It was remarkably uneventful" says Yarschenko. He adds that closing the smoking room has proven physically beneficial to patients because they now have to be active and motivated enough to get up and go out if they want to smoke. The unit has also added more activities for the patients to do to offset the time they would be smoking. "We didn't anticipate the positive spin" says Yarschenko. "It's a nice side benefit."

Since 2008, all IH Acute Psychiatric Units have followed McNair's lead. "The transition to smoke-free has gone surprisingly well", said Dawn Branswell, Director of Acute and Community Mental Health, East Kootenay. "We have had great success to date and very little resistance from our patients. The staff have been very consistent about the approach and ensure that people are comfortable and not in withdrawal".

Smoke Free Interior Health: Challenges and Lessons Learned

It must be acknowledged that compliance with the IH Smoke Free Policy has been an ongoing challenge, particularly at the KGH site. This is partly due to the barriers associated with enforcing a policy as opposed to a regulation (i.e. there is no capacity to ticket/fine violators). This issue is common to other sites within IH and also other health authorities across the province. In addition to this, however, the KGH site is undergoing a major, long-term construction project, which has closed some entrances and has compounded the difficulty of enforcing the policy.

Discussions are underway to resolve compliance issues at KGH. The enforcement challenges at the site do not overshadow the fact that the McNair Unit closed their indoor smoking-room without incident, in advance of the IH policy implementation date, through careful planning and consultation

with clients and staff. Integrating evidence-based strategies into practice can be time-consuming and complex, especially when success is dependent on a shift in social norms, as was the case with this policy. As is often said about the SFE policy: "this is a marathon, not a sprint." Other challenges we encountered during the implementation process include:

- The policy had implications for every site, at each level of IH, among all disciplines and staff groups, and in the community;

- This was an organization-wide policy that was implemented through an HSA-based structure. The organizational structure led to some inconsistency of approach between different health service areas, as senior leaders with HSA responsibilities had varying roles and levels of interest in, or support for, the policy;

- The matrix-type reporting structure of clinical educators in IH was a barrier to the delivery of a basic level of training for staff. The reporting structure necessitated requests to multiple managers and resulted in inconsistent participation by clinical educators in the training plan; and

- Because this is a policy and not a regulation, there is no mechanism for assigning penalties for non-compliance among patients or visitors. Regular staff are expected to encourage the public's compliance with the policy, and this has proved problematic in some areas.

Lessons learned through this process include:

- Direction from the provincial government and the IH Senior Executive Team was helpful in motivating key partners to implement this evidence-based initiative;

- An IH-wide team of partners from key departments and sectors can work together effectively, even without meeting face-to-face, if the issue is deemed a high priority by the organization;

- IH staff show support for the policy, but would like it to be adequately enforced and consistently applied;

- When implementing a smoke-free policy, it is important to offer tobacco cessation supports to employees and patients/clients, even if uptake is less than expected;

- It helps to have a local champion at large sites, who can mobilize a team to address any site-specific issues; and

- Strong leadership by individual managers in the organization can encourage others to take similar steps.

Evidence from the literature was helpful in bolstering the argument for the policy, and also allowed IH to build on the experiences of other jurisdictions. The example of the McNair Unit's journey to smoke-free confirms that changes that seemed inconceivable ten years ago are in fact achievable with some advance planning and support. In the end, this change will make a significant contribution to the health and safety of some of our most vulnerable clients, and to patients and staff across the health authority.

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John Yarschenko, Manager, Mental Health Acute Inpatient Unit, Interior Health,
in the doorway of McNair's former smoking room.

Culturally Appropriate Health Promotion Materials: Learning from Tobacco Reduction with Aboriginal Communities

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Background

Tobacco use rates have declined steadily over the past 20 years and the smoking rate now sits at an all-time low of 15% in BC (BC Stats, 2008). However, this statistic pertains to the general population only. In Aboriginal communities smoking rates are considerably higher, with reports ranging between 24% and 45% in recent years (BC Stats, 2008; BC Provincial Health Officer, 2009).

Part of the difficulty of making an impact on tobacco use in Aboriginal communities is related to the fact that many tribes in British Columbia have an ancient/traditional relationship with tobacco (BC Ministry of Health, 2001) which does not exist among the general population. Many tribes use tobacco for medicinal and spiritual purposes and so the typical messages of promoting the complete elimination of tobacco are not effective or appropriate. Instead, health promoters have had some success decreasing the non-traditional use of tobacco (such as smoking cigarettes or chewing smokeless tobacco) through the promotion of the respectful use of tobacco for ceremonial purposes. For example, smoke from tobacco is burned on sacred fires used to carry prayers to the spirit world and tobacco is also often left on the earth as an offering of thanks (BC Ministry of Health, 2001).

However, there are still significant cultural barriers to the promotion of tobacco reduction in Aboriginal communities, as evidenced by smoking rates that are up to 5 times the national average.

Evidence Used

In looking to strengthen the effectiveness of our tobacco reduction strategies with Aboriginal communities, we turned to the published (academic and grey) literature. Although there is only a very limited amount of information related to best/promising practices in Aboriginal tobacco reduction, one of the recurring themes is the recognition of a lack of representation from First Nation peoples in tobacco reduction materials (Cancer Care Ontario, 2008). A number of planning documents and tools kits related to health promotion in Aboriginal communities have identified the importance of using culturally appropriate role models and positive images (BC Ministry of Health, 2001; Crooks et al., 2009). "Aboriginal students need to see themselves … not just in issues related to culture, but for any positive messages" (Crooks et al., 2009).

Based on this review of key documents, we determined a need to better understand the cultural context of our local Aboriginal communities in order to revise and develop tobacco reduction resources that honor the perspective and experience of our Aboriginal peoples. In this way we hoped to be more effective in the delivery of our health promotion messages and in improving the health of our Aboriginal peoples.

Methods and Strategies Used

We determined that the best way to listen to the Aboriginal community was to conduct key informant surveys at three Aboriginal provincial conferences. Survey participants were asked for their viewpoint of what was needed in their communities to reduce tobacco misuse. Surveys were conducted at three provincial conferences in 2008/09: "Honour Your Health Challenge" Training Event (Vancouver, October 2008); BC Aboriginal Diabetes conference (Penticton, March 2009); and "Gathering Our Voices" BC Aboriginal Youth Conference (Kelowna, March 2009). A total of 227 surveys were completed. Although the surveys varied slightly according to the venue where they were conducted, the three core questions were:

1. What community supports are in your community for tobacco reduction?
2. What would be helpful in your community to reduce or eliminate the misuse of tobacco?
3. Do you know of any community or program that is successful in addressing tobacco misuse?

Analysis of the survey responses revealed that people wanted to see more visible, positive reminders of tobacco reduction within an Aboriginal context, more community-based training and resources on how to quit smoking, and more information on traditional tobacco use.

Impact and Implications for Evidence Informed Practice

As a result of the data collected in the survey, the Tobacco Reduction Program contracted an Aboriginal photographer and designer to develop posters and a teaching calendar using Aboriginal images and culturally appropriate, positive messages. The posters feature Aboriginal youth, families and elders who are non-smokers or have stopped smoking. The images also reflect the traditional use of tobacco, lands, traditional regalia and participation in sports and daily activities, all of which are central to the promotion of a smoke-free lifestyle in an Aboriginal context.

In addition to distributing hardcopies of the resources during Aboriginal-specific tobacco cessation training sessions, the plan is to provide these materials online so that they can be used as templates and be customized by individual communities using their own role models. In addition, the online version of the teaching calendar will be in a format so that it can be reused from year to year.

Lessons Learned

One of the key learnings from this project was that in situations where there is a lack of published, peer-reviewed data/research it is important to review the "grey literature" that can be found in planning and practice documents. As well, we learned that it is important to check assumptions with the target population; otherwise we would have made the assumption that there is a broad understanding about traditional tobacco use in our Aboriginal communities. We are confident that our implementation of the materials developed for this project will be more effective due to the use of evidence to inform our practice.

Aboriginal people respond to Aboriginal faces and culture represented in resources and this can be shared with programs within IH. Tobacco resources of cultural nature and networking opportunities

can be used in IH Nutrition, Diabetes, Chronic Disease Management and many other programs. Nutrition program community gardens can incorporate traditional tobacco teachings by growing tobacco for spiritual use only and as a natural pesticide. Mental health and addictions can enhance their relationships with their First Nation clients by understanding the uses of traditional tobacco and how this can fit into their recovery plan. Chronic Disease Management teams can incorporate First Nation posters into their programs as they are made to be multi-use by using the blank space for announcements and community events

Future Evaluation

Focus groups will be organised 3 months after the resources are made available to Aboriginal communities to determine the effectiveness of the developed resources. Focus group participants will be composed of representatives from one Band, one Urban center, and two regional Aboriginal Health Improvement Committees. Groups will be asked to review each poster and teaching calendar. Potential questions will include: What is your impression of the resources? Of the content? What would make it more effective? How have you been using these resources? How else do you see these resources being used? In addition, an on line survey will be distributed to 100 bands, 11 Friendship Centers and Métis organizations one year after the poster and calendar templates are posted on the IH Tobacco Reduction website. Lastly, the number of poster and calendar templates downloaded and resources ordered will be tracked and evaluated.

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Prevention Services Endorses Brief Interventions in Tobacco

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Research Evidence

Many women quit using tobacco during pregnancy while a portion reduces their tobacco use. In Expecting To Quit (Greaves et al., 2003), researchers highlight the temporary nature of cessation and estimate that 70-90% of women resume their tobacco use by one year postpartum. They further recognize the many social and physiological factors that affect these patterns. Facilitating successful and enduring tobacco cessation during pregnancy is an ongoing public health challenge.

The temporary nature of cessation is further reinforced in the U.S. Public Health-sponsored Clinical Practice Guidelines which were updated in 2008 by an expert panel composed of 30 individuals from the Federal Government and nonprofit organizations who screened and reviewed 6,000 articles related to tobacco use and dependence (Fiore et al., 2008). This group defines tobacco dependence as a chronic condition that often requires ongoing assessment and repeated intervention.

Fortunately, effective treatments exist that can produce long-term or even permanent abstinence and thus, the Guidelines (2008) recommend that every patient who uses tobacco be offered at least one of these treatments. One such treatment is Brief Interventions in Tobacco (BIT). Fiore et al. (2008) stress that BIT is effective and that every tobacco-using patient should be offered a brief intervention at minimum. The Guidelines (2008) state that BIT can be provided by any clinician but is most relevant to primary care clinicians who see a wide variety of patients and are bound by time constraints. The recommendations go on to conclude that although many smokers are reluctant to seek intensive cessation programs, they nevertheless can receive a brief intervention every time they visit a clinician.

> *Researchers estimate that 70-90% of women resume their tobacco use by one year postpartum. The Clinical Practice Guidelines for Treating Tobacco Use and Dependence conclude that although many smokers are reluctant to seek intensive cessation programs, they nevertheless can receive a brief intervention every time they visit a clinician.*

Translating Research into Practice

Multiple strategies were used to translate the above research and evidence into practice within Public Health-Prevention Services. Public Health-Prevention Services is comprised of Public Health Nurses (PHNs), Dental Hygienists, Certified Dental Assistants, Speech and Language Pathologists, Audiologists and Audiometric Technicians. Some of these professionals within our Health Authority contact new moms immediately postpartum (PHNs in particular) and some may have an opportunity to see them at a later date. Thus, Prevention Services staff are in an ideal position to deliver BIT, potentially reducing the proportion of women who relapse to tobacco use after the birth of their baby.

The Tobacco Reduction Program developed BIT training modules for Prevention Services in a variety of formats (e.g. in person, teleconference, video clip) and lengths (i.e. 3 minutes, 5 minutes, 15 minutes, 30 minutes, 1 hour) to suit the needs of every audience. To accompany the modules, the Tobacco Reduction Program also produced laminated tags for staff to attach to their lanyards as a quick reference tool for the three questions involved in delivering a BIT. The modules were designed to provide information about tobacco dependence, to provide practical tools for addressing tobacco with a client and to provide clinicians with knowledge about the resources available to someone interested in quitting.

Context of Practice Change

The Tobacco Reduction Program began offering the BIT modules and accompanying resources to any Public Health-Prevention Services staff member who expressed an interest in providing their staff with training. However, to ensure that BIT became incorporated into routine clinical practice of all 300 Public Health-Prevention Services staff, the Tobacco Reduction Program partnered with the Early Childhood Development (ECD) team which is part of Public Health-Prevention Services. A member of the ECD team assumed the role of representing the Tobacco Reduction Program on the Public Health-Prevention Services Leadership Team. It was in this venue that the endorsement was made for all Public Health-Prevention Services staff to deliver BIT, when appropriate. This process took time and several contributions to the Leadership Team agenda. First, a Briefing Note that included reference to BIT evidence and clinical practice guidelines was written for the Leadership Team. This document was followed by a presentation by the Tobacco Reduction Program manager and a Decision Brief that was presented to the Leadership Team by the ECD team member.

Following the endorsement by the Public Health-Prevention Services Leadership Team for all Public Health-Prevention Services staff to deliver BIT as appropriate, initial revisions were made and are continuing for each of the Public Health-Prevention Services portfolio areas (Nursing, Dental, Audiology, Speech and Language) to incorporate BIT training as part of new staff orientations.

Feedback from Public Health-Prevention Services has been positive with many staff indicating that they found the tools and resources user-friendly and easy to incorporate in to their work - "I was reluctant to incorporate tobacco messages during my consults with my clients. I had a lot to say about my discipline and I did not think there would be enough time in our sessions. … [but] the BIT were so easy and short I thought I would try it. The process worked really well. My clients did not think I was being invasive or judgmental."

Lessons Learned – Successes and Challenges

There were several key components of this initiative that made it a success. Prevention Services staff were consulted and approached for feedback to ensure that the BIT resources met their needs and the needs of their clients. In addition, training opportunities were offered in a variety of formats and length in order to accommodate the various sites, programs and portfolios. The IH Communications Department was extremely helpful in advertising the BIT training opportunities through the InsideNet and the Health Service Area (HSA) Bulletins, which helped promote the initiative. One of the most important components of this initiative and one which other IH teams can learn from is the

partnership with the Prevention Services' Early Childhood Development team. This partnership was beneficial in raising the issue of tobacco reduction at the Prevention Services Leadership Team tables. It brought an 'insider/expert' perspective from Prevention Services to the Tobacco Reduction team and assisted the Tobacco Reduction team to navigate the Prevention Services system.

In addition to the lessons learned that made this initiative a success, there were also challenges along the way. Uncertainty regarding approval processes for Prevention Services Leadership Team (PSLT) played a large role in delaying BIT. Deferral to subsequent meetings and three presentations to PSLT encouraged the development of both a position paper and decision brief which ultimately received approval. Improved knowledge of the communication format as well as a clear understanding of the procedure to be followed to obtain support for such an initiative would have facilitated an efficient process.

Next Steps

Based on the evidence, Public Health-Prevention Services and the Tobacco Reduction Program recognize that tobacco use is the chief cause of preventable disease and death and thus continue to work together on several additional strategies to ensure that all new parents receive at minimum a Brief Intervention in Tobacco.

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Bringing Transfusion Practices up to Standard in IHA

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Background

The Interior Health (IH) TCS (Thompson/Cariboo/Shuswap) Rural Blood Clinical Transfusion Working group was formed in response to the announcement of Canada's first national standards (Z902-04) for handling donated blood from "vein to vein" (Canadian Standards Association (CSA), 2004). Changes to Canada's Blood Supply System had commenced a six years earlier with replacement of the Canadian Red Cross by the Canadian Blood Services as recommended in the Krever Commission (tainted blood scandal) report released late in 1997.

Concurrently, the British Columbia Provincial Blood Coordinating Office (PBCO) was also established in 1997 to serve as a medium for communication and consultation on provincial blood/transfusion issues. Moreover, the PBCO provides a forum for blood policy planning and program implementation, and supports the needs of hospital blood banks in BC. However, despite this reorganization at the provincial and federal levels, there was little awareness of the specific transfusion requirements and need for change at the bedside in the urban and rural TCS sites.

TCS Clinical Blood Transfusion Working Group

Further collaboration and research revealed an opportunity for the rural nursing educators to reach beyond their boundaries and increase membership to include urban partners. This led to the formation of the TCS Clinical Blood Transfusion Working group. The group was composed of a laboratory technologist, a pathologist, a nurse advisor from Kamloops, two nurse educators and a Pre Surgical Screening Nurse from Salmon Arm. Other rural and urban nurses, lab technologists, medical advisors, transfusion specialists, and educational institution partners participated in the project on a task-specific basis. The IH Transfusion Working Group consisting of transfusion medicine leads across IH was instrumental in advising us of IH processes and their potential implications with an eventual IH wide roll-out of the manual.

The TCS Clinical Blood Transfusion Working Group set out to generate a clinical transfusion resource manual that would be evidence-based and relevant for physicians, nurses, lab services, clinical/technical support personnel, and regional schools of nursing.

Our *goal* was to develop a manual of Standardized Clinical Procedures for Transfusion Services that would comply with the new CSA Standards across all TCS rural and urban facilities. Initially, clinical transfusion processes varied considerably between facilities and a gap analysis estimated regional compliance to Z902-04 to be less than 50%. We set out to generate a clinical transfusion resource manual that would be evidence-based and relevant for physicians, nurses, lab services, clinical/technical support personnel, and regional schools of nursing. The project scope included development of accredited blood product administration processes as well as planning the implementation of those processes.

Sources of Evidence

Subject categories for the manual were allocated amongst group members to research, scrutinize and investigate. Our starting framework was CSA standard Z902-04, PBCO's Clinical Transfusion Resource Manual, Canadian Society for Transfusion Medicine (CSTM) - Standards for Hospital Transfusion Services, American Association of Blood Banks (AABB) technical manual (2005), and peer-reviewed journal articles. The latter sources were utilized and cited in order to support our work.

Creation of the manual was done in a comprehensive way. Every requirement for inclusion/exclusion led to more clinical practice questions. No assumptions based on *opinions* or *habits* were made; the group had many lengthy and rich discussions regarding the manual content. Every process was validated by the current literature and then confirmed to be achievable (i.e. relevant) in every TCS setting. Not every answer could be found in the above resources. The following are examples of questions and sources of evidence that helped answer them:

Question of Interest	Source of Evidence
How would the new requirement for written consent play out in elective, repeat transfusions?	Government legislation, IH Risk management and IH policy advisory
Scope and practice: Can a Licensed Practical Nurse or nursing undergraduate in BC care for a patient undergoing a blood transfusion? What about residential care settings?	Collaboration with the Colleges, Licensing bodies, PPO (Professional Practice Office), and the PBCO; and the Government Health Professions Act
Should infusion pumps be routine for non-urgent transfusions? How about a manual pressure bag? Which venous access devices are silicone/non silicone? What is the bore of our extension sets?	Peer-reviewed literature; regular inquiry missions by TCS Product Committee and Biomed
Do you stop a transfusion completely and waste a valuable blood product during a mild to moderate allergic reaction, or can you start it up again after physician assessment?	Bloody Easy – A Guide to Transfusion Medicine
What are the current administration protocols for blood products?	Quick Glance administration protocols for 25 individual blood products from official packaging inserts, CBS Clinical Transfusion Guide, and collaboration with IH transfusion medicine

The working group operated for 30 months with the Clinical Transfusion Practices Manual finally making it's electronic debut on the IH Intranet for use in Spring 2008 (for external readers, please contact author).

Impact and Lessons Learned

To date, the resulting Transfusion manual has been endorsed by the TCS Transfusion Committee, TCS Medical Advisory committee and the IH Laboratory Steering Committee. It has also been approved by the IH Chief of Professional Practice, Nursing and Quality Improvement. In July 2009, manual implementation was expanded throughout IH.

Implementation leads were utilized in each health service area within Interior Health to help identify barriers to and the impact of the new transfusion standards. Educational sessions were provided to all of the IH leads such that the TCS Clinical Transfusion Practices manual now guides clinical transfusion practice in all IH laboratories and patient care units.

> *The committee's greatest asset was our "champion" group leader whose attention to detail, academic background and ability to structure the process were key to keeping us all in the game and ensuring continual progress.*

The primary barrier of this project would be its scope and complexity, coupled with the fact that it was not a "stand alone" project for working group members. As with many endeavours, the seemingly "glacial pace" of progress did allow for considerable scrutiny, reflection and analysis of the manual's contents.   The committee's greatest asset was our "champion" group leader, Eileen MacDonald, whose attention to detail, academic background and ability to structure the process were critical to keeping us all in the game and ensuring continual progress.

As Walter Elliot said "*Perseverance is not a long race; it is many short races one after the other*".

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Exploring Dialogue in Creating Change with Front-Line Nurses at Kelowna General Hospital

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Background

In the summer of 2009, I brought together a group of front-line nurses from Kelowna General Hospital (KGH) to dialogue without agenda in an effort to explore capacity building and create meaningful change. The opportunity was part of a participatory action research project necessary for completion of my Masters of Arts in Leadership. I believe in the capacity of staff and hold the belief

> *I believe in the capacity of staff and hold the belief that, if given the opportunity to share their strengths and ideas, staff can influence their workplace in a positive way by generating solutions to challenges that face the organization.*

that, if given the opportunity to share their strengths and ideas, staff can influence their workplace in a positive way by generating solutions to challenges that face the organization. In exploration of this belief, I structured my research project to create an opportunity for staff to dialogue openly and explored the benefits that occurred from such dialogue. Additionally, being witness to staff frustrations regarding the lack of time to share ideas and to be part of changes in their work area resonated with me and I had a desire to see what could be done to alleviate some of these frustrations.

Staff Dialogues

> *Sharing the dialogue principles provided important information to participants that was associated with an improvement in the way in which they communicated in their areas. Participants reported becoming more involved in their area of work as a consequence.*

Five (5) RNs and 1 LPN throughout KGH volunteered of their own time to participate. Each was drawn to participating for different reasons but most agreed that the opportunity to be heard and to be part of a group that worked together to create change is what motivated them to get involved. Five 90-minute sessions were held and conversations flowed with little structure. Ideas were built upon, and participants worked towards, developing solutions to frustrations identified, mainly related to Interior Health (IH) communication practices. The final session allowed for one of our Health Service Directors (Project Sponsor) to participate with the nurses in open dialogue about the ideas generated by the participants.

The structure of the sessions was modeled on dialogue principles developed by William Isaacs (1999) where a safe place for participant-led dialogue is created. Due to the participatory nature of my research, no formal questions were posed and very little structure was provided throughout the discussions. In order to set up the dialogue according to Isaacs' principles, the initial session included information on his 4 principles of dialogue - listening, respecting, suspending and voicing. Through

discussion and understanding of these principles, participants were able to identify times in which they have successfully engaged in dialogue. Further learning evolved as participants returned for subsequent sessions. Many participants reported an increased use of dialogue principles and increased awareness/improvement in communication practices within their individual work areas. Sharing the dialogue principles provided important information to participants that were associated with an improvement in the way in which they communicated in their areas. Participants reported becoming more involved in their area of work as a consequence.

Impact of Participation

Participants frequently shared how they enjoyed meeting together to dialogue. One participant stated, "It's nice to sit down with all of these people from different units and different areas and just find out what works and what doesn't for other areas, and just kind of bounce ideas off of each other". In a way, the dialogue circles allowed the participants to create a learning community amongst themselves, which in turn, increased their capacity through increased awareness, the ability to share and vent, and the collective desire to create positive change in their work areas.

Throughout the sessions, participants exchanged ideas, often sparking action carried out by other participants. In one example, after discussing employee recognition programs that are working throughout KGH one participant stated, "Maybe I should look into getting that started on [my unit]". Within three days an employee-driven recognition program was set-up in her work area. Since that time, the employee recognition program continues and at least one other has begun.

Conclusions and Lessons Learned

The three main conclusions generated by this project are: 1) staff value opportunities to talk together, 2) staff crave opportunities to talk *with* administration, and 3) staff want to feel like an integral part of the organization. Recommendations for integrating these conclusions with improved communication practices were presented in a final research project report and discussed with the project Sponsor. Many practical solutions were presented and multiple lessons learned were outlined for future facilitation.

At the conclusion of the formal data gathering sessions, participants indicated that they believed the process of dialoguing together was so valuable that they wished to continue. An additional session was held to explore how further benefits can be gained from the opportunity for staff to dialogue. In talking together about the value of the sessions, participants came up with an idea to host a *Dialogue Series* where staff from all disciplines are invited to come together to dialogue openly about issues of importance at KGH. Building on the success of involving a Health Service Director in the dialogue, participants wish to invite managers to participate, in order to improve understanding and communication between front-line staff and management.

Two other key lessons learned in the initial research component will be applied directly to planning of further dialogue sessions to benefit all staff. The first lesson is the importance of achieving a delicate balance of structured versus unstructured dialogue; participants felt that having a topic of conversation to assist in guiding the dialogue is beneficial. The second lesson is the need to maintain

an appreciative inquiry lens to ensure a positive energy is maintained during the dialogue; keeping a positive spin does not mean that frustrations cannot be discussed, rather, frustrations are discussed in a way that focuses on what is working or what could be done to change the situation from a frustrating one to an ideal situation.

Together, the initial dialogue participants and I are planning a Dialogue Series for 2010. We will work together to determine the topics of conversation and to maintain a positive energy during the dialogue. It is hoped that the continued practice of dialogue at KGH will benefit all staff by providing a forum for idea generation and sharing, an opportunity for positive venting and stress relief and a place where staff create their own learning community that focuses on issues of primary importance to them.

Dialogue does not cost any money but it does take a bit of time. Other facilities that wish to include more opportunities for dialogue for their employees might find that rethinking how dialogue is perceived in the workplace would make a big difference. Creating opportunities for everyday dialogue is a good place to start, while employee-led initiatives that provide employees with peer-support and structure can be critical. Our participants gave of their own time to dialogue together because they felt there was value in the process. I believe that other sites that begin to dialogue together might experience this value as well.

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An Exploration of the Discursive Practices that Shape and Discipline Nurses' Response to Postoperative Delirium (POD)

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Background

Working as a staff nurse on a surgical ward that provides postoperative care to patients precipitated me to engage in research - providing insights and knowledge - on why nurses practice in a certain way and what are the driving forces that guide that practice. From my nursing experience, I noticed differences in care provided to patients who presented with the symptom of chest pain compared to older adults who presented with the syndrome of delirium. Both chest pain and delirium are symptoms that indicate a medical emergency - chest pain is a medical emergency because it may signal an attack on the heart and delirium is a medical emergency because it may signal an attack on the brain (Antai-Otong, 2003; Inouye, 2006; Lipowski, 1990). Yet, generally speaking in my experience, the response of chest pain resulted in the immediate attention of health care workers to the symptom, and thereby the patient, while the symptom of delirium did not.

Research Project Methods

Through the process of participating as a novice researcher in a qualitative, poststructural discourse analysis study (Kjorven, 2009), it became clear how key discourses influence nursing practice. *Discourses* include the use of language, common sense, beliefs and knowledge. They are ways of conveying ideas between groups and individuals, a collection of ideas. Discourses include the birth, the established and the future meaning of language. They are not simply abstract ideas and ways of thinking about or representing phenomena; rather, they are intimately tied to the practices and structures of society where some representations are privileged and receive the stamp of truth, and others are not heard, othered and rendered invisible. Discourse then, is whatever constrains, but also enables, writing, speaking and thinking. In this project, using a poststructural lens (i.e. used to uncover different layers/meanings of what is being studied), revealed how biomedical/scientific discourses were at work in participant narratives with regards to nursing practice. The overall finding was how all other discourses identified by participants related to the overriding biomedical discourses, and how biomedical discourses influenced the evolution of nursing practice.

> *Discourses include the use of language, common sense, beliefs and knowledge. They are ways of conveying ideas between groups and individuals, a collection of ideas. Discourses include the birth, the established and the future meaning of language.*

While this may not seem surprising at first glance, what was revealed by the study was that biomedical discourses were working in very different ways when nurses responded to patients presenting with an acute onset of chest pain versus patients presenting with an acute onset of postoperative delirium (POD). For example, nurses shared that when a patient presented with an acute onset of chest pain they knew what to do, they had support, they were listened to,

interventions happened quickly and the patient often recovered within a timely manner. Consistent with the literature (Dahlke and Phinney, 2008; Rogers and Gibson 2002), the reverse was demonstrated when a patient presented with POD - nurses did not know what to do, supports were invisible, they were not listened to, interventions were delayed or did not happen at all and the delirium often went unresolved for days or weeks resulting in increased work and moral distress for the nursing team. While chest pain was recognized as a legitimate symptom worthy of an emergent response, POD was not even named, but given the vague description of confusion.

End-of-Project Knowledge Translation

The first step to translate these findings was critical reflection of my own practice precipitated by the evidence that nurses acted in these discourses without often realizing they were doing so. As an educator involved in research I had an excellent opportunity to share a personal experience of the research process, including the findings and recommendations of the study at education seminars where the target audience included staff nurses, educators and managers. I also presented my methodology and findings at national and international conferences which generated much interest in other professional groups regarding current practice across the country. I am currently working on three publication submissions to academic journals which will further disseminate the findings and recommendations.

Impact and Implications

As a result of this dissemination, nursing colleagues from the Education Department integrated delirium education into the nursing orientation provided to all new nursing staff at the hospital where I worked. Other hospitals throughout the Health Authority incorporated and built on this work. A process for delirium intervention including specific assessment, intervention and documentation has been incorporated into the patient care record at the hospital where the study took place. Work is underway to provide an online education presentation outlining appropriate response for patients presenting with delirium. Follow up education sessions indicate that nursing knowledge regarding the need for emergent response to delirium is increasing, and nurses are changing practice based on this knowledge. I continue to foster partnerships between clinical and academic educators and researchers and provide education sessions to nursing students and staff which focus on the findings and recommendations from the study.

The implications of this knowledge translation are significant. If delirium is not recognized and timely intervention does not occur in these types of patients, mortality, care giver burden, and length of patient stay in the hospital are increased. As well, like the heart, if the insult is not recognized and corrected the damage to the brain is irreversible.

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Next Generation Clinical Leadership

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Background

In alignment with the strategic objectives of the organizations and in synergy with the Ministry of Health's request for proposals to enhance first-line nursing leadership, Interior Health in 2006 created a comprehensive nursing leadership development program known as Next Generation Clinical Leadership (NGCL). The goal of the program is to develop leadership potential in both new and existing clinical front line leaders through a six month process of continuous learning. In partnership with the Professional Practice Office of Interior Health, the Leadership, Learning and Organizational Development department created and delivered the NGCL program to more than 80 clinical leaders within the organization. While originally focused on the leadership learning needs of front line nurse leaders, the program expanded to include other clinical leaders within the organization (such as Laboratory Services, Rehabilitation Services, Speech Pathology, etc.) This strategy proved successful in identifying that the personal leadership qualities identified in the program do not belong to any one professional group, but rather to the community of leaders within the organization.

Research Evidence and Knowledge Translation

Research has clearly linked the relationship between quality, front-line leadership, nurse recruitment, nurse retention and patient outcomes. Additionally, there is extensive research evidence that quality work environments are critical to patient safety and require strong leadership and participative decision making.

The NGCL program is unique by way of its innovative curriculum, personalized learning plan, and use of team learning to embed the concepts of front line leadership. The curriculum of NGCL is focused specifically on the outcomes of personal mastery and systems thinking as they relate to the role of the front line leader. The current healthcare environment requires leading through influence, empowerment and motivation. It requires the practice of reflective leadership and the willingness to continually learn.

The program content for NGCL is provided in a facilitated format that is innovative, creative, and inclusive of learning strategies focused on long-term, continuous learning and support. While the target audience for the program content are those individuals currently in a front line leadership position (such as 'DC2' or other as identified within each collective agreement), the program engages these individuals, their out-of-scope managers and members of their work teams in a process of team learning. In other words, the participants in the program learn content related to personal leadership

(early in the six month program) and then subsequently bring their teams together to facilitate similar personal leadership learning with these team members. Everyone learns together.

It is through this process of team learning that we believe the 'magic' occurs. Observations of the teams as they learn together reveal that they frequently demonstrate the qualities observed in effective teams. Trust increases and their communication skills with one another improves through practice with a number of inter-personal communication tools. The team learning session generally concludes with plans to return to the workplace with a newly-minted vision, mission statement and set of department values to which all staff will be held accountable. We have observed and been told that because of the personal leadership learning, participants believe they have the competence and confidence to coach and mentor others to that vision, mission and values in the way that works for everyone. The implications for practice in the workplace are clear and very significant: the creation of a culture which embodies the IH values of Trust, Integrity, Quality and Respect. The literature and research in both Leadership and Nursing identifies that the creation of this quality work environment will be a key factor in our ability to attract and retain staff and leaders in our organization. We have also observed anecdotally, that this culture change has the potential to translate into measurable metrics, including reductions in sick and overtime usage, grievances and other labour-related issues.

> *The literature and research in both Leadership and Nursing identifies that the creation of this quality work environment will be a key factor in our ability to attract and retain staff and leaders in our organization.*

Throughout the 6 months of continuous learning*, NGCL provides our new and existing leaders with specific tools to maximize their leadership skills and (hopefully) lead to success in their roles. We have been told repeatedly by participants that it is the provision of these specific tools that has made the difference in their ability to apply their personal leadership learning in a way that they have not been able to do in the past.

NGCL Program Objectives are designed to align with the core leadership competencies for Interior Health and the IH Emotional Intelligence competencies. They are solidly rooted in literature from magnet hospitals, quality workplaces, clinical and organizational leadership. The program objectives were created in partnership with an advisory group of managers and leaders within the organization and refined with their guidance and input to also reflect the job descriptions of the leaders in the program.

The NGCL objectives include: communication; teaching/learning; team-building; values-based leadership, change management, systems thinking, conflict resolution and other department-specific objectives identified by the individual's personal learning plan.

Outcomes

Our collective experience with NGCL has confirmed for us a number of hypotheses that we postulated at the outset of the program. They are:

1. When developed, trusted, supported and nurtured over time, leaders will shine in a way that none of us could or would have anticipated. An investment in their development is leading to an outcome in retention and culture that is beyond expectation.
2. The development of a quality values-based work culture is absolutely possible with minimal cost
3. NGCL graduates are moving into managerial positions that they previously would have avoided. Comments have included: "I feel like I can do it now because of what I have learned in NGCL", or "I wanted to move into a position where I could have the influence that I need to make the change". This is pivotal to our ability to prepare and retain the leaders of our future.

For the purposes of discussion, 'Continuous learning' is referred to as learning over time (as contrasted with a once only workshop, conference or seminar) with ongoing feedback, mentoring and coaching occurring throughout the experience.

Next Generation Clinical Leadership program graduates, 2008/09

(Alphabetical Order): Sandy Acheson, Brenda Bain, Lori Bake, Tai Dempster, Christina El Gazzar, Andrea Finamore, Janet Goodall, Adrienne Kehl, Jan Kirkland, Kathy Miller, Carrie Mae Pennington, Anna Peron, Kim Petryshyn, Sheila Roffel, Kari Schneider, Sandy Semodgrad, Arlana Taylor, Janice Watt.

A Regional Parenteral Therapy Community of Practice: A Mechanism to Enhance Clinical Knowledge Translation

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Background

In 2001, one health service area in Interior Health identified an urgent need for updated practice standards and procedures for parenteral therapy. Parenteral therapy is the administration of therapeutic agents via the intramuscular, subcutaneous, intracutaneous or intravenous routes. A group of clinicians attempted to meet the need for review and revisions to current standards and procedures however they became overwhelmed and overburdened with the magnitude of the project which was added to their already burgeoning schedules. With tenacity they continued to raise a call among formal leaders about the urgency of their need for this knowledge development and translation. In 2005 a director in one health service area allocated funding and organized a project management process to accelerate this knowledge translation project. An interprofessional, multisectoral team within the health service area worked diligently for an additional two years completing a clinical practices resource manual for adult parenteral therapy. The vision for the manual was to provide a comprehensive resource for front line staff that would be widely available to clinicians across the health authority, where and when they need it, in order to support staff to make quality healthcare decisions. This vision aligned with the health authority's strategic plan to begin standardizing clinical practices where possible, to reduce variable and potentially harmful practices and improve efficient use of clinical knowledge and skills.

Proactive Plan for Knowledge Translation

Although the need for the manual originated in one health service area, key corporate senior leaders supported the project from its inception and envisioned dissemination of this project across the entire health authority as an exemplar for consistent and effective practice. This support was critical in aiding its transition to the other three health service areas. To prepare the health authority for adoption of the parenteral therapy manual, a community development approach was employed. This approach was used to enable clinicians to determine and initiate change from the 'bottom-up' as well as participate in decision making to obtain region wide sustainability. Rather than mandating the use of the manual, a group of 30 clinical experts, clinicians and knowledge users were connected across the health authority by face-to-face meetings and teleconference calls to conduct a region-wide review of the manual. This approach provided an opportunity for the clinical experts, clinicians and knowledge users to interact with each other and determine for themselves the clinical utility and value of the manual. It provided an opportunity for relationship building both formally and informally. Feedback generated from teleconference dialogue and written communication was synthesized and reviewed. The authors of the manual provided a guided review of the standards

> *Expert clinicians became even more expert as knowledge translation was woven throughout the process of open dialogue, respect for multiple perspectives and utilization of current research.*

incorporating current research and expert clinical perspectives. Expert clinicians became even more expert as knowledge translation was woven throughout the process of open dialogue, respect for multiple perspectives and utilization of current research.

Outcomes

Clinicians told stories of changing their practice based on knowledge acquired from reading the manual and gaining understanding of the standards during teleconference meetings. Eliciting and incorporating stakeholder feedback from across the region into the manual contributed to shared ownership and a more comprehensive, user-friendly product. The strategy of attending to the context and to the interaction among the team seeded a network of clinicians who became excited as they generated and shared knowledge, insights, common issues, and ideas. As relationships among the clinicians developed the value they placed on the work they were doing intensified. They became a *community of practice.*

Building a Successful Community of Practice

> *Communities of practice (CoPs) are designed to collaboratively translate knowledge into practice. They often require cultivation, facilitation and infusion of resources, including participation by key clinicians within the region.*

Intrinsically, communities of practice (CoP) are organic, focused collectives of people who work toward common understanding on a given issue. Communities of practice are designed to translate knowledge into practice. While inherently informal and self-organizing, we found, not surprisingly, that the Regional Parenteral Therapy CoP (RPTCoP) required cultivation, facilitation and the infusion of resources. Leadership and sponsorship for this regional initiative was provided by the Professional Practice Office of Interior Health whose mission is to enable the creation of quality practice environments. The project sponsor, a respected and seasoned senior leader, had access to resources and most importantly the ear of other senior leaders. His vision, influence, understanding of knowledge translation and community development and his decision making authority contributed to the project's success. He personally spoke with other senior leaders about the project and asked them to invite key clinicians within their regions to participate. This approach single-handedly underpinned all subsequent project strategies because it propagated a shift in the existing culture from silos to interprofessional regional inclusiveness. A coordinator from the Professional Practice Office was identified to connect key individuals, advocate for resources and raise the visibility of the community of practice. The coordinator in turn reported directly to the project sponsor. With leadership from the coordinator, the members of the community were able to focus on defining the project and enacting their own role and function. This allowed for purposeful alignment with the organization and the interests of the community members.

Challenges and Successes

It must be noted that communities, like any group made up of individuals, are not without their challenges. While there were no voiced objections to the goals of the project in the RPT CoP this

did not necessarily signify agreement. Some participants were challenged with overcoming their autonomy to engage in collaboration. Others found looking beyond their own facility or health service area difficult. Multiple perspectives and assumptions, as well as differing interpretations of the literature, provided opportunities for rich academic debate. Predictably, members cited tension between the need for more time to spend on the project and the current realities of everyday practice. Participation in CoP meetings were often a direct reflection of this reality. Even though senior leaders supported the process, operational requirements occasionally delayed progress.

The Professional Practice Office intentionally focused its strategies on connecting clinicians to develop, review and implement evidence informed effective practices. The outcome however, was much more than that. By cultivating a CoP philosophy, value was given to intangible assets such as passion and relationship building across intersectoral team members. The value people feel in social networks is not only instrumental for their work but also accrues in personal satisfaction as they interact with colleagues who understand their perspective and who are interested in a similar topic. Because of their passion and the ability to sustain it in a community of diverse members, knowledge exchange and translation occurred.

*Note: as of the March 2010 this community of practice continues to work together on the second edition of the Adult Parenteral Therapy Manual which is near completion.

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Healthy and Safe Healthcare Environments

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***By tackling environmental issues, health care organizations can
positively influence health determinants.***

Background

The design, ongoing operations, and maintenance of healthcare facilities can be a challenging task. When trying to create healthy and healing environments for those requiring care, as well as workplaces where individuals often perform under stressful conditions, the design principles and choice of materials, equipment and products used within the facility must be carefully considered.

The link between the environment and health is clear. To improve the "health" of its facilities, Interior Health is committed to meeting the provincial mandate of Leadership in Energy and Environmental Design (LEED), which are identified as the gold standards for the design and renovation of all Interior Health facilities. This means creating environmentally-friendly buildings that are more efficient to operate and are healthier for patients and staff.

Participatory Approach to Facility Planning

By designing healthcare departments and facilities using input from end-users an evidence-informed design can eliminate many problems such as staff injuries, illness, lower staff productivity, increased length of patient stays, increased patient medication usage, increased building maintenance costs, increased staff turnover, increased workers compensation expenses.

The design of each of Interior Health's facilities utilizes a participative process and includes nursing staff, physicians, Plant Maintenance, Infection Control Practitioners, Information Management and Information Technology staff, planners, ergonomists, architects and engineers. This approach provides an opportunity for the nursing staff to help design their own department, with technical and design experts collaborating to make improvements and bring forward innovative concepts. It has been shown that opportunities to create safer workplaces are most cost effective in the earliest phases of design (WorkCover Corporation, 2003; National Occupational Health and Safety Commission, 2001), with substantial increases in costs for renovation once a project has been completed. Therefore, by designing healthcare departments and facilities using input from end-users an evidence-informed design can eliminate many problems such as staff injuries, illness, lower staff productivity, increased length of patient stays, increased patient medication usage, increased building maintenance costs, increased staff turnover, increased workers compensation expenses, and a reduced building life experienced by poorly designed healthcare facilities (National Occupational Health and Safety Commission, 2001; Ulrich 1991).

To facilitate decision making, all participating staff must sign-off after each design stage. This allows progress in the planning process, and does not delay the project. A limitation of this process is to maintain the project schedule while ensuring adequate feedback and consultation with staff. During the construction process, staff are continually updated by both the Steering Committee Chair, Project Planner, and construction meetings. Once final design sign-off has occurred, there is little further input into the design. Most often the only changes necessary are due to construction issues.

Translating Research into Practice

To assist in the design phase and support design solutions, the latest research literature is reviewed and examined. The research literature is used to inform the design to confirm design evolution and/or implement novel ideas to design problems. Utilizing the latest research allows for the inclusion of spaces such as restorative staff spaces (Maddox et al., 2006). These kinds of spaces were incorporated into the design of a large acute care hospital addition, giving staff a place to rejuvenate during their breaks and get away from the stress of providing acute medical care. The design also made use of solid walls in the acute patient care areas of this facility; this has been shown to reduce hospital-born infection rates and improve patient confidentiality (Barlas et al., 2001; Ulrich et al., 2004). Improving confidentiality allows staff and patients to form a more therapeutic relationship and can lead to better patient outcomes. Based on feedback from the healthcare providers, this model has been applied to subsequent Emergency Department designs. In all respects, using evidence to inform design is providing healthier workplaces for staff and improving patient care.

To determine the impact of each project, all staff and patients in the departments undergoing construction complete a pre/post construction questionnaire to assess their perceptions of the healthcare environment using a set scale of physical design indicators. Interior Health has been a provincial leader in incorporating LEED standards in new facilities. The Hillside Acute Psychiatric Facility, a 44-bed inpatient psychiatric facility located in Kamloops, BC was awarded LEED Gold in late 2006, the first for a Canadian inpatient healthcare facility. This facility provides a new benchmark for sustainability within Interior Health and is setting the standard for the design of any new healthcare facility within the province. Interior Health's second LEED Gold designed facility, the $8million, 20,000 square foot St. Bartholomew's Health Centre in Lytton, was completed in 2009. This rural, acute care facility has been designed to ensure: over 90% of the spaces have views to the outdoors; locally harvested wood and river rock are used throughout; over 75% of the construction waste is diverted from landfills; and no potable water is used for irrigation. This facility has been created using environmentally sustainable principles and, once open, the ongoing operations will be financially efficient.

The next phase in environmental design is the creation of the Kelowna and Vernon Hospitals Project, a $432M project to be completed in 2012. All of the designs within this project will be LEED Gold certified. Each of these buildings will have efficient mechanical systems to decrease energy usage and reduce water use through low flow fixtures. During construction, the impact on the environment was reduced with over 75% of waste diverted from the landfills, construction materials locally sourced, and materials selected where feasible for their recycled content. Interior Health is taking steps to ensure that building design is healthy and reduces the impact on the environment.

Lessons Learned

The focus on a "healthy" healthcare environment has allowed Interior Health to provide safer and more environmentally friendly facilities for the staff that work in them, and the patients who are seeking treatment. Its multi-faceted approach to sustainability is improving relationships internally, as well as externally with the community and with governing and funding bodies such as the regional hospital districts and the Ministry of Health. The participatory design process for each project is enhanced through the use of evidence-informed research to guide the design process.

Feedback and staff engagement are important factors both during design and construction. A barrier to this process is the timelines for completion; having decision makers at each meeting is imperative. If that person cannot attend, there must be a designate with the same decision making abilities. Not having this individual can delay the overall progress.

Each step Interior Health takes toward more sustainable and healthy buildings leads to the creation of healthcare environments that are healing for patients the moment they walk through the doors, while also meeting the needs of staff.

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Translating Research into Practice: Anticipating the Impact of Rural Medical Education in Interior Health

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Background for the Project

In April 2005, Premier Gordon Campbell announced that the University of British Columbia (UBC)-Okanagan would be the home to BC's next medical school. In anticipation of the coming clinical medical education requirements, Kelowna General Hospital has been designated as a Clinical Academic Campus. Royal Inland Hospital, Vernon Jubilee Hospital, and Penticton Regional Hospital have subsequently been designated as Regional Affiliated Centres, for the purposes of teaching undergraduate medical students. The overall impact of the medical program expansion on Interior Health is unknown at this time.

Key senior leaders and working groups involved in bringing the medical school to the interior region and an IH Research Facilitator collaborated to prepare a summary of existing literature on the potential impact of expanded rural medical education within the region. The *purpose* of the summary document was to summarize relevant literature regarding the impact of i) medical program expansion and/or the distributed medical model and/or ii) teaching hospitals, in order to help inform the decision-making process within Interior Health.

A Need for Evidence

Although numerous models of medical program expansion exist, the UBC medical program expansion is considered by researchers to be a *Distributed* or *Mixed Urban/Rural School* model – a historically urban based school which has expanded its mandate to address the needs of specific rural and remote jurisdictions with which they have developed relationships (Tesson et al., 2005). In addition to addressing a BC-wide physician shortage, particularly in rural regions of the province, the number one advantage of the distributed medical/learning model is consistently reported - physicians trained in rural areas are more likely to stay and work in rural areas (Pathman et al., 1999), due in part to a rural medical education that imparts the knowledge and skills necessary to work in challenging rural environments (Heng et al., 2007). What remains unclear are the impacts of this model on a number of different groups, including the potential impact on the health authority into which the medical school expands. Unfortunately, clinical and longer term impacts on the health region are not yet apparent from the introduction of the

> *In addition to addressing a BC-wide physician shortage, particularly in rural regions of the province, the number one advantage of the distributed medical/learning model is consistently reported in the literature - physicians trained in rural areas are more likely to stay and work in rural areas.*

distributed medical/learning models in Canada. In fact, the Northern Medical Program (NMP), an initial site for UBC medical program expansion in Prince George, is just undertaking an initial impact study, with data collection underway and no definitive results currently available (Snaddon, 2008, personal communication). However, it is critical to draw from learnings from other health authorities, particularly those within the province, to inform decisions and build upon lessons learned by other groups.

Research Evidence

A search of relevant literature regarding the impact of i) medical program expansion and/or the distributed medical model and/or ii) teaching hospitals was conducted in collaboration with the IH Library. Search keywords included *education, medical; hospitals, teaching/university; costs and cost analysis; models, educational; clinical clerkship; educational measurement; faculty, medical; clinical medicine, education.*

The search found some literature that speaks to existing challenges faced by health regions and hospitals but much of the information is presented as case studies, pre-post comparisons or anecdotal summaries. Given that case study and pre-post research designs may be the most applicable research designs we have to identify impacts of medical schools and/or teaching hospitals, there is some assurance that existing research on this topic area is relevant to the question of impact on the regional health authority. More importantly and unfortunately, the majority of literature on this topic was produced by American researchers, for US-based programs and/or institutions. Given the lack of transfer between the Canadian and American healthcare systems, particularly with respect to health insurance schemes, the summary report focused primarily on Canadian and some Australian literature of which there were very few applicable publications to report. As such, readers were cautioned to use the report as only one piece of information that may inform decisions made regarding the expansion of the UBC Medical Program into Interior Health.

A search of current literature identified a number of *potential sites of impact* including: facilities, technology, students, faculty and staff, patients and communities, research, and finance. Enhanced recruitment and retention including high quality physicians, technological advancements, fostering a spirit of student-driven inquiry and faculty-led research activity, and community awareness have been cited as benefits in existing literature. However, there are a number of additional obstacles that could impact the expansion of the medical program including lack of space availability for existing staff and new medical students, potential increased cost of operating a teaching hospital and related services, technological issues and need for coordination, student support that requires physical and human infrastructure, managing expectations of multiple stakeholder groups, and additional unknowns that current Canadian and Australian examples do not currently address.

Research also revealed partnerships, clear principles of engagement, sharing a common vision and adequate resources impacted success. Most importantly, an alignment of priorities and vision among university, government, health authority, physician and community stakeholders are essential to the success of the distributed medical program expansion model and introduction of teaching hospitals into health regions.

Impact of Applying Research Evidence

> *The intended use of the literature summary was to inform decisions made within Interior Health related to planning, implementation, and projected impact of the UBC medical program within the region.*

The intended use of the literature summary was to inform decisions made within Interior Health related to planning, implementation, and projected impact of the UBC medical program within the region. The Research Facilitator worked closely with the Corporate Administrator in charge of the medical program expansion within Interior Health throughout the process. The summary report was well-received by the working group including key decision makers within Interior Health and provided them with exposure to research evidence that they may not have had time to read and summarize themselves.

The literature summary assisted in two ways related to business decisions/applications and requests for funding relating to perceived impact of the new medical school. The benefit of the prepared research summary was a more-informed business decision on behalf of Interior Health. Prior to the document's release, one department based its request on one selected paper, and the other department used a list of library abstracts, with few recent/current sources of information. The Corporate Administrator leading the project states that, "it is human nature to select the most beneficial information to position a request like this, rather than a more objective representation of organizational impact." As a result, an unbiased, summarized representation of current literature was welcomed by all groups. Following the preparation of the summary document, both groups applied a body of evidence including the summary document and further searched for and read multiple journal articles cited in the summary to assist with the business decision.

Summary

The literature summary and collaborative working relationship between a Research Facilitator and Program Administrator was a successful example of evidence-informed practice within the region. Research found that a distributed medical program model appears to have a number of beneficial impacts to the health region in which is expands. The literature summary suggested that it is imperative that those involved with the medical program expansion remain in touch with other Canadian expansion processes in order to monitor and evaluate potential issues that may arise in the future. Partnerships, clear principles of engagement, sharing a common vision and adequate resources but most importantly, an alignment of priorities and vision among university, government, health authority, physician and community stakeholders are essential to the success of the distributed medical program expansion model and introduction of teaching hospitals into health regions.

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Sharing Stories of Evidence-Informed Practices:
The Benefits of Pet Therapy

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Background

In the fall of 2007, I became the proud Mama of a Boxer puppy by the name of O.J. (Oliver Junior). I couldn't bear to leave him home everyday and the very first day I brought him to work he became known all over the building. I soon noticed how much love he gave and the affection he got back from everyone he came in contact with. It wasn't long after this that we started a Pet Therapy program having a group of therapy dogs and their handlers coming to the Lodge on scheduled visits with the residents.

In the fall of 2008, I brought in a family of orphaned kittens to be cared for by the staff and residents. The kittens were so tiny that they had to be fed by bottles and at the 4-hour scheduled feeding time, I had residents lining up outside the door to help. I was amazed with the interest and the affection shown by so many, it gave them a new purpose for their day. After weeks of tender loving care the kittens were strong and healthy and ready to be adopted. All the kittens went to good homes, including one special kitten chosen, Purcella who is now a resident cat living with the residents on Purcell Way at Swan Valley Lodge.

Pet Therapy Research

Research shows the many health benefits of Pet Therapy emotionally and physically such as lowered blood pressure and reduced stress from the gentle nature of the non-judgmental relationships (Delta Society, 2009). Emotionally, animals can provide seniors not only with companionship, but also with other benefits (Delta Society, 2009) such as:

- A sense of caring and gentleness as many animas instinctively nurture ailing humans;
- Increased self esteem as seniors find they can care for a pet or the animal enjoys seeing them;
- Decreased anxiety and depression by formatting the nurturing bond with an animal; and
- Reduced loneliness by caring for and spending time with an animal.

Although it is still relatively new in Canada, Pet therapy has been finding acceptance in the United State since the 1940's, when a variety of animals were incorporated into the veteran's programs. It was further promoted by the work of Boris Levinson, a renowned child psychotherapist, whose

experiences with pet therapy in psychiatric hospitals and nursing homes were published in the 1960's (Levinson, 1969).

Swan Valley Pet Program – Impact and Lessons Learned

For the most part, our pet program was received negatively by some staff when it was first introduced. However the benefits have been recognised and it is agreed by most that the benefits far outweigh the negatives. In facilities where pets are kept, there seems to be a homier and livelier atmosphere. Staff report that residents are happier and staff members are more relaxed. Although pets do require a bit of extra work from staff it appears as though this challenge is outweighed by the uplifted spirits of their residents. Purcella's instinct to go to those who need her nurturing has been defined since she was a young kitten. She shows up daily to exercise class for playing sessions with the residents which increases smiling, verbalization and laughter. She has also become somewhat of a permanent fixture in the room of any resident who becomes palliative care and stays with them till the end comforting them in ways only she can.

O.J. continues to make his rounds with me on Mondays and Wednesdays and I am continuously asked why he doesn't come in every day. O.J. takes his job very seriously when he is needed to calm down a resident, which he does so amazingly well, almost instantly, just by being by their side with his head on their lap (of note: I don't think I have observed any other intervention not even meds, work so fast!).

Conclusion

> *Research suggests that pets provide a way of reaching people when traditional methods fail, and the benefits provided are more than just distraction. Pets can decrease feelings of loneliness, provide stimulus for exercise, and are a source of unconditional, non-judgemental affection, helping to raise self-esteem and self-image.*

It has been well documented that pet programs can enhance the quality of life of the elderly. According to researchers, pets provide a way of reaching people when traditional methods fail, and the benefits provided are more than just distraction. Pets can decrease feelings of loneliness, provide stimulus for exercise, and are a source of unconditional, non-judgemental affection, helping to raise self-esteem and self-image. They make us feel needed, give us something to watch, touch and care for, and contribute to a variety of sensory experiences. Pets do not recognize any history of failing, accepting people the way they are regardless of age, appearance, ability, health, and wealth. The degree of intimacy in this unique relationship is rarely shared with parents, spouses or siblings (Carmack, 1985).

In our experience, residents who regularly interact with pets often demand less time from staff. The pets provide reassurance, companionship, comfort and distraction from the aches and pains that

might otherwise be cause to call for staff attention. It has been said that pets act as," wordless members of the health care team" (Reiman, 2010). The barriers I encountered in the decision to have a Pet Therapy program were few. My suggestion to any wanting to create such a program is to have all Pet Policies in-place for visitation and programs following IHA guidelines. Before having a resident pet in your facility make sure you have staff and residents that will take on the responsibility of caring for the pet.

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The Use of Laser by Rehabilitation Services

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Background: Review of Standards

Within Interior Health (IH), quality care, patient and staff safety are priorities and laser safety
practices are considered a risk area. The Canadian Standards Association (CSA) and the American
National Standards Institute (ANSI) have developed a set of standards for the safe use of laser in
health care facilities. WorkSafe BC uses the ANSI standards for measuring safety and it is
recommended that all organizations apply these standards to laser practices. In 2008, the IH
Physiotherapy Professional Practice Council (PPC) reviewed the literature (including these standards)
to support the safe use of laser treatment within IH facilities. This review revealed a number of
findings regarding the use of laser as a safe treatment modality.

Background: Laser Safety Audit

Also in 2008, the IH Internal Audit Department conducted a Laser Safety Audit to determine if the IH
facilities using medical lasers were adhering to the accepted safe standards of practice. The
participating teams in this audit were Surgical Services – Operating Room, Ambulatory Care Unit and
Ophthalmology, and Rehabilitation Services.   The audit focused on laser safety practices at six acute
care facilities across IH (KGH, RIH, VJH, PRH, EKRH and KLH). Laser practices were reviewed for
Class 3 and 4 lasers that have a higher risk of potential damage to the health care worker and/or
patient.

It was determined that the result of the audit would direct the future use of medical lasers in IH
facilities. The results of the audit in Rehabilitation Services were as follows:

Practical Guidance and Record Keeping:
- Site Specific Policies and Procedures - minimal policies and procedures found;
- Current CSA Standards Available on-site – 2008 CSA Standards unavailable at sites;
- Daily Safety Checklists – no checklists in place;
- Logbooks – no laser logs in place;
- Troubleshooting Worksheets – no trouble shooting information available.

Equipment and Accessories:
- Laser Maintenance – maintenance being performed, but records kept of last preventative
   maintenance absent;
- Availability of Plume Evacuators – n/a.

General Safety Controls:

- Laser Safety Signage – none;
- Physical Setup of Treatment area – no areas had laser specific areas, no goggles available outside; treatment area, no window covers in place;
- Correct Safety Goggles – wavelength specific goggles not in place and volumes not sufficient;
- Fire Extinguisher in Treatment area – none available.

Standard Operation Procedures:
- Laser keys kept in locked area – laser keys in laser;
- Minimize Hazards – did not remove alcohol preps from room.

Laser Safety Officers:
- Facility has credentialed Laser Safety Officer - no areas had LSO.

Safety Monitoring and quality improvement:
- Laser Safety Committee – 4 sites did not have committee.

User Certification:
- No laser training or laser safety education was documented for laser users.

> *The audit was presented to the Rehabilitation Services Program Administrators and the impact on the use of lasers was swift and dramatic. All IH Physiotherapy departments were asked to stop using laser as a treatment modality until they had met the CSA standards and had met the recommendations of the audit.*

Impact of Audit and Review of Standards

As a result of the audit and review of standards, the challenge was given to the IH Physiotherapy Professional Practice Council (PPC) to ensure that the recommendations of the audit and literature review were implemented. The audit was presented to the Rehabilitation Services Program Administrators and the impact on the use of lasers was swift and dramatic. All IH Physiotherapy departments were asked to stop using laser as a treatment modality until they had met the CSA standards and had met the recommendations of the Internal Audit committee.

Following information and guidelines obtained from the Internal Audit Committee, the Canadian Standards Association (CSA), the American National Standards Institute (ANSI) and Interior Health's Laser Safety Committee, all of the audit's recommendations for the safe use of lasers were addressed. A laser safety policy was created to be used IH-wide. IH Rehabilitation departments that are using Class 3 lasers are required to follow the IH Laser Practice Standard.

In addition to the laser safety policy, a physiotherapy laser safety checklist, laser signage, and Physiotherapy laser log were also developed. The CSA document is now available online for staff to consult/refer to on an ongoing basis. Staff using lasers attended a one day basic training in-service in the fall of 2009. Training for Laser Safety Officers was also given at this time.

Conclusion

> **This work ensures that IH staff using lasers are following evidence-based practices, will be providing consistent procedures across IH, and are meeting CSA Standards.**

As a result of the audit and literature review, it was determined that Rehabilitation Services had little or no laser safety practices or policies in place and Rehabilitation Services required significant improvements to meet CSA Standards. The journey from audit to implementation took approximately one year. It required commitment and co-operation from all IH sites using therapeutic lasers. The most significant motivating factor was need/requirement for all of the audit issues to be addressed or else no laser treatment would be allowed (and no compromises were to be considered).

The implications for the departments involved with this work is that staff using lasers are following evidence-based practices, will be providing consistent procedures across IH, and are meeting CSA Standards. This will ensure the safe use of lasers for both the patient and the employee.

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Applying Evidence to Interior Health's Rural Plan

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Background

In general, rural residents have poorer health status and more limited access to health services when compared to non-rural counterparts. Notwithstanding these inequities, the delivery of healthcare in rural and remote areas is challenged by vast geography coupled with a small population base, maintenance of quality standards with low volume service delivery, and declining numbers of health human resources, among other factors. Rural healthcare is a significant challenge within Interior Health (IH), as the vast majority of our communities are small populations (under 10,000) located outside of major centers.

> *In general, rural residents have poorer health status and more limited access to health services when compared to non-rural counterparts.*

In order to develop strategic and proactive approaches to rural healthcare in IH, the Senior Executive Team initiated the development of a Rural Plan. A Rural Planning Team (RPT) was formed, composed of approximately 35 senior leaders that work in rural areas or that provide central support to rural sites. With assistance from a project support team, the RPT used *three streams of evidence* to develop the Rural Plan:

Three Streams of Evidence

1. Focus groups and an online survey

As a means to understand the experience and perspectives of rural staff and physicians, qualitative data was collected through the use of focus groups and an online survey. Seven (7) focus groups were conducted with 65 staff and physicians across the IH region. The online survey was open to all staff and physicians, and garnered 249 responses. The data generated from the focus groups and survey were analysed according to a thematic coding system developed collaboratively by several staff (including members of the IH Evaluation Team), and findings were developed into a report. The five key themes reflected in the qualitative data were also largely echoed by the literature review and provided the basis for the five strategic objectives within the Rural Plan:

1. Access to Services;
2. Health Human Resources;
3. Community and Staff Engagement;
4. Models of Care; and
5. System Management.

2. *Literature review*

Drawing from both academic and grey literature sources, a literature review on rural health was developed to inform the Rural Plan. The literature review reflected on three areas: features of rural health; challenges to rural health; and system approaches to improving rural health. This latter category of findings closely paralleled the key themes from the focus groups and online survey. The literature review served to affirm the strategic objectives in the Rural Plan, and provided a starting place for the associated recommendations.

Another literature review was conducted to examine the various definitions of "rural" used by organizations concerned with rural health. This review informed an IH definition for rural that classified each of our Local Health Areas into one of three categories: rural, remote (a special category of rural) and non-rural.

3. *Profile of rural population need, service supply, and access to services*

An extensive report was developed that profiled IH's rural Local Health Areas (LHAs) with respect to population need (i.e., health status), service supply (e.g., health human resources) and access to services (e.g., utilization). The report drew from quantitative data provided by IH's Information Support department, BC Vital Statistics and the Ministry of Health Services. Wherever possible, findings were presented in tables and figures to enhance communication. A synthesis of the findings revealed that some LHAs are worse off than others in the dimensions analysed. As a result of this evidence, the recommendations in the Rural Plan include targeted approaches for improving rural health in these high priority LHAs.

Implications of Evidence Use

The above sources of evidence, along with additional information provided by key informants, were discussed by the RPT through in-person and teleconference meetings, and use of an online discussion forum. The evidence was considered in defining the strategic objectives of the plan, developing associated recommendations, and targeting efforts to those rural areas most in need.

Evidence informed the content of the Rural Plan both directly and indirectly. In some cases where evidence was well substantiated and well known – such as the need for more primary care and prevention, and the strength of integrated teams – the evidence explicitly informed content in the Rural Plan. In these cases, the RPT had relatively quick convergence on these strategies and supported the development of related recommendations. In other cases, the evidence was incomplete or offered an array of possibilities, such as the definition of rural, determination of optimal service delivery models, or identification of minimum service volumes to ensure quality and patient safety. In these instances, the presentation of the available evidence assisted the RPT by providing a common foundation for discussion and decision making. In all cases, collective knowledge and expert opinion provided the filter by which evidence was considered and applied to the Rural Plan.

> *The presentation of the available evidence assisted the IH Rural Planning Team by providing a common foundation for discussion and decision making.*

By transparently drawing from evidence, the Rural Plan demonstrated accountability to the staff and physicians who provided input for the plan, and lent credibility to the final product. The utility of this evidence-informed plan is unfolding over time, as Senior Executive select recommendations for implementation.

Conclusions

The process of developing the Rural Plan revealed the collective expertise of the organization in applying evidence to planning, and the potential to build further staff capacity by drawing on this expertise. A number of departments/portfolios assisted in building, analysing and interpreting the evidence base, most notably Evaluation, Research, Information Support, Library Services, Organizational Development and the Rural Planning Team. The collective use of these organizational resources demonstrates the spectrum of knowledge, information and skills required to collaboratively apply evidence to planning. Finally, the rural planning process showed the clear willingness of staff to lend their voices to the pool of evidence, another resource that is central to evidence-informed planning. The use of evidence within the Rural Planning process affirmed the utility of an evidence-informed approach to region-wide strategic planning.

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Core Functions for Public Health

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Overview

The Core Functions Improvement Process is a public health renewal initiative led by the BC Ministry of Healthy Living and Sport, with participation of regional health authorities. Interior Health has been involved since 2005 identifying and implementing evidence-based best practices, monitoring performance indicators, and making continuous adjustments to maximize program effectiveness.

> *The Core Functions Improvement Process is a public health renewal initiative led by the BC Ministry of Healthy Living and Sport that identifies and implements evidence-based best practices, monitoring performance indicators, and makes continuous adjustments to maximize program effectiveness.*

Core Functions aims to implement best and better practices in 21 Core Public Health Program areas to inform practice in the Health Authority. The Core Programs were developed based on the following criteria (BC Ministry of Health, 2005):

- They are primordial, primary, or early secondary prevention interventions;
- They either:
    - ÷ prevent diseases or conditions that are important contributors to the burden of disease, and/or;
    - ÷ prevent diseases or conditions that are potentially important threats to health, and/or;
    - ÷ improve the overall health and resilience of the population, or some part of the population;
- There is reasonable evidence of their effectiveness in the scientific literature or in reviews of 'best practices';
- There is reasonable evidence of their cost-effectiveness; and
- Indicators are available or can be developed that will measure their impact.

Core Functions provides an opportunity for Interior Health to contribute to the development of provincial **Evidence Review Papers** and **Model Core Program Papers**, which will provide guidance for following best and better practices in Core Program areas. This guides the development of high quality programs across the health authority and engages staff in improvement planning based on best practices and evidence.

The initiative involves more than Interior Health's Public Health department as Core Functions aims to strengthen the public health functions of the entire health authority. Core Programs include Public Health areas such as Food Safety and Water Quality along with larger wide-reaching programs such as Chronic Disease Prevention, Health Emergency Management, and Mental Health and Addictions.

By March 2010, all Core Program areas will have a completed Model Core Program Paper with future years (2010-2012) allowing for the development and implementation of improvement plans, monitoring and evaluation.

Knowledge Translation Context and Methods

Interior Health staff participate in Provincial Working Groups to develop Evidence Review Papers and Model Core Program Papers. The groups include members from each health authority and provincial experts in the field to look at best and better practices.

Interior Health then uses the Model Core Program Paper in a Gap Analysis process to determine existing gaps in how current service delivery compares to the evidence-based model. Findings from the Gap Analysis inform the development of Performance Improvement Plans outlining Interior Health's plan to meet the model program. Implementation, monitoring and evaluation continue for each of the Core Programs in order to inform practice in the health authority.

Managers and Directors as well as front line staff are involved in the Core Functions Process. Each Core Program has a lead staff person that involves other team members, represents Interior Health at provincial meetings and initiates a process to translate the evidence into practice within the health authority.

Example of Food Safety

An example of this evidence-informed practice and one of the first Core Programs Interior Health was involved in was Food Safety. The Food Safety Evidence Review (2006) and the Model Core Program Paper (2006) were used to complete the Gap Analysis and Performance Improvement Plan within Interior Health to inform Food Safety practice. Teams within Public Health including senior leadership and front line staff within the Health Protection portfolio developed the Gap Analysis and Performance Improvement Plan for the Food Safety Core Program.

The Gap Analysis revealed the following main opportunities for improvement (Food Safety Performance Improvement Plan, 2007):

- Food premises inspection frequency does not currently meet the provincial benchmark;
- The quality of food premises inspection requires formalized measurement;
- Further policies and procedures are required to ensure regional program consistency;
- The program requires direction for improved communication with public and industry;
- Food safety activities in the region (and provincially) lack a formal evaluation process; and
- Health equity is not yet identified as a priority issue within the program.

The findings of the Gap Analysis led to the completion of the Food Safety Performance Improvement Plan (2007) to inform improvement in Food Safety practice based on evidence. Indicators, targets and timelines were set in order for improvement strategies to close the gaps and improve the program. These strategies for practice change were communicated to staff (through documents, guidelines, and signage) in order to inform everyone of evidence-based practice changes. In addition, some components from the plan were included in staff performance evaluation.

Impact and Implications

The impact of the practice changes is assessed through ongoing monitoring and bi-annual reporting on progress implementing Performance Improvement Plans. Involvement of staff on the Evidence Review Teams, Gap Analysis Teams and developing the Performance Improvement Plans has increased knowledge of the use of evidence to inform practice in public health functions.

Key factors to the successful implementation of the practice changes involves leadership support and continuing communication with staff. Leadership support as well as effective strategies for communicating improvements to inform staff work has been a facilitator to this program's success. Barriers have included a lack of time and resource to successfully implement improvement plans and reach performance targets. Additionally, as more Core Programs are completed, it is hypothesized that challenges may arise with priority setting and resource allocation to achieve targets and implement best practices across many programs. There are also important external factors including the cooperation, support, and participation of other agencies and the public to assist with successful improvement.

> *Giving staff the opportunity to be involved in the process from beginning stages involving looking at current evidence and developing Model Core Program Papers has led to increased awareness and understanding of practice changes in Core Program areas.*

Giving staff the opportunity to be involved in the process from beginning stages involving looking at current evidence and developing Model Core Program Papers has led to increased awareness and understanding of practice changes in Core Program areas. Further efforts to inform and involve more staff in the practice changes could improve efforts and result in effective implementation of best practices.

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An Evidence Informed Approach to the Integration of Nurse Practitioners

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Background

In January 2005, the Health Council of Canada report entitled *Health Care Renewal in Canada: Accelerating Change* identified an urgent need to ensure that the health care workforce will be strong enough in the years to come to care for the aging and changing Canadian population (Health Council of Canada, 2005). The report also suggested that in order to respond to our health care worker shortage and the increasing demands related to chronic illness, Canada must make the best use of the skills that health care professionals have and re-examine "who does what" (Health Council of Canada, 2005). The key findings in the Nurse Practitioner Integration project provide some potential solutions.

> *An overall aim of the Nurse Practitioner Integration project was to utilize available research evidence to guide the introduction and integration of NPs into Interior Health settings.*

Nurse Practitioner Integration Project - Key Messages

1. Nurse Practitioners (NPs) can provide much needed primary health care to populations in both urban and rural settings. They can also enhance the coordination and continuity of care for patients with multiple chronic diseases by working together with other health care professionals, patients and families to set goals, monitor compliance and outcomes, and provide ongoing education and support;

2. This project demonstrates the utility of a conceptual framework and a participatory, evidence based, patient-focused process for advanced practice nursing (PEPPA), in order to guide the integration of Nurse Practitioners in a large regional health authority (Bryant-Lukosius and DiCenso, 2004);

3. Providing leadership to facilitate the creation of a "Community of Practice" for the newly hired Nurse Practitioners offers significant support to novice NPs, as demonstrated by the 1% retention rate after almost five years;

4. Identifying and involving key champions in the Nurse Practitioner planning and implementation process (e.g. physicians and other professional leaders within the organization) assists in resolving challenges early in the process; and

5. Linking the Nurse Practitioner implementation with other health authority and provincial priorities, including primary healthcare renewal, chronic disease management and interprofessional collaborative practice initiatives provides important leverage for the NP project.

Project Summary

Primary health care is a foundation of the Canadian health care system however the need for a broader approach to primary health care has been acknowledged for many years. Historically the system has been focused on acute or episodic care while the number of Canadians with chronic conditions who require more comprehensive, coordinated care continues to grow. In addition, the supply of practitioners available to meet the primary health care needs of Canadians is a critical concern as many residents do not have access to a primary health care provider. Despite numerous studies demonstrating the contribution of Nurse Practitioners (NPs) to the health care system, there continues to be a lack of awareness/consensus regarding the value of NPs working collaboratively with physicians and other health care providers to increase access to primary healthcare and improve continuity and coordination of care for patients (CHSRF, 2002).

The *overall aim* of this project was to utilize available research evidence to guide the introduction and integration of NPs into Interior Health settings.

Approach

Nurse practitioners are being introduced as a new provider into the British Columbia health care system under legislation passed in 2005, providing an ideal opportunity to act on what is known in the literature and address issues that have been shown to facilitate or impede the introduction and integration of this important role. The Nurse Practitioner Integration project provides rich information to add to the literature related to advanced practice nursing's contribution to the Canadian health care system. To support this significant change within Interior Health, a designated project leader working within the Interior Health Professional Practice Office has supported program directors expressing an interest in hiring an NP. Targeted Ministry funding has been provided to support the success of this key initiative within the health authority.

> *To ensure consistency in the health authority approach to introducing the Nurse Practitioner (NP) role, a participatory, evidence-base and patient-focused process – the PEPPA Framework - guided the development, implementation and evaluation of advanced practice nurse roles by all program directors and teams within Interior Health.*

To ensure consistency in the health authority approach to introducing the NP role, a participatory, evidence-based, patient-focused process for guiding the development, implementation and evaluation of advanced practice nurse roles (PEPPA Framework; Figure 1) has been used by all program directors and teams. Application forms requesting funding for NPs were designed based not only on the steps of the PEPPA framework but also known success factors cited in the literature. Critical information required from the teams included an identified need for a change to the current model of care and the need for an NP's skill set; evidence of key stakeholder involvement in the planning; priority problems and goal identification; planned implementation strategies; and identified support for the NP role and preliminary evaluation plans.

Figure 1: PEPPA Framework
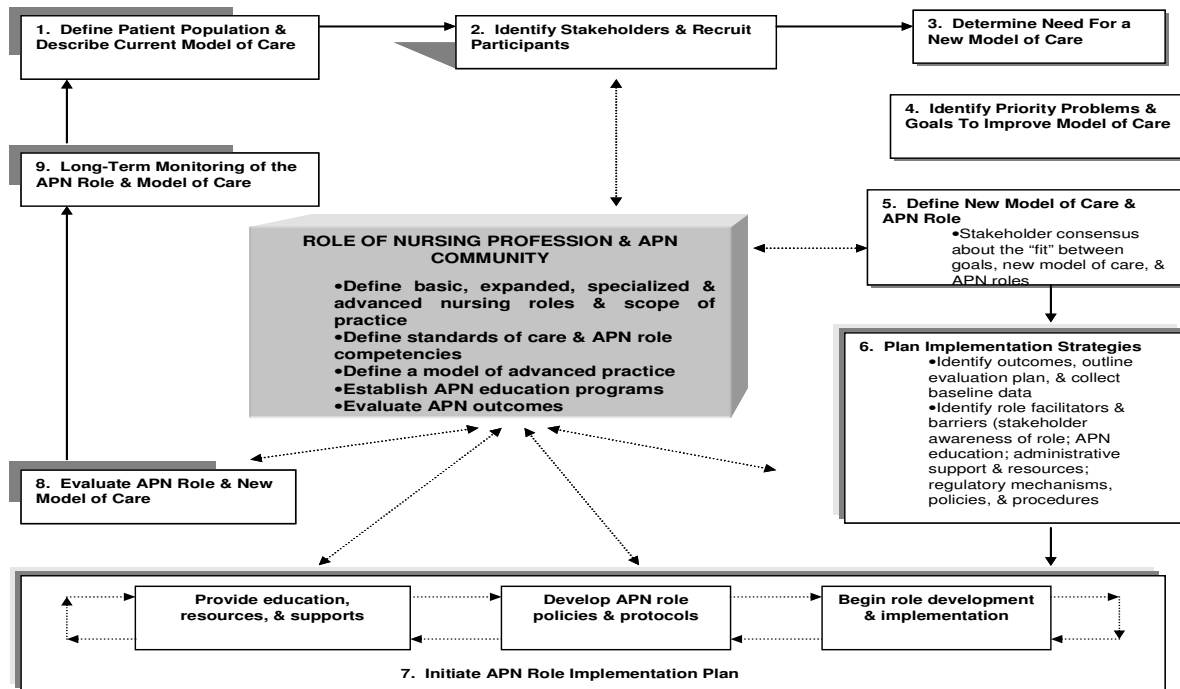
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Studies related to facilitators and barriers to NP integration and practice, as well as the work of the Canadian Nurse Practitioner Initiative (CNPI) have been shared with program directors and team members to prepare for the arrival of NPs (CNPI, 2006). Interior Health was designated as a pilot site to test the CNPI Nurse Practitioner Implementation and Evaluation Toolkit and these tools are being utilized across the health authority. The hiring of NPs has been coordinated through the IH Professional Practice Office in an effort to ensure consistency in the introduction of the role.

A Nurse Practitioner Community of Practice (CoP) is being facilitated to ensure an ongoing support network for the NPs, providing a forum for the sharing of successes and challenges. Regular meetings of the NP CoP are held to bring professionals together to share experiences and build support across the health authority.

Impact and Implications

While a variety of practice settings have been effective for NP practice, Interior Health has led the province with regard to placing IH salaried NPs into physician fee-for-service practice settings. Given that the majority of primary health care services are provided in physician offices, it was a logical step to partner with physicians and integrate NPs into these settings. NPs have been hired in both rural and urban primary health care settings as well as in chronic disease management programs and acute care. Since 2005, IH has achieved a 100% retention rate of NPs hired, many of whom work collaboratively with physicians. Evaluation work is ongoing but initial qualitative evaluation has been completed on a NP/GP Primary Health Care (PHC) Model established in 2007 and the findings demonstrate significant success.

Key findings of this initial evaluation include:

- Patients have reported feeling empowered, part of the decision-making process and that they are a member of their own health care team;

- The nurse practitioner is able to augment the care being provided by physicians, based on their nursing background, a different approach to care and the ability to spend more time with patients;

- The NP/GP PHC Model enhances the physician's job satisfaction. This enhancement is enabled through shared decision-making and responsibility as well as the nurse practitioner lightening the physician's workload;

- Access to primary health care, continuity and coordination of care are enhanced with this model;

- The NP/GP Model functions differently depending on the provider's flexibility towards change, the patient's needs, and the skill set of the team;

- Successful teams recognize the professional and personal contributions of each of the members, promote individual development and team interdependence, and recognize the benefits of working together; and

- Teams need training and ongoing support to learn how to work together and understand the professional role/responsibility of each member.

Early results indicate a high level of success in the introduction and integration of NPs in a variety of Interior Health settings. Full integration and utilization of the NP role, to improve access and patient outcomes, will be the ultimate and long term goal of this work.

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Effective Treatment of Tobacco Dependence:
Mobilizing Health Care Providers

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Research Evidence Used

Tobacco-related illness is the leading cause of preventable death in British Columbia (BC). Tobacco use causes up to 6,000 deaths in BC each year. Smoking kills more people in BC than all other drugs, motor vehicle collisions, murder, suicide and HIV/AIDS combined (BC Ministry of Health, 2009). Furthermore, tobacco use rates are higher in Interior Health (IH) than the provincial average (17% vs. 15%; BC Stats, 2008).

Tobacco use presents a rare confluence of circumstances: (1) a highly significant health threat; (2) a reluctance among clinicians to intervene consistently; and (3) the presence of effective interventions. Indeed it is difficult to identify any other condition that presents such a mixture of lethality, prevalence and neglect despite effective and readily available interventions (USPHS, 2008). However, the USPHS guideline, based on the distillation of over 8,700 relevant research articles (1996-2008) and expert panel review, is the most comprehensive resource for best practice in treating tobacco dependence and has been used extensively world-wide. If delivered in a timely and effective manner, tobacco dependence interventions reduce the smoker's risk of suffering from smoking-related disease. In addition, tobacco dependence treatments (both counselling and medications) are highly cost-effective relative to other reimbursed treatments and should be provided to all smokers (USPHS, 2008).

Context

The informed practice took place for this project using a multi-disciplinary approach. For example, we considered how we could engage busy health providers and borrowed heavily from other national and international experts in tobacco control. By involving many health care providers from a variety of health care disciplines and seeking ongoing feedback, we aimed to design practice (trainings, resources, etc) that was relevant to all healthcare providers in addressing tobacco with their patients/clients. It was essential to make this simple enough to engage busy staff in a way that the evidence shows would be effective. In addition, in order to make progress, we applied for and received Health Canada funding via partnership funding (2008-2010) where Interior Health and Health Canada both contribute.

Knowledge Translation Methods and Strategies

Multiple methods were used to translate the research and evidence into practice decisions. An assessment of current IH forms (paper and electronic) quickly revealed that tobacco use was not

routinely tracked. In discussion with several healthcare providers, it was apparent that common reasons for this lack of tracking included: (1) lack of knowledge and skills to support tobacco users; (2) fear it would take a lot of time; (3) fear they would offend tobacco users; (4) lack of "triggers" to ask about tobacco use (i.e. not on paper or electronic forms); (5) a belief that it was "someone else's job"; and (6) in some cases, a belief that "tobacco was the least of their worries" (e.g. people with mental illness or other addictions).

Based on these assessments, it was clear that within our health authority we needed "triggers and tools" – *triggers* (i.e. tracking questions) to help remind busy health care providers to ask about tobacco and a variety of effective *tools* (i.e. lanyard cards, brochures, fax-back forms, booklets, posters, etc.) to support clients.

Currently, we do not have consistent baseline (tracking) data for tobacco use by our patients/clients who are accessing our health services. It was also clear from our assessment that health care providers needed to enhance their knowledge and skills in order to support their patients/clients. As a result, we developed training opportunities based on similar programs being offered across Canada. The training opportunities are offered in a variety of levels of duration/intensity (from 15-minute to 2-day training sessions) and include some distance and e-training opportunities to suit the variety of needs of healthcare providers in our diverse health region.

Impact and Implications

The impact of evidence-informed decision-making has been that we have been able to leverage from other experts and design activities targeting three areas (tracking of tobacco use, training, and organizational change). The project has engaged (1000+) healthcare providers who have taken training in treating tobacco dependence as a "standard of care". Some significant barriers have been unexpected financial constraints within IH, H1N1 activity (2009), and staff turnover.

This project helped to clarify our *overall goal*: *"to treat tobacco dependence as a standard of care"* across all sectors and identify *priorities* as the following:

1. <u>Tracking of tobacco use</u> - All patients should be asked if they use tobacco and should have their tobacco use documented on a regular basis. Evidence has shown that clinic screening systems significantly increase rates of clinician intervention (USPHS, 2008 Update). As a result, basic tracking questions are to be used in a standardized manner across IH, for example:

   - Have you used tobacco in the last month? ___ No ___ Yes

      If "No"→ Congratulations, this is a huge benefit for your health!

   - If "Yes", are you interested in quitting? ___ No ___ Yes

      If "No" → If / when you are ready, effective helps exists.

   - Tobacco Dependence Meds discussed? ___ No ___ Yes

   - If "Yes", referral to "Quit Now" given? ___ No ___ Yes

      ___ Fax to "Quit Now"   ___ Brochure

Several records now include the standardized tobacco tracking questions. The standardized questions are set to be included on the new CONNEX; the most widely used electronic system and work continues to embed the standardized questions on other paper and electronic records.

2. <u>Training</u> - a continuum (less intensive to more intensive) of training opportunities, including:

- <u>Brief Interventions in Tobacco - BIT</u>

  Three levels of BIT training modules were developed to be offered in a manner that would be easily accessible and available to busy health care providers. BIT training modules were made available variety of formats (e.g. in person, teleconference, video clip) and lengths to suit the needs. Laminated tags for staff to attach to their lanyards were produced as a quick reference tool for the three standardized questions. Modules were designed to provide information about tobacco dependence, practical tools for addressing tobacco with their clients and knowledge about the resources available to someone interested in quitting; and

- <u>Tobacco Dependence Counselling – TDC</u>

  TDC training is a two-day training session for those working with higher needs tobacco-users and therefore requiring an enhanced skill level.

3. <u>Organizational Change</u> - creative strategies to effect organizational change, including Narrative Capture Project, an Advisory Committee, and development of a Business Case. Organizational change activities need to be strategic and occur at all levels of the organization from frontline staff to Senior Executives. The partnership with Health Canada has afforded us some opportunities that otherwise would have been challenging to address. It provided additional funding to engage healthcare providers well beyond our 3 person Tobacco Reduction team. IH is a large and complex organization and therefore when approaching a system change, attention needs to be dedicated to creative organizational change activities.

Key Learnings

- Borrowing from other experts allows increased credibility and more efficient practice design;
- Engagement of multiple stakeholders at all levels of the organization is essential. IH is a large complex organization;
- Leverage is effective in influencing practice where the positive experiences of "early adopters" influences others;
- Explore creative new ways to approach challenges;
- Routinely gather feedback to "tweak" the plan and ensure support;
- Keep things a simple and easy as possible for busy people; and
- Maintain focus on a clear goal while being prepared for "detours".

Conclusion

We believe we are nearing the "tipping point" for IH to address tobacco dependence as a standard of care practice. As treating tobacco dependence becomes a standard of care, we will be able to assess our progress. For example we will know what tobacco prevalence rates are for our clients? Are they decreasing? What are the rates of tobacco users who are utilizing our hospital beds? We expect to have better data on the cost of tobacco to our health authority. With better data, we are more likely to be able to advocate for services (based on evidence) to best meet the needs of our tobacco users. There is a strong relation between the number of sessions of counselling, when combined with medications, and the likelihood of successful smoking cessation (USPHS, 2008).

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Processing the Outcome: A Wheel within a Wheel - Cognitive-Behavioral Therapy for Seniors

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Background

Depression in the elderly is the most frequently diagnosed psychiatric problem, with 38-47% of cases evidencing a depressive disorder (Redick and Taube, 1980 as cited in Rokke et al., 2000). Over 100,000 elderly Canadians living within the community have a depressive illness and an additional 400,000 live with substantial depressive symptoms which may benefit from treatment (National Guidelines for Seniors Mental Health, 2006).

As one of the most extensively researched psychotherapies, Cognitive-Behavioral Therapy (CBT) shows particular promise as an antidepressant therapy treatment adjunct in depressed populations (Scogin et al., 2001). However, most studies have investigated psychotherapies in younger adults while the literature focusing on the elderly is relatively quite small (Rokke et al., 2000). Based on the research evidence, the [Canadian] National Guidelines for Seniors' Mental Health (2006) supports CBT's efficacy as a psychotherapeutic intervention for depressed clients and recommends its delivery to be in the cost and therapeutically effective group therapy format.

As a result, the Interior Health Seniors Mental Health Team (SMHT) aimed to develop an evidence-informed, cognitive-behavioral therapy based group psychotherapy program for seniors diagnosed with depression living in smaller centre, rural and remote communities in the South Okanagan region of Interior Health.

Based on research evidence, the program aimed to:
- aid in the quality improvement and development of service provision;
- add to the quantitative and qualitative data currently available in the area of CBT based group psychotherapy for the depressed senior;
- initiate a discussion on group therapy program delivery and service equity in smaller centre, rural and remote communities; and
- disseminate any findings at conferences and through journal publication.

Knowledge Translation Methods: A Prototype

Literature Review and Dedicated Project Time

All SMHT members participated in an extensive review of the literature that described common tools and/or criteria for assessing seniors' health. A sub-committee of team members met to review the literature and proposed tools and criteria, with each informing the other, and all informing the overall

project – its design, methods, and evaluation. Dedicated time for the team to discuss the literature, tools and criteria was provided during the weekly team meeting.

CBT Based Group Psychotherapy Program

Each program series (n=7) consisted of 9 sessions and was offered in various communities within the SOK. Each series consisted of one 90-120 minute session per week for 9 consecutive weeks. A *program brochure* was developed to aid the referral process. Sessions were facilitated by Seniors Mental Health (SMH) clinician.

Written materials served as session guides and as homework. Participants were guided by a *"topic of the day"* (i.e. depression; goals and activities; realistic thinking; problem solving; stress; grief and loss; relapse prevention). Depending on group composition, sessions included inspirational quotes and/or relaxation time (i.e. deep breathing).

Evaluation of Program

A number of validated (i.e. Folstein's SMMSE, HoNOS65+, Geriatric Depression Scale, CRP ASIST, Geriatric Anxiety Inventory, and Functional Activities Questionnaire) and non-validated (i.e. Likert Scale Perceived Health Status and Social Support) scales/surveys were used to monitor this project and the mental health participants. These scales/surveys were *triangulated* (i.e. combined with other methods to study the impact of the same phenomenon) with *focus groups* of program participants. Focus group discussions were held in the 1-2 week period following the final group session and were facilitated by a SMHT member who was *not* the therapeutic group's facilitator. That forum encouraged participants to share their experiences in the program. From these conversations and documented notes on flip-chart (butcher block) paper, a number of key themes arose:

- Therapeutic/CBT benefits
- Empathy for others in the group
- Breaking down isolation felt with depression
- On-going social support
- Materials provided were valuable

Impact and Implications of CBT Program and KT Prototype

The lessons learned from this program were many. Some were obvious and self-evident early in the piece while others were more nuanced and are beginning to present themselves months after the conclusion of the data gathering period. Perhaps the most significant lesson/reminder was: ideas can be easy, it is their realization that is the work! Projects often take several times longer to implement and involve more than initially expected.

> *Perhaps the most significant lesson/reminder was - ideas can be easy, it is their realization that is the work!! Projects often take several times longer to implement and involve more than initially expected.*

What was experienced by the SMHT were the demands of consistency of process, rigor and protocol, and that any deviations might render data invalid. All experienced the pressure of additionally time demands. This presented challenges to clinicians

unaccustomed to research. We suggest that service teams embarking on conducting research have a Principal Investigator or Project Lead who preferably has some research experience and who certainly has dedicated time. Other invaluable mechanisms included a transparent, democratic team process and clear, concise, accurate and current minute taking.

This project was intense. While it was an exercise in team building and often we enjoyed, and appreciated one another all the more, we also experienced team explosions, implosions, trust issues and power struggles. Fortunately, we recognized our saving graces:

- *We are committed to:*
  - *our clients, quality, our jobs, one another;*
- *We are reminded:*
  - *it is easier to get along, than to quarrel; and*
- *We are validated:*
  - *the anecdotal evidence and preliminary and final outcomes were and are encouraging;*
  - *that we are, indeed, greater than merely the sum of our parts*

Other not so secondary positive outcomes include:

- Individual and collective professional responsibility and accountability; public commitment to project and one another; reliance on one another;

- Sense of accomplishment; rejuvenation, creativity, motivation, acknowledgment, acceptance, validation, inspiration, and focus as a team and as individuals;

- Raising interest in our team; our service;

- Evaluating/improving other aspects of our program/service. i.e. Implementing standardized cognitive assessments; developing clinical protocols; and

- Consistency with IH Seniors' Mental Health and Addictions Strategic Directions for 2008-2010 (Priority 1-Education; Priority 2- Quality Improvement).

Conclusion

The SMHT SOK CBT Based Group Psychotherapy Program for seniors' with depression living in small, rural and remote centers appears to be effective in the amelioration of depressive symptomatology as evidenced by both quantitative and qualitative data while providing equitable care in small center, rural and remote communities. With adequate human resources, service teams are well placed to conduct research

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