

FRASER HEALTH AUTHORITY

RESEARCH STRATEGIC PLAN

2014-2019

April 1, 2014

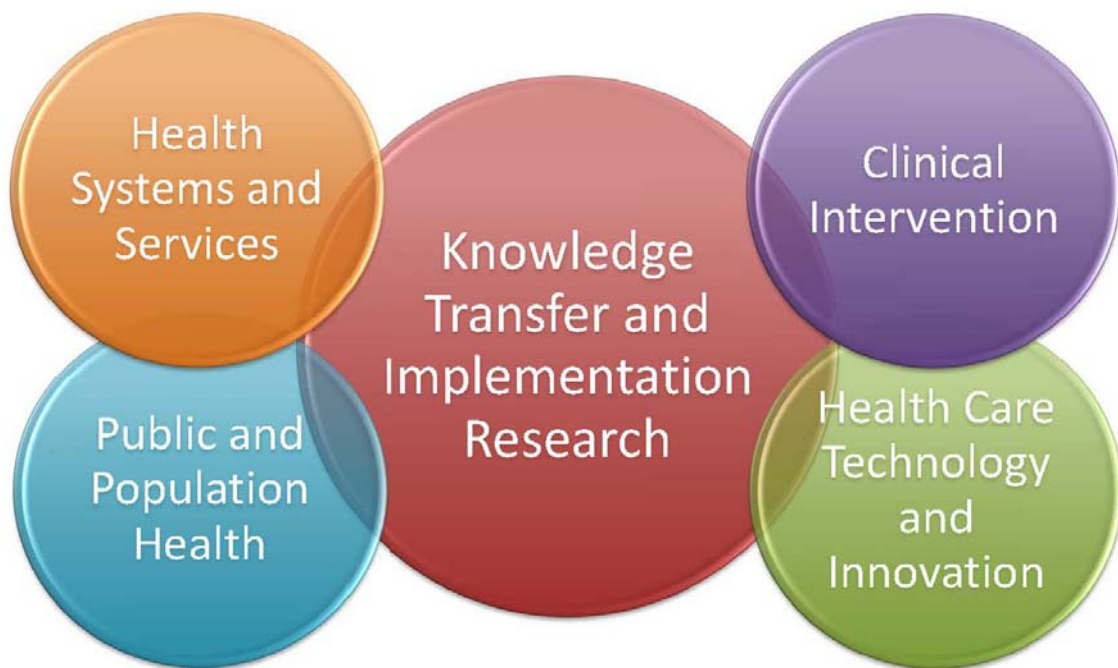


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PURPOSE OF THE FRASER HEALTH AUTHORITY RESEARCH STRATEGIC PLAN

Our Research Purpose: to ensure that our patients, clients and residents receive excellent evidence based care

Since 2005, the Fraser Health Authority (FHA) has made significant strides in its development as an academic health care organization. Research and academic development has been a Strategic Imperative for FHA since 2010. As a result, research has increasingly been integrated into the way of life for our clinicians and decision makers.

As a result of this development in research capacity, FHA is recognized as a major stakeholder in the British Columbia (BC) research community. As such it is timely to create an updated strategic plan that reflects new opportunities and strengths that have evolved over the past several years. For example, one such opportunity is our significant participation in the BC Strategic Patient-oriented Research (SPOR) initiative for the Canadian Institutes of Health Research (CIHR) and its concomitant emphasis on patient engagement in research development.

Our aim is to integrate a sustainable research strategy into FHA's delivery of health care and that it is supported by our philosophy that research is essential for FHA to be a high performing health care system. Our expectation is that this strategic plan will help FHA to maximize its return on investment from supporting research-related activities.

WHY RESEARCH IN A HEALTH AUTHORITY?

There is a better understanding amongst scholars, scientists, health care professionals, health care decision makers and governments that research is a key driver of health care quality. The United Kingdom's National Health Services (NHS) Research Plan¹ is a benchmark document that described how research capacity would be implemented across that jurisdiction. A 2010 White Paper further identified the promotion and conduct of research as a core NHS role, stating that "Research is vital in providing the new knowledge needed to improve health outcomes and reduce inequalities"². This statement epitomizes the shift in values that has occurred in Fraser Health with respect to the legitimacy of developing the research capacity of our clinicians and decision makers. A 2011 survey conducted in the Fraser Health Authority (FHA) found that 91% of respondents (n=1818) valued research activities being supported by the health authority.

Linked to the need to improve health outcomes are the international, national and provincial discussions on health care system sustainability which identify the challenge of decreasing the

¹ United Kingdom. National Health Services. National Institute for Health Research. Transforming Health Research: The first two years. Progress Report 2006-2008.

² UK. National Health Services. White Paper

knowledge to practice gap so that evidence is used to inform policy and best practices for standards of care. In their 2008 benchmark publication, Baker et al³ examined leadership strategies, organizational processes and investments made to create and sustain improvement in health care and asserted that “quality must be defined as a system property and not as a characteristic of individuals who work in a system.” This recognition is central to the rationale for the FHA research strategy and its integration into the health authority’s delivery of care system. As noted in their publication, “true systems involve a functionally related group of interacting, interrelated or interdependent elements forming a complex whole with a common aim... system elements must be capable of working together to achieve shared goals; otherwise they are merely individual parts with separate missions”.⁴

Baker et al also identified that an essential element of organizational culture is that “Organization/leaders support and expect learning and innovation”, which in turn was identified as an attribute of “high performing healthcare systems”.⁵ Not providing an environment whereby questions that are raised during everyday contacts between patients and clinicians can evolve into research questions and subsequently into studies conducted at the point of care would result in stagnation and complacency. An organizational culture that actively supports research also ensures that health care clinicians are upholding their professional responsibility to evaluate evidence and incorporate it into their everyday practice.

Lastly, but perhaps most importantly, patients desire and more and more expect an opportunity to participate in research development that may have a benefit to society at large.⁶ Already FHA patients are active participants in research studies as our statistics for 2012-2013 indicate. For that fiscal year, 4,367 research subjects were enrolled in research. Of these, the vast majority were FHA patients, clients and residents.

STRENGTHENING SUPPORT FOR RESEARCH

The purpose of this research strategic plan is to further strengthen the legitimacy, feasibility and support of and for research being conducted in FHA. The strategic plan was developed with the overall guiding principle that FHA be able to maximize its return on investment from supporting research.

- *Legitimacy*: key stakeholders, including the government and the public, will recognize FHA as an academic health care organization. Legitimacy will be addressed by identifying our key research strengths.
- *Feasibility*: research capacity building efforts must be sustainable over time. Feasibility will be addressed by creating an implementation plan that will identify how best to sustain ongoing research capacity building and how to build new capacity for research uptake.
- *Support*: the plan must be seen as necessary in order to achieve quality health care. Support will be addressed by ensuring that the strategic plan has ‘buy in’ from our key FHA stakeholders and external partners.

³ Baker GR, Macintosh-Murray, Porcellato C, Dionne L, Stelmacovich K and Born K. High Performing Healthcare Systems. Delivering Quality by Design. Toronto, Ontario. Longwoods Publishing Corporation.

⁴ Ibid, p. 39

⁵ Ibid, p. 18

⁶ Communication from FHA Patient Advisory Council, January 27, 2014

A CRUCIAL INVESTMENT

The development and implementation of a strategic research plan is a crucial investment for FHA as it will result in the following benefits:

- improve the quality of patient outcomes arising from care in FHA
- provide capacity to transfer research findings into practice and policy
- produce health discoveries that will lead to improvements in care
- build strong research programs that will attract research-prepared clinicians, academic researchers and students by providing a supportive, research-focused environment.

BACKGROUND

WHO WE ARE

Serving a regional population of 1.6 million that resides in 20 communities from Burnaby to Boston Bar, FHA is one of Canada's fastest growing health authorities with one of Canada's most diverse populations. Including 12 acute care sites, numerous residential care facilities, public health clinics, home care services and mental health care facilities, FHA is a fully integrated health care system that provides services along the entire continuum of care from health promotion to palliative care. In addition, from amongst its more than 27,000 employees and physicians⁷, an increasing number are actively engaged in continuous learning, research and knowledge exchange activities. Currently, FHA is the clinical placement arm for over 116 academic institutions, providing training opportunities for over 10,000 students in health care related disciplines annually. As the academic requirements for these disciplines have increased over the past decade so that many are Master's or PhD prepared, the need for a clinical environment in which to implement a research study to meet academic requirements has increased. Meeting that need means that FHA employees and privileged physicians must in turn have the opportunity to be engaged in research so that they also have the expertise to supervise and mentor these students. In addition, the graduation of these highly trained clinicians means more Master's or doctorate prepared potential employees and physicians are looking for a supportive research environment in which to further their research interests. Often, the presence or absence of such support has a bearing on the choice of employer / place of work.

QUICK FACTS AT A GLANCE – A SUMMARY OF PROGRESS TO DATE

- 2005 Research Administration and Development (RAD) Department created and staffed by Director and 0.5FTE
- 2005 Michael Smith Foundation for Health Research (MSFHR) funding obtained for research capacity building funding
- 2005 RAD philosophy: Fostering a culture of curiosity within a climate of spirited scientific inquiry
- 2005 RAD Vision: Research enables "better health, best in health care"
- 2005 RAD Mission: Provide capacity-building services that enable FHA personnel to conduct research and utilize knowledge for the benefit of residents in the FHA region
- 2005-6 Epidemiologist and Grant Development Facilitator hired to provide research consultation services
- 2006 Vancouver Foundation funds Fraser Health's first Seed grant competition
- 2008 Dr. Nigel Murray (President and CEO) requests strategic plan for RAD concurrently with research agenda process
- 2008 FHA becomes 2nd health authority in Canada to be eligible to receive CIHR funding
- 2009 Research agenda launched

⁷ FHA employees and privileged physicians (i.e. those with FHA credentials) are referred to as staff throughout this document.

FHA Vision: *To establish the Fraser Health Authority as one of Canada's premier organizations providing research and evaluation in the clinical, health services and population health fields. To use this knowledge to inspire health care providers with the evidence necessary to achieve excellence in care for patients, clients and residents.*

- 2010 Research and academic development is a FHA strategic imperative
- 2010 RAD becomes the Department of Evaluation and Research Services (DERS)
- 2011 Langley Memorial, Royal Columbian, Ridge Meadows and Surrey Memorial Hospital Foundations are the first FHA foundations to support Seed grant funding for FHA researchers
- 2012-13 Health Sciences and Innovation Strategy for Surrey Memorial Hospital is launched.
- 2012 Dr. Ryan D'Arcy, PhD and SFU Professor, LEEF Chair, is appointed as Head, Health Sciences and Innovation for Surrey campus
- 2013 FHA team led by Dr. Sonia Singh, DERS Program Medical Director, is selected as a core team member to write the BC Strategies for Patient Oriented Research (SPOR) business case submission to CIHR.
- 2013 Dr. Sonia Singh appointed Assistant Dean, Research, University of British Columbia for FHA
- 2014 Value of grants awarded to date (not including industry sponsored research): 2,979,400.88
- 2014 Total # of new registered studies: 141; an increase of 24 from 2009-2010; Average monthly # of active studies: 264; an increase of 47 from 2009-2010; # of principal investigators with new approved studies: 112, an increase of 31 from 2009-2010
- 2014 68 academic affiliated principal investigators since 2009-2010

THE DERS ROLE

Originally established in February 2005 to develop and implement an infrastructure that would support, approve and provide oversight for the conduct of research activities in FHA, and develop the capacity to conduct research in FHA, the primary functions of DERS now include research ethics review and monitoring, contract and grant administration, research authorization, research capacity building, library services, evaluation services, knowledge synthesis and exchange activities, and physician research development.

The actualization concept of helping FHA employees/privileged physicians to meet their full potential in their work environment underpins DERS's *core strategy* of providing *capacity building services*. The latter is defined as "*developing an organization's core skills and capabilities in order to build the organization's effectiveness and sustainability*"⁸. The long term impact of developing this capacity building strategy is to establish research, knowledge synthesis and exchange and evaluation as 'drivers' for the core business of providing health care to FHA patients, clients and residents.

⁸ Grand Valley State University: The Dorothy A. Johnson Centre for Philanthropy and Nonprofit Leaders, Nonprofit Good Practice Guide. 2002-2006

The DERS framework of 'one stop shop' customer service is depicted in Figure 1. The role of DERS will be to continue to support the objectives of the implementation plan.

Figure 1: DERS Delivery and Outcomes Model



THE RESEARCH CONTEXT

ALIGNMENT WITH THE MINISTRY OF HEALTH SERVICE PLAN 2014/15 – 2016/17

The Ministry of Health's service plan⁹ has identified three goals that are supported by corresponding objectives. These goals are:

1. Support the health and well-being of British Columbians;
2. Deliver a system of responsive and effective health care services across British Columbia, and;
3. Ensure value for money.

Each of these goals must be based on evidence in order to be accomplished. In that regard, this strategic plan for research can support initiatives that will be designed to implement the Ministry's objectives for each goal. For example, research conducted in our public and population health research domain can help to support the Ministry's objective of implementing targeted and effective primary prevention and health promotion in order to reach its first goal. The Ministry's objective to be responsive to patient needs, values and preferences in order to meet its second goal can be supported by our research strategic plan's goal to involve our patients, clients and residents in research planning and development. And lastly, the Ministry's third goal can be supported by another of our research strategic plan's goals which is to undertake research in FHA that has direct positive impact on the health outcomes and care of the people we serve.

The long term outcome of the implementation of our research strategic plan is to ensure that health care is evidence-based so that Fraser Health is providing cost-effective health care services to support the health and well-being of our population.

BRITISH COLUMBIA HEALTH RESEARCH

Throughout 2012 to 2014, a strategy for health research for the province of BC has been facilitated by the Michael Smith Foundation for Health Research (MSFHR). The directions for development of this strategy are outlined here as they provide a context for the need for a 'made in FHA' research strategy, which will in turn support the strategy for health research in BC.

- BC Health Research Collective Vision: "The best of health for British Columbians by excelling at health research that we learn from and use to address pressing health issues." The aim is for BC to become "the place to do research" and to attract investments from industry, government and the charitable sector. The priority objectives for this plan are:
 - Develop and enhance key foundations that support the creation and use of knowledge
 - Create a culture of inquiry and innovation that encourages health research and its use
 - Make BC a hub for world-class research that makes a difference

CANADIAN CONTEXT

⁹ British Columbia Ministry of Health. Ministry of Health Service Plan 2014/15-2016/17. February 2014.

The Council of Academic Hospitals of Ontario recently published "A Profile of Health Research from Ontario's Academic Hospitals & Health Research Institutes"¹⁰. This document listed the following five primary ways in which health research generated a "return on investment":

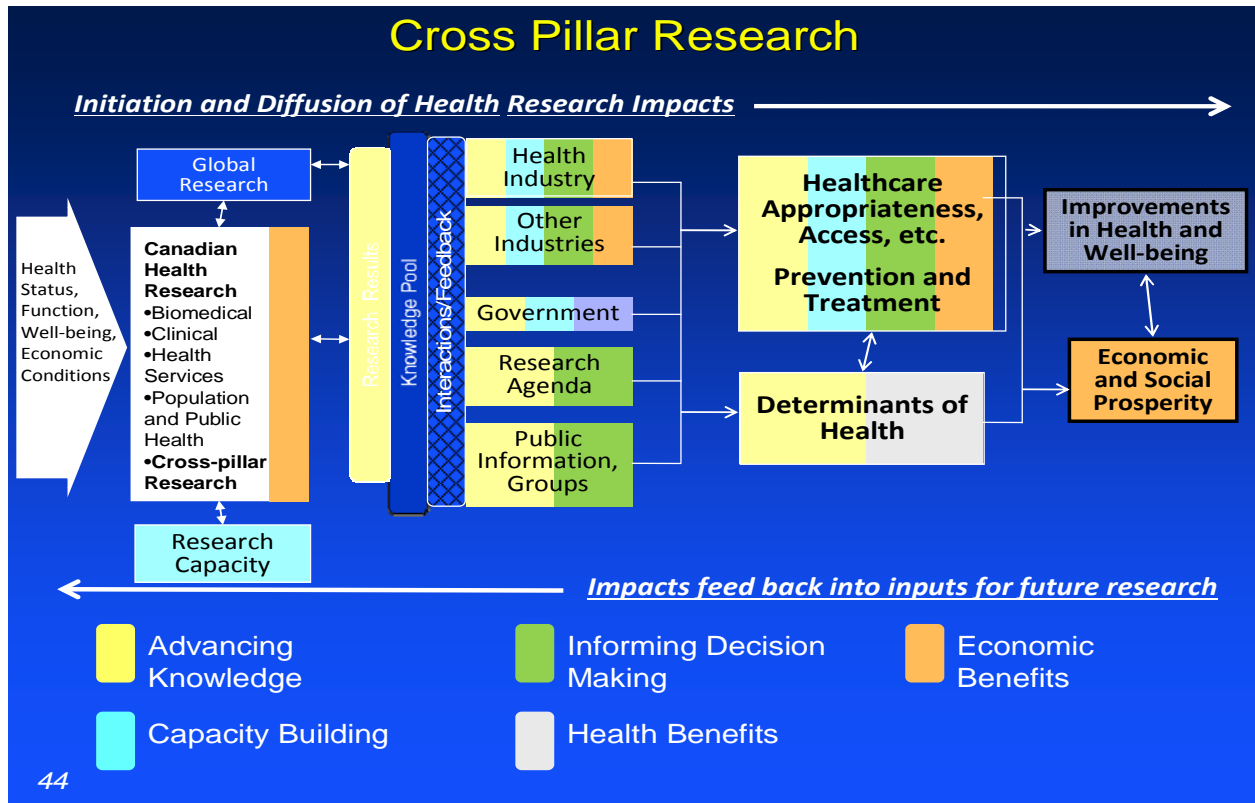
- health benefits
- contribution and generation of new knowledge, and the creation of new scientific information
- increasing research capacity, future research and innovation – i.e. 'strategic value'
- political and administrative benefits
- commercial and economic benefits

These benefits are also used in the Canadian Institutes for Health Research (CIHR) 'payback' model¹¹ for the investment in research shown in Figure 2, with the exception that 'informing decision making' is singled out as a specific benefit, presumably related to the category of 'administrative benefits'. The federal emphasis on measuring benefits gained from research is important to transfer to the FHA context as measuring research impact is an absolute necessity if FHA is going to demonstrate accountability in its stewardship of resources dedicated to research.

¹⁰ Council of Academic Hospitals of Ontario. A Profile of Health Research from Ontario's Academic Hospitals and Health Research Institutes.

¹¹ Canadian Institutes of Health Research. Payback Model

Figure 2: CIHR Payback Model



As part of the 'evidence base' for developing the strategic plan, an impact analysis of a FHA research study using this model illustrates the capacity of FHA research to achieve benefits of this nature once the research results are integrated into practice. Refer to Appendix 1.

THE EVIDENCE BASE

FHA RESEARCH ACTIVITY

The growth of research activity in FHA is referenced in the earlier timeline. Notably, the average monthly volume of active research studies continues to grow standing at 264 by the end of 2013-2014. The number of new registered studies annually has also continued to grow even though there was a slight decline for 2013-2014 which could be attributed to a decline in the number of affiliated academic researchers.

Because of program management, we are now reporting data to the FHA programs involved in conducting research. All programs have some involvement in conducting research, ranging from Surgical Services with 40 active studies to Home Health with three.

PLANNING PRINCIPLES

The planning process for the strategic plan has been guided by the following key principles:

Alignment:	Support FHA's Vision, Mission and Values
Accountability:	Maximize the return on investment in research
Inclusivity:	Seek input from all FHA clinical/support programs/services and patient representatives
Legitimacy:	Reflect patient care needs from birth to death and core strengths of FHA researchers
Support:	Obtain support from FHA leadership and key academic partners
Feasibility:	Include SMART objectives in the implementation plan

DATA COLLECTION

The Data Collection processes including stakeholder engagement were extensive and are described in detail in Appendices 2, 3 and 4.

STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT) ANALYSIS

The structure for the SWOT analysis was based upon evidence based frameworks that have been used to explain the characteristics of high performing health care systems. A summary of that analysis is provided in Table 1. The complete SWOT analysis is found in Appendix 5.

Table 1: SWOT Summary

<p>Strengths: These strengths reflect a positive climate, culture, leadership, structures, policies and system change.</p> <ul style="list-style-type: none"> • Executive Leadership Support - Research & academic development is one of 6 high priority initiatives • 90% of FHA survey respondents value research being conducted in FHA • Distributed model of research leadership: Program management facilitates development of program research priorities, inclusion in service plans, identification of research champions, with support of Executive Directors and Program Medical Directors • DERS integrated research infrastructure that includes policies, standard operating procedures, best practices, research governance for research ethics, methodological expertise, library services, support for program/site based research and research sustainability, and departmental support • Eligible to receive CIHR funding • Research champions within FHA programs and the Surrey Campus which have been models for successful research development • Robust research education program available to FHA employees/physicians and non FHA-researchers • Established research collaborations with academic and other research organizations <ul style="list-style-type: none"> ▪ First health authority to implement GRADE (Grades of Recommendations, Assessment, Development and Evaluation) as policy for clinical decision support tool development ▪ Surrey Campus and Royal Columbian Hospital are clinical academic campuses for the UBC Distributed Medical Education Program ▪ Some programs are providing research funding support
<p>Weaknesses</p> <ul style="list-style-type: none"> • Lack of systematic path for health professional/clinician scientists to develop and be financially supported for their research career • Lack of research strategic and implementation plans at clinical program level • Lack of understanding amongst FHA staff re FHA research-related policies • Extensive Privacy Impact Assessment and data acquisition process for research that leads to barriers to timely access to data for research purposes and application of research • Lack of implementation science expertise, knowledge of best implementation practices • Research financial support is not embedded within the operating budget other than for DERS
<p>Opportunities</p> <ul style="list-style-type: none"> • FHA's eligibility to receive CIHR funding means it is also eligible to receive funding from other granting agencies that adopt CIHR as the 'gold standard', e.g. MSFHR • Increased research collaborations: <ul style="list-style-type: none"> • LEEF Chair, Dr. Ryan D'Arcy: collaboration between SFU and FHA • UBC Faculty of Medicine, Assistant Dean Research Fraser Health, Dr. Sonia Singh: collaboration between UBC and FH ▪ Increased involvement in research strategy planning for BC through participation in SPOR business case planning and in BC Health Research Strategy ▪ Become a leader in knowledge translation research ▪ Consent to contact process to increase patient participation in research

- Partnership with Canadian Agency for Drugs and Technology Assessment in Health (CADTH) for GRADE implementation

Threats

- Failure to provide incentives, rewards and recognition to support champions of research development will result in lack of sustainability
- Fiscal pressures dilutes Executive leadership and management support
- Failure to provide research opportunities leads to staff disengagement and inability to be competitive for obtaining research grants
- Resistance to change by program leaders and frontline workers to incorporate research into their ongoing planning leads to reliance on standard of care that may not be evidence based
- Failure to recruit new staff with an interest and expertise in research leads to stagnation
- Failure to establish feasible capacity:
 - What is a sustainable percentage in terms of volume of research activity?
 - Culture of 'doing' for patients affects ability to 'do' research
 - Perception that current research support is piece meal
 - Support cannot be piece meal to be world class
 - Less than 1% of operating budget currently funds research
 - Who is going to do implementation science?
- Failure to address culture of the front line worker results in confusion regarding the message to 'do research' while also 'doing patient care'

THE STRATEGIC PLAN

KEY PRINCIPLES

An overarching principle for this plan is sustainability in that the objectives and actions must be capable of implementation and being continued over time. For purposes of clarity, sustainability is defined as the ability of an initiative “to maintain structures, functions, processes and productivity over time”.¹² This includes ensuring ongoing relevance and support of research and research capacity building as well as the development of accountability mechanisms, financial planning, ongoing monitoring, evaluation and opportunities for course corrections. The key principles that are addressed by the strategic plan are:

- Assuming social responsibility
- Building a solid foundation
- Promoting a research and evidence use culture
- Building capacity for knowledge transfer and exchange
- Building communities of researchers
- Engaging the public (i.e. includes FHA patients, residents and clients)
- Harnessing the power of collaborations
- Measuring success at the point of care
- Achieving sustainability vis a vis incremental development

THE STRATEGIC VISION, MISSION, GOALS AND STRATEGIES

Strategic Mission

To promote excellence in every care experience by integrating research into practice

Strategic Vision

Fraser Health is a leader in developing and using research that maximizes the well-being of the people we serve - Research, Evidence, Care.

Our Goals and Strategies

The purpose of the strategic plan is to implement the ‘FHA Research Agenda’ by capitalizing on and strengthening our research related assets and integrating research-related activities into the delivery of health care according to the implementation plan. The primary long-term goals and accompanying strategies are described below.

¹² 2009. Michael Smith Foundation for Health Research. Health Authority Capacity Building Evaluation Plan, p. 10

Table 2: Goal and Strategies

Goal #1: FHA is world-class in knowledge transfer and integration of leading edge research into practice.

Strategy: Increase use of research evidence in clinical and policy decision making.

Goal #2: Research undertaken in FHA has direct positive impact on the health outcomes and the care of the people we serve.

Strategy: Focus research in 5 strategic domains: (Refer to page 29 for further detail)

- Knowledge transfer and implementation research/science
- Health systems and services
- Public and population health
- Clinical interventions
- Health care technology and innovations

Goal #3: Each FHA clinical program is actively integrating research into practice.

Strategies:

- Support program leadership in research
- Develop and strengthen new and existing collaborative relationships with academic and other partners to support research activities and integrating KT into practice

Goal #4: FHA patients/clients/residents are involved in research planning & development.

Strategy: Increase public participation in research planning activities.

Goal #5: FHA research activities are recognized, sustainable and growing.

Strategy: Maintain a supportive research environment that will attract and retain excellent health care providers with an interest in research and its direct application to patient care.

The rationale for each goal and strategy is described below.

Making Knowledge Count

Goal #1: FHA is world-class in knowledge transfer and integration of leading edge research into practice.

Strategy: Increase use of research evidence in clinical and policy decision making.

The Rationale

The demand for quality of care and positive health outcomes creates the important imperative of building capacity to successfully transfer evidence-based knowledge into practice and policy. Not only does this encompass the need to design systems to manage and disseminate knowledge, it also requires the capacity to evaluate the quality of evidence so that sound decisions can be made. One such instance of developing this type of capacity is FHA's recent new policy requiring use of the internationally renowned tool, known as GRADE (Grades of Recommendation, Assessment, Development and Evaluation)¹³, to evaluate the research evidence used in clinical decision support tool development. FHA is the first health authority in Canada to incorporate GRADE in this manner. As a result, the Canadian Agency for Drugs and Technology in Health (CADTH) is very interested in the implementation of this policy as a possible model for the implementation of GRADE in Canada. This is an example of how leading edge research is being integrated into practice in FHA. However, in order to be world-class, a systematic approach to designing a system that supports knowledge capacity building, dissemination and management and capacity building must be taken.

How Will Success be Measured?

Key result indicators include:

- % of Clinical Decision Support Tools, (i.e. clinical practice guidelines, care paths, protocols, procedures, order sets, pre-printed orders) and policies that are based on GRADE research evidence
- # of publications in high impact journals based on research evidence transferred into practice

How will this goal be implemented? Refer to Table 4 for the detailed action plan.

¹³ GRADE <http://www.gradeworkinggroup.org/>

Doing Right by Our Patients

Goal #2: Research undertaken in FHA has direct positive impact on the health outcomes and the care of the people we serve.

Strategy: Focus research in 5 strategic domains: (Refer to page 29 for further detail)

- Knowledge transfer and implementation research/science
- Health systems and services
- Public and population health
- Clinical interventions
- Health care technology and innovations

The Rationale

As of 2012, the regional FHA population accounted for 36% of the entire population of British Columbia. That statistic is predicted to increase to 37% by 2017 with a slow but steady increase to 39% by 2032. The next largest health authority, Vancouver Coastal, accounts for only 25% of the province's population, which is expected to decline to 24% by 2032. Between 2012 and 2032, the greatest proportional growth in FHA will be in the 85 years and over and the 65 to 84 years age groups (98.1% and 85.5% increase, respectively). The other significant demographic factor that contributes to the complexity of the demand on FHA services is that compared to other health authority regions, the largest number of immigrants live in the Fraser Valley, with over 40% living here. Over one-third of Fraser Valley residents are immigrants, a proportion that is increasing.

We already know that in comparison to the overall statistics for BC, FHA has a higher low-birth weight rate (57.9%), higher prevalence rates for obesity (48.9%), diabetes mellitus (6.8%) and cardiovascular disease (3.3%), lower self-rated rates of health (59.2%) and mental health (68.8%), and higher rates of mortality from respiratory disease (5.3%).¹⁴ These statistics provide a snap shot of health status and diseases that create patient demand for health care services in FHA.

The intersection of lifestyle factors that predispose to ill health and the aging population that accounts for more complex illnesses creates another imperative for undertaking research in FHA. Our research efforts must be directed at mitigating the exponential increase in care that will be required if these drivers are left unaddressed. The focused development of research programs in the five domains will ensure that research efforts are positioned and structured to address priority needs of the population we serve.

Work has already begun in this regard. The South Asian Health Institute, affiliated with the FHA Primary Care program, is developing a research program specifically aimed at meeting the population health needs of this community as they transition into Canadian society. Dr. Ryan D'Arcy, the LEEF-SMH Foundation funded Leadership Chair in Multimodal Technology for Healthcare Innovation and the Head, Office of Health Sciences and Innovation, Surrey Campus leads research in medical, digital health and independent living technologies. The impetus for knowledge transfer and implementation research/science is seen with the GRADE initiative and

¹⁴ Fraser Health Authority. Health Profile 2012. Office of the Medical Officer of Health. December 2012, p. iv.

our Patient Advisory Council's interest in Patient-reported Outcome Measures (PROMS) and Patient-reported Experience Measures (PREMS). Research in clinical interventions is robust in cardiac services, critical care, laboratory services, older adult, medicine, pharmacy services, rehabilitation and surgery; health systems and services research is a focus of Professional Practice, End of Life and Residential Care.

How Will Success be Measured?

Key result indicators include:

- Improved health outcomes from FHA research
- Improved service provision

How will this goal be implemented? Refer to Table 5 for the detailed action plan.

Embedding Research into Program Planning

Goal #3: Each FHA clinical program is actively integrating research into practice.

Strategies:

- Support program leadership in research
- Develop and strengthen new and existing collaborative relationships with academic and other partners to support research activities and integrating KT into practice

The Rationale

Historically, the majority of the research conducted in FHA was led by individuals with a passion for research based on specific clinical expertise. Since 2010, program management has evolved in FHA and provided a structure within which our FHA researchers could receive support and in turn build a research program that supports the service mandate of each program. This structure has also encouraged the growth of multi-disciplinary teams because different disciplines now provide an integrated model of care within a program. The dyad of shared Executive Director and Physician Program Medical leadership for each program is another feature of program governance that ensures a balanced approach to the sharing of resources for research.

Over the past two years in particular, 'Research to Practice Hubs' have become a reality within some programs. Providing not only a conceptual framework to guide research, these Hubs are also linked to program governance structures such as Quality Committees. This is a key linkage which can provide feedback from the Quality reporting structures to the Hubs to identify needs for research. This is one such mechanism used to support program leadership in taking responsibility for and being accountable for the research conducted in their program.

Likewise over the past few years, several collaborations between programs and academic partners have been built, nurtured and sustained, reaping benefits not only for both partners but most importantly for our patients. For example, Aboriginal Health, Critical Care and Older Adult have robust and enduring partnerships with funded scholars from Simon Fraser University; End of Life and Residential Care have brought funding to their University of Victoria partners; Pharmacy Services, Professional Practice and Integration, Public Health and Rehabilitation Services have benefited from their partnerships with the University of British Columbia.

Ensuring that FHA supports program leadership in the development of research capacity, so that research is conducted at the point of care, is critical to the sustainability of our research enterprise. It is essential that there is local control for incorporating research into program planning with the development of program specific formalized structures and processes.

How Will Success be Measured?

Key result indicators include:

- % increase in programs/services with research governance structures
- % increase in programs with research incorporated into service plans
- % increase in new research studies whose research results are used to inform practice

How will this goal be implemented? Refer to Table 6 for the detailed action plan.

Patient-Centred Research

Goal #4: FHA patients/clients/residents are involved in research planning & development.

Strategy: Increase public participation in research planning activities.

The Rationale

The following quote from the United Kingdom's National Health Services Research Plan Progress Report for 2006-2008 epitomizes the shift in values with respect to research that is occurring in FHA.

"It is a professional responsibility to promote this kind of research, to find out whether existing treatments do more good than harm. We need to engage a wider variety of people in the decisions about research priorities and encourage researchers to take more seriously the questions raised during everyday contacts between patients and clinicians."¹⁵

In Canada, the need to engage patients in the identification of research priorities and subsequent planning is one of the hallmarks of the CIHR's new Strategy for Patient-oriented Research (SPOR) infrastructure program. This initiative, actively engaged in by FHA, requires patient engagement in the setting of priorities for the Support Units that will be developed to provide tangible services to researchers, knowledge users and decision makers.¹⁶ Within the last two years, FHA has established an active Patient Advisory Council (PAC) under the remit of the Quality portfolio. This relationship is an ideal structure for linking the PAC to FHA program research governance structures that are designed to have a reporting relationship to each program's Quality Committee. In particular, it is hoped that achieving this goal will result in the ability to meet our 2nd goal, which is that research conducted will have a direct positive impact on health outcomes. In this respect, the implementation of a plan for implementing Patient-reported Outcome and Patient-reported Experience Measurements (PROMS and PREMS) will be a direct result of patient involvement in research planning.

How Will Success be Measured?

Key result indicators include:

- % of research studies involving patients on research planning teams

How will this goal be implemented? Refer to Table 7 for the detailed action plan.

¹⁵ United Kingdom. National Health Services. National Institute for Health Research. Transforming Health Research: The first two years. Progress Report 2006-2008, p. 41.

¹⁶ CIHR, Version 7 May 2012, p. 9 (update)

Building on our Research Strengths

Goal #5: FHA research activities are recognized, sustainable and growing.

Strategy: Create a supportive research environment that will attract and retain excellent health care providers with an interest in research and its direct application to patient care.

The Rationale

As noted earlier, a 2011 survey found that 91% of FHA respondents (n=1818) valued research being supported by FHA. Other statistics from the DERS 2012-2013 annual research report demonstrate the commitment of our staff to ongoing learning about research and the use of evidence to support best patient care.

- 892 literature searches completed by DERS Library Services
- 455.25 hours of consultation by DERS Library Services for 'brief' reference questions
- 417,319 electronic downloads from the BC E-Health Library Consortium databases
- CME (continuing education credits) for point of care database 'UPtoDate' negotiated by DERS Library Services for FHA users
- 889 participants in research-related workshops
- 439 research consultations completed by DERS Epidemiologist and Research and Grant Facilitator

While the thirst for learning is evident, other 'enablers' must be put into place in order to ensure that FHA's infrastructure can support our research needs. These requirements include ensuring that our research meets the highest standards for scientific quality, conduct, and reporting. Our infrastructure has grown incrementally over the last eight years and has been able to meet demand. However, the demand for research resources is on the verge of exploding as we recruit talented health care providers with research backgrounds and interests. It is critical that FHA identify and address how best to ensure that research continues to grow and be sustainable over time.

How Will Success be Measured?

Key result indicators include:

- % increase in # of FHA (funded and unfunded) principal investigators
- FHA reputation as a desirable location to conduct health research

How will this goal be implemented? Refer to Table 8 for the detailed action plan.

RESEARCH IMPACT

The Benefits of Fraser Health Research to Our Patients, Clients and Residents

Despite the small research support staff in Fraser Health, significant progress has been made that is making and will continue to make a difference in the care received not only by our own patients, clients and residents, but by health care patients globally.

The following are a few selected highlights that demonstrate research benefits.

Table 3: Research Benefits

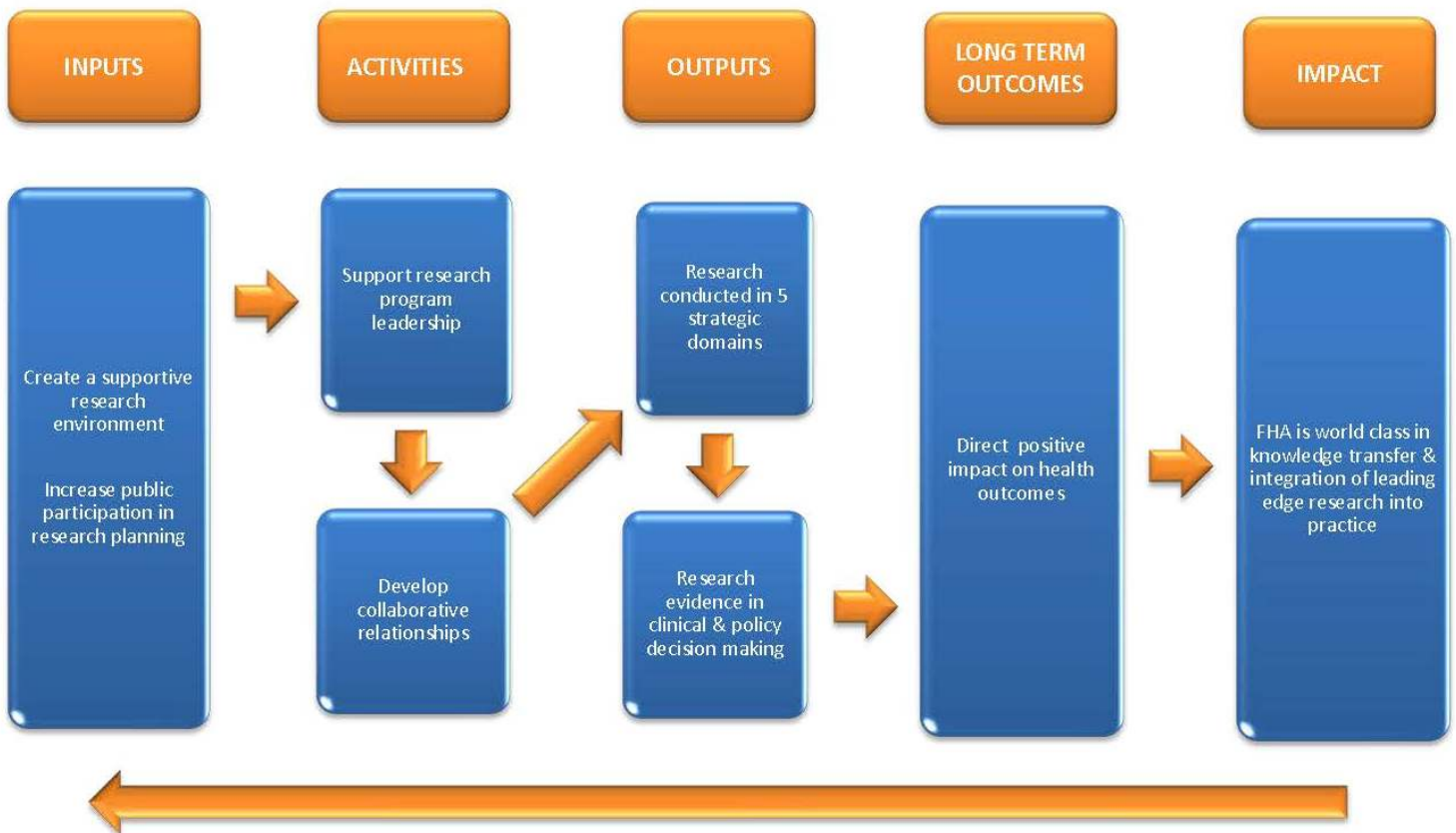
Type of Research	Benefit
Joint Replacement	FHA-UBC outcomes research project will identify drivers of patient satisfaction for total knee arthroplasty
Falls & Fracture Prevention	Vitamin D protocol implemented and evaluated, best practice care for residential care patients
Fracture Prevention in Seniors	<p>Planning project (international collaboration) developed a systematic, evidence based approach to secondary fracture prevention for osteoporosis related fractures in BC</p> <p>FHA-SFU research to improve hip protector efficacy & to identify causes of falls.</p>
Critical Care: Ventilator Technology	FHA-SFU research aims to reduce negative outcomes of lengthy 'ventilation' by helping to stimulate the diaphragm and support breathing
Neurology	<p>Oral care research shows reduced Non-ventilator Hospital-Acquired Pneumonia in acute, non-intubated, dependent, neurologically impaired, adult patients</p> <p>Burnaby Hospital Multiple Sclerosis clinic patients participate in 30 clinical trials to develop new therapies</p>
Public Health: Infection Control	FHA one of 2 Canadian sites for <i>Clostridium difficile</i> trial
End of Life	Research will lead to effective decision making using technology at end of life

THE LOGIC OF THE FHA STRATEGIC RESEARCH PLAN

The strategies are organized according to the logic model depicted below in Figure 3. This model provides a framework for organizing the relationships between the plan's inputs, activities, outputs and outcomes, and the resulting feedback loop, such that:

- if the inputs are implemented
 - then programs can be accountable for conducting research and forming collaborative partnerships, so that
 - research can be conducted in the five domains and research evidence will be integrated into practice and policy, resulting in
 - direct positive outcomes for the population we serve and a world class reputation for knowledge transfer.

Figure 3: A Logic Model of the FHA Strategic Plan for Research Development



THE FHA RESEARCH AGENDA

Figures 4 and 5 illustrate the Research Domains and Priorities developed for the research strategy. The priorities for each domain reflect program input from the survey that was distributed as part of the consultation strategy. It is important to note that the 'Knowledge Transfer and Implementation Research' theme cuts across all of the other four domains as it is expected that each domain will seek to transfer its research findings to the public domain and integrate findings that have a positive impact on our patients into practice and policy. The definitions for each domain are described below.

Research Domain Definitions

Knowledge Transfer and Implementation Research

The synthesis, dissemination, exchange, and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system.¹⁷ This also includes the study of the effectiveness of interventions already used in care.

Health Systems and Services Research

The multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately, our health and well-being.¹⁸ This research has the goal of improving the efficiency and effectiveness of the health care delivery system, through changes to practice and policy.

Public and Population Health

Research with the goal of improving the health of the population, or of defined sub-populations, through a better understanding of the ways in which social, cultural, environmental, occupational and economic factors determine health status.

Clinical Intervention

Research with the goal of improving the diagnosis and treatment (including rehabilitation and palliation) of disease and injury and is focused on, or for the treatment, of patients.

Health Care Technology and Innovation

Research with the goal of designing improvements in technology that have the capacity to improve diagnosis and care of patients.

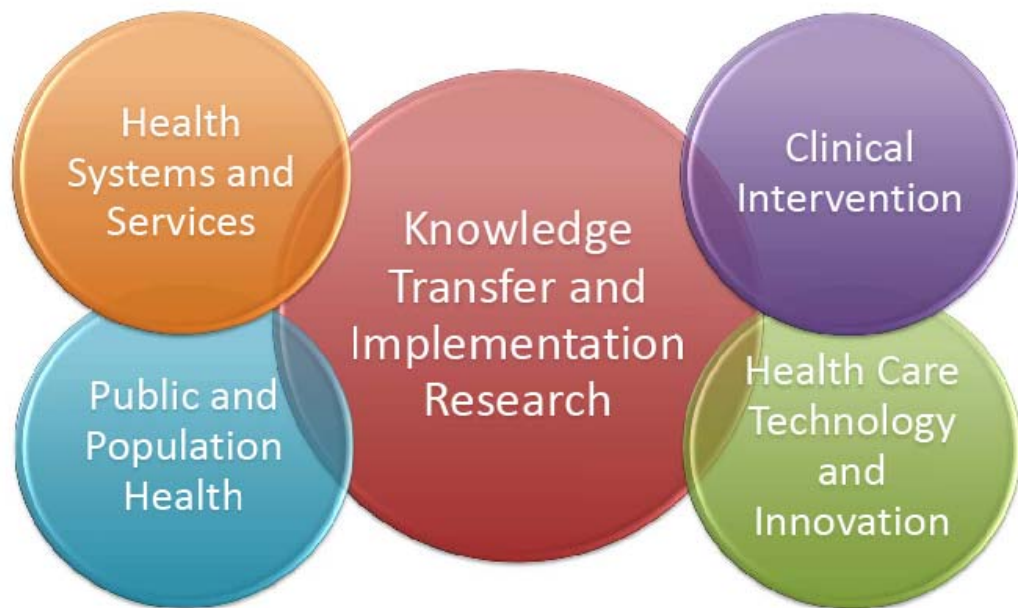
¹⁷ CIHR 2009

¹⁸ CIHR. A Pan-Canadian Vision and Strategy for Health Services and Policy Research: Building the Foundation. January 2014.

Figure 4

FH RESEARCH STRATEGY 2014 - 2019

Research Domains



FH RESEARCH STRATEGY 2014 - 2015

Domain Priorities

Health Systems and Services

- Health Economics
- Access to care for rural and remote communities
- Emergency department flow and congestion
- Cultural competency of services

Public and Population Health

- Vaccines
- Infectious Disease
- Diverse and Vulnerable Populations
 - First Nations
 - Immigrants/Refugees
 - South Asian
- Healthy Aging
- High Risk Newborns
- Preventable injuries in the workforce
- Primary Care
- Quality of life

Knowledge Transfer and Implementation Research

- Systematic Review
- Evidence informed decision making
- Knowledge to practice to outcomes
- Participatory research
- Development of quality metrics for KT and implementation evaluation

Clinical Intervention

- Intractable symptoms in End of Life care
- Trauma
- Emergency Pediatrics
- Hemochromatosis
- Multiple Sclerosis therapies
- Surgical procedures & devices
- Cardiac therapies
- Falls and Fracture prevention in older adults
- Stroke best practice and Rehab
- Medication and patient safety

Health Care Technology and Innovation

- Neurotechnologies
- Medical Imaging
- Digital Health Tech
- Independent Living
- Tele-pathology
- Portable medical devices



THE IMPLEMENTATION PLAN

OVERVIEW

The implementation plan was reviewed by the March 10 workshop participants who prioritized the objectives and who also provided feedback regarding how the key action objectives could be actualized (See Appendices 6, 7 and 8). The feedback has been integrated into the 'Plan to Achieve' component of the plan for each goal and strategy. The objectives are intended to be SMART (specific, measurable, attainable, relevant and time-bound). Note that at this time, resources are not detailed; those that would require additional resources not currently within the DERS budget are indicated as requiring VP leadership. The key result indicator (KRI) is noted for each goal with specific key performance indicators (KPIs) noted for each action objective.

KEY ACTION OBJECTIVES PRIORITIZATION

Workshop participants were asked to prioritize the key action objectives. Each participant represented a FHA program so that the results have been tabulated by program from highest to lowest priority as depicted in the following tables. These priorities have been used to specify timelines in the implementation plan, such that the first ten objectives will occur in Year 1 of the plan. Refer to Appendix 9 for this table.

OBJECTIVES, ACTIVITIES, RESPONSIBILITY, TIME FRAME, AND MEASUREMENT

1. Goal: FHA is world-class in knowledge transfer and integration of leading edge research into practice.

Strategy: Increase use of research evidence in clinical and policy decision making.

Table 4: Goal #1

Key Result Indicator: # of high impact journal articles published % of Clinical Decision Support Tools (i.e. clinical practice guidelines, care paths, protocols, procedures, order sets, pre-printed orders) and policies that are based on GRADE research evidence.			
Key Action Objectives	Plan to Achieve: Activities, Lead Responsibility	Time	KPIs
1. Implement Knowledge Implementation Scientist position in DERS	a. KI Scientist role would: <ul style="list-style-type: none"> • demonstrate new evidence in this field • develop strategy for becoming world class • engage community/patients for content expertise/participatory action research designs Lead: VP Medicine	Yr 1	# research studies informing FHA practice # implementation studies

			# publications of implementation studies
2. Implement Knowledge Integration Specialist in DERS - Library Services	<p>KI Specialist role would:</p> <ul style="list-style-type: none"> • Develop overall strategy for KI - brokering services • Provide KI consultation services to programs • Identify major gaps in research evidence related to FHA clinical priorities to identify opportunities for research <p>Lead: VP Medicine</p>	Yr 1	<p># KI consultations</p> <p># research results informing policy /practice</p>
3. Develop and disseminate FHA strategy to maximize transfer of evidenced-based knowledge into practice in order to improve quality of care	<p>a. Develop guidance document b. Continue to support use of GRADE for Clinical Decision Support Tool (CDST) development in conjunction with Clinical Policy Office/Canadian Agency for Drugs and Technology in Health</p> <p>Lead: DERS/Professional Practice</p>	Yr 1	# therapeutic CDSTs based on GRADE
4. Implement KT capacity building strategy to increase skills in the appropriate use and application of research evidence in clinical and policy decision making	<p>a. Develop a how-to process for skill development in KTE b. Continue to implement KTE workshops and Library Services KTE support, e.g. How to Influence Decisions: Using Effective KT Strategies/GRADE tutorial c. Incorporate strategy into Manager's Excellence Initiative</p> <p>Lead: DERS/Library Services/Professional Practice</p>	Yr 1	<p># FHA KTE workshops</p> <p># FHA staff /managers attending workshops</p> <p>#FHA workshop participants with increased confidence</p>
5. Implement knowledge management system for disseminating results of research and evaluation for continuous learning to FHA and external audiences, including the public	<p>a. Integrate current evidence dissemination activities into a cohesive strategy using traditional and social media to promote 'real-time' KT including: e.g. CDST development policy requiring GRADE; 'FHA writes' on FHA/DERS website and PULSE; Publish GRADE evaluated CDSTs in CADTH; Patient Advisory Committee reports; lunch 'n learns, webinars, social media/blogs, Library newsletter, Evaluation Registry, FHA Board of Directors, build connection with university libraries</p> <p>Lead: DERS/Library Services/Professional</p>	Yr 1	<p># dissemination activities</p> <p># recipients of dissemination</p>

	Practice		
6. Publish results of FHA research including implementation of practice improvements arising from FHA research	a. Provide publication support vis a vis DERS consultation b. Assess feasibility of development of a FHA journal, explore academic partnerships for journal initiative Lead: DERS	Yr 3	# FHA research studies published/ by program # practice changes published
7. Embed use of evidence in all job descriptions and performance planning so that use of research evidence in clinical and policy making becomes normative	a. Establish research competencies that can be adopted by programs for job descriptions and performance planning Lead: DERS/Recruitment Services	Yr 3	# JDs with evidence use requirements

Goal #2: Research undertaken in FHA has direct positive impact on the health outcomes and the care of the people we serve.

Strategy: Focus research in 5 strategic areas:

- Knowledge transfer and implementation research/science
- Health delivery systems and services
- Public and population health
- Clinical interventions
- Health care technology and innovations

Table 5: Goal #2

Key Result Indicator: Improved health outcomes from FHA research			
Key Action Objectives	Plan to Achieve: Activities, Lead Responsibility	Time	KPIs
1. Advance the science of PROMS and PREMS effectiveness and evaluation studies in order to provide outcomes evidence for improving quality of care	a. Develop/implement a plan to: - identify infrastructure for advancing Patient Reported Outcome Measurement (PROMS)/Patient Reported Experience Measurement (PREMS) - facilitate partnerships between experts and relevant stakeholders, e.g. TWU 'Chair in Outcomes Research', PAC, FHA health economist, programs - build on initiatives already happening in other institutions b. Implement PROMS and PREMS studies	Yr 2	Plan implemented # of PROMS, PREMS studies

	Lead: DERS		
2. Measure return on investment of FHA research applied to patient care using standard research impact analysis models	<p>a. Develop capacity for conducting evaluation and economic analyses by implementing workshops/tutorials for evaluation science and economic analysis in order to promote awareness</p> <p>b. Develop template for costing research benefits, e.g. use the 'CIHR payback' model to demonstrate ROI for research integrated into CDSTs</p> <p>Lead: DERS</p>	Yr 3	<p># eval'ns conducted</p> <p># economic analyses conducted</p> <p># workshops</p> <p># workshop participants</p>
<p>3. Support research in:</p> <ul style="list-style-type: none"> • Knowledge transfer and implementation research/science • Health delivery systems and services • Public and population health • Clinical interventions • Health care technology and innovations 	<p>a. Provide ongoing methodological and grant consultation to increase fundable research in these domains</p> <p>b. Assist programs in incorporating research from each domain in research planning</p> <p>Lead: DERS</p>	Yr 1	<p># funded research studies per domain</p> <p># unfunded research studies per domain</p>

Goal #3: Each FHA program/service is actively participating in integrating research into practice.

Strategy:

- Support program leadership in research
- Develop and strengthen new and existing collaborative relationships with academic and other partners to support research activities and integrating KT into practice

Table 6: Goal #3

KRI: % increase in new research studies by program whose research results are used to inform practice			
Key Action Objectives	Plan to Achieve: Activities, Lead Responsibility	Time	KPIs
1. Develop a research governance and planning structure for each program conducting research that	a. Develop and disseminate a guidance document based on example models to clarify programs' research structures, e.g. Program Research to Practice Hubs reporting to quality committees or other	Yr 1	# research governance structures established by program

<p>is integrated within the program and that provides overall leadership for the research program</p> <p>This activity will also support objective #3</p>	<p>program leadership structures (e.g. dedicated academic lead) Lead: DERS</p> <p>b. Identify program research leads, with clear roles and responsibilities for medicine, nursing and allied health (e.g. nomination by interest and expertise). Responsibilities would include dissemination, promotion (“voice for research”), point person (foster connections) Lead: Programs/Services</p> <p>c. Develop applicable job descriptions (JDs) to permit development of research as part of research leads’ job Lead: Programs/Services</p>		<p># program Research Leads</p> <p># research JDs per program</p>
<p>2. Promote a research culture that values evidence-informed practice, engagement and personal accountability for the use of evidence that supports quality of care</p>	<p>a. Develop and disseminate a culture change strategy based on the ‘ADKAR’ organizational change model¹⁹ to ensure that FHA leadership values and supports research at individual, program and HA level e.g. share research projects, journal club, support staff attendance at DERS workshops and conferences, encourage submission to internal funding opportunities, introduce research on staff meeting agenda as a standing item Lead: DERS/Organizational Development</p> <p>b. Develop a guidance document and dissemination strategy to facilitate recruitment, staff engagement and personal accountability for research involvement (including students), support for research champions, e.g. encourage adding research activities including evidence usage into individual performance planning and job descriptions, orientation, mentoring, support Lead: DERS</p> <p>c. Advocate for inclusion of evidence use</p>	<p>Yr 2</p>	<p># program staff attending research skills workshops</p> <p># program staff attending research conferences</p> <p># staff with evidence use in performance plans</p> <p># research mentors/mentees</p> <p># excluded JDs including evidence use</p>

¹⁹ ADKAR refer to: <http://www.change-management.com/tutorial-adkar-series-1.htm>

	<p>in all excluded JDs via the Guidance document</p> <p>Lead: DERS/People Development/Programs</p>		
<p>3. Assist each program/service to create a model for supporting research development including research space management</p>	<p>a. Develop a research capacity development (RCD) template based on best practices and models in other health authorities at the individual and program levels that can be tailored by each program/service and that will include equipment/technology platforms. Include benchmarks for hiring researchers/researcher support staff, i.e. 1 coordinator per program.</p> <p>Lead: DERS</p>	Yr 1	<p># programs adopting a RCD model</p>
<p>4. Determine annual priorities for each domain that will have a direct impact on health outcomes and health service delivery/operations and that balances medical and non-medical research</p>	<p>a. Build research and evaluation into strategic planning for every clinical service plan</p> <p>b. Embed research implementation plans in program service plans, including a statement of resources required</p> <p>c. Identify research priorities for each program service plan, using FHA research agenda as framework</p> <p>Lead: Programs</p>	Yr 3	<p># programs with research/evaluation plans in service plans</p> <p># programs identifying research priorities</p> <p># active research studies by program</p>
<p>5. Promote successful models of existing collaborations as 'templates/case studies' to facilitate collaboration between FHA decision makers and FHA/academic researchers/stakeholders from other public and private sectors to identify research questions that are a high priority for FHA and that can generate results generalizable to the health care setting</p>	<p>a. Document and disseminate models to programs' research governance structures, e.g. Existing collaborations between SFU and Older Adult; UVic and End of Life; UVic and Res Care</p> <p>b. Continue to promote regular research 'pitching' days/brainstorming symposiums between FHA researchers and specific academic institutions</p> <p>c. Identify priority networks to be lead by FHA researchers</p> <p>Lead: DERS</p>	Yr 1	<p># mutually beneficial collaborations</p> <p># individuals involved in collaborations</p> <p># affiliated researchers</p> <p># inter-institutional affiliated research agreements</p>

6. Develop a plan to secure academic appointments for FHA researchers	a. Consult with UBC and SFU to develop pathway for academic appointments Lead: DERS	Yr 2	# of FHA staff with academic appointments
7. Foster collaboration within and across FHA programs	a. Develop and implement an evidence based 'relationship' building plan to facilitate collaboration including: -an external access function on the FHA website and intranet for researchers to be able to locate a decision maker -opportunities for internal researchers to network with each other, e.g. annual dinner -utilizing QI as a focus for collaboration across programs Lead: DERS/Library Services/Communications/QI	Yr 1	#relationship building activities # participants # researcher-decision maker partnerships
8. Continue collaboration with UBC Medical School	a. Continue to provide Library Services and research support to UBC medical students and residents Lead: DERS/Library Services	Yr 1	# library, research consultations to UBC medical students, residents

Goal #4: FHA patients are involved in research planning & development

Strategy: Increase public participation in research planning activities

Table 7: Goal #4

KRI: % of research studies involving patients on research planning teams			
Key Action Objectives	Plan to Achieve: Activities Lead Responsibility	Time	KPIs
1. Provide patients and the public with the best and latest information on the costs, effectiveness and impact of developments in FHA research	a. Develop a communication plan for the public with PAC input, e.g. Develop and disseminate a lay language bi-annual research report; obtain funding for CIHR Café Scientifique; Develop a database for inquiries through the PAC b. Obtain PAC feedback on the DERS and FHA websites, social media use, to build a web page for public information at the FHA home page and to address patient questions and to help them get involved,	Yr 2	# communic/n vehicles Website changes address patient needs # pageviews to new webpage # research reports to PAC Research

	<p>e.g. "I'm wondering about?"</p> <p>c. Report to the PAC on a regular basis</p> <p>d. Include research in the FHA annual report</p> <p>Lead: DERS/PAC/QI/Communications</p>		included in FHA annual report
2. Implement model/process of patient engagement in research planning, informed by international/national models	<p>a. Develop model to engage patients in research priority setting/planning for use by programs and researchers, e.g. Patient Voices Network, NHS, IHI Picker</p> <p>b. Utilize patient complaints as source of data for planning</p> <p>c. Encourage collaboration with other patient not-for-profit groups, e.g. senior's</p> <p>d. Encourage participatory research as another model</p> <p>Lead: DERS/PAC/QI</p>	Yr 3	<p>Model implement-ation</p> <p># planning activities that engage patients</p>

Goal #5: FHA research activities are recognized, sustainable and growing

Strategy: Create a supportive research environment that will attract and retain excellent health care providers with an interest in research and its direct application to patient care

Table 8: Goal #5

Key Result Indicator: % increase in # of FHA (funded and unfunded) principal investigators, FHA reputation as a desirable location to conduct health research			
Key Action Objectives	Plan to Achieve: Activities, Lead Responsibility	Year	KPIs
1. Implement a competency based framework/pathway for health professional and clinician scientists to develop their research career as part of the FHA research community	<p>a. Develop pathway including mentorship, getting started with pilot studies, progression through mid-career to senior researcher, regular networking opportunities</p> <p>Lead: DERS/Professional Practice</p>	Yr 1	<p>Pathway developed</p> <p># researchers using pathway</p>
2. Create diversified funding opportunities to support our FHA researchers and programs	<p>a. Review other successful funding models, (e.g. U of T Health Research for health authority research) to identify new diversified funding opportunities. E.g. % funding from FHA Foundations,</p>	Yr 1	<p># grant funding opportunities available</p> <p># FHA funding</p>

	<p>Foundation funding for Research Chair (co-sponsored by academic institution); CIHR indirects; use of industry-sponsored overhead; Industry grants-in-aid; MITACS funding; Fellowships</p> <p>b. Develop and rationalize revenue funding streams to support new, intermediate and experienced FHA researchers, (e.g. Research funding catalyst awards, research support competitive awards, qualified investigator development scholarships, summer medical school internships, research KT poster competition, collaborative team grants)</p> <p>c. Develop new opportunities with funding agencies to increase eligibility of FHA researchers, e.g. MSFHR Scholar Award</p> <p>d. Work with interested programs in developing funding strategies to meet their research priorities Lead: DERS/Programs</p>		<p>streams created for researcher by tier</p> <p># new opportunities created with external funders</p> <p># programs supported</p>
3. Continue to develop research competencies and ability to conduct high quality research	<p>a. Design and deliver library, research and evaluation skills workshops, including access to 'how to' videos (Create new partnerships with academic institutions to develop directed study research courses/free on line courses)</p> <p>b. Continue to deliver consultation services for methodological support and grant facilitation to individuals and programs Lead: DERS (Professional Practice)</p>	Yr 1	<p># workshop participants</p> <p># research consultations</p> <p># fundable grant proposals</p> <p># funded grant proposals</p> <p>% funded grant proposals</p>
4. Develop and implement a 'roadmap' for FHA researchers to ensure they obtain the 'right' information at the 'right	<p>a. Develop a FHA wide roadmap, and site specific roadmaps as needed, with relationships to external supports and dissemination strategy, e.g. post on intranet, leverage existing websites, FHA</p>	Yr 1	Roadmaps disseminated

time' and in the 'right way'	screensaver, Library provides access to published literature and agency data repositories and services such as CADTH (e.g. Research Passport for ethics, contracts, grants, library, data access & management, IT support, privacy, study start up, KT) Lead: DERS		
5. Create opportunities for FHA staff to participate in and lead research and build collaborative teams	a. Continue to promote research opportunities vis a vis funding opportunities b. Continue to implement affiliation agreements that require a FHA co-I Lead: DERS	Yr 1	# FHA staff leading research teams # FHA co-Is # FHA co-Is for affiliated researchers
6. Expand the FHA Communications Strategy and disseminate widely within/external to FHA in order to inform, support and celebrate our researchers	a. Embed research strategy in FHA orientation programs b. Communicate with media, implement regular researcher features, annual public lectures ("how cool my research is"), storyboards at conferences, e.g. Quality forums c. Continually evaluate and update the DERS communication plan for research d. Include research in the FHA annual report to the FHA Board of Directors Lead: DERS/Communications	Yr 1	# researchers featured # research features
7. Develop a road map for industry sponsors to ensure processes for ethical and contract review and study start up are efficient and time to study start up is minimized	a. Develop information about study feasibility, data provision, study start up, ethics, contract review, etc. Lead: DERS/OHSI	Yr 1	Road map implemented # industry sponsors conducting research in FHA
8. Work with Informatics, Health and Business Analytics, other service departments to develop clear supports and	a. Develop and implement a plan to identify opportunities to enable sustainable and efficient processes for research, including an IT enabled environment, e.g. Computer availability	Yr 2	Plans implemented # patients registered

processes for researchers	<p>and WiFi access; Explore and assess feasibility of REDCAP and research project management software Lead: DERS/Lab, Pharmacy, HBA, Health Records, IT</p> <p>b. Implement 'consent to contact' initiative across FHA Lead: DERS</p> <p>c. Work with HBA on the data warehouse design to ensure research needs are addressed and e-systems are able to be queried in real time</p> <p>d. Finalize review and implementation of the FHA privacy process and its integration with research approval processes Lead: DERS</p>	<p>Yr 1</p> <p>Yr 2</p> <p>Yr 1</p>	<p># researchers using contact information</p> <p>Privacy process integrated with research ethics review process</p>
9. Ensure research studies meet national and international standards and regulatory requirements	<p>a. Develop plan to ensure FHA research is SOP driven, e.g. ongoing dissemination of N2 SOPs (data management for regulated clinical trials), FHA Study Start Up Toolkit, TCPS2 tutorial for above minimal risk studies, Mock Health Canada inspections</p> <p>b. Assess need to modify Study Start Up Toolkit for other study types Lead: DERS</p>	Yr 1	<p># research programs using SOPs</p> <p># researchers completing TCPS2 tutorial</p> <p># regulated clinical trials with Health Canada observations</p>
10. Develop coordinating centre for industry and academic funded studies	<p>a. Develop plan Lead: DERS/Programs</p>	Yr 5	
11. Utilize SPOR opportunities	<p>a. Implement SPOR plan as applicable for FHA.</p>	Yr 1-5	
12. Ensure efficient access to recruitment of research support staff	<p>a. Develop and implement recruitment strategy for attracting staff with research experience to FHA</p> <p>b. Develop process to permit posting of research positions before grant funding obtained/finalize once obtained</p> <p>c. Provide opportunities for undergraduate students to participate in research studies as assistants, team</p>	Yr 3	<p>Recruitment strategy implemented</p> <p># students participating as assistants</p>

	members Lead: DERS/Recruitment Services		
13. Promote, reward and celebrate use of evidence in practice and decision making	<p>a. Develop a plan to create a shared understanding of the purpose, value, meaning and role of research in the delivery of quality health care (i.e. What's in it for me/benefits)</p> <p>b. Increase the impact of FHA research in FHA and externally, e.g. share profiles of people who use evidence in workshops/other venues with FHA health care providers; bios in FHA Pulse</p> <p>c. Work with programs to nominate researchers for 'Above and Beyond'; DERS to establish evidence award; Researcher of the Month profile Lead: DERS</p>		<p>% FHA staff valuing research</p> <p># researchers receiving awards</p>

CRITICAL SUCCESS FACTORS

In psychology, there is a saying that your greatest strengths may also be your greatest weaknesses. Great strengths may give rise to unintended consequences when it results in seeing only 'one side of the coin'. As organizations are simply aggregations of individuals at their team, micro-, meso- and macro-levels, the organization as a system will also have its greatest strengths, which in turn can undermine itself. We see this in the functioning of FHA as a fully integrated health care system; its very large size, with many moving parts that are somewhat inter-connected, and with many levels of staff. This very complex system means that the implementation of this research strategy will take time, primarily because communication and relationship building is not easy to accomplish in such a large structure. That being said, the thrust of this strategy is to ensure that research governance decisions are retained at the 'neighbourhood' level, in other words at the appropriate level within the program – ownership of a program's research strategy must occur at the local level.

Finally, in particular because we are within a complex system, it is important for FHA leadership to recognize that sustainable development is incremental and although in the case of research, often accomplished with very few resources, requires consistent fuel. The fuel that is required comes in three forms:

1. A commitment to the research strategy
2. The goodwill of managers, directors and senior leadership to support their staff conducting research and those providing services to researchers
3. Stimulus funding so that a small percentage of each program dollar can be redirected to hire research support staff either at the program level or at the site level.

CONCLUSION

The development of this strategic plan builds upon the research capacity development, the successes of individual researchers over the past eight years and the input of many stakeholders. The contribution of many research 'champions' has made it possible for research to flourish in our large and complex health authority in addition to that of base funding that has enabled the small support service of DERS to operate. Fraser Health now has the momentum to move forward into a new era of research development, one that is able to build on our strengths with the commitment to conduct research that will benefit our patients, clients and residents. It is hoped that this research strategic plan will enable us to meet this goal.

APPENDICES

APPENDIX 1

RETURN ON INVESTMENT: A CASE STUDY

A case study of a single FHA research study was used to illustrate how research impact and measurement of the return on investment will be applied to demonstrating the success of the FHA research strategic plan. The CIHR Payback Model was used for this purpose.

Use of an Enhanced Oral Care Protocol to Reduce Rates of Non-Ventilator-Associated Hospital-Acquired Pneumonia: a Case Study for Measuring the Impact of Research in Fraser Health Authority

Principal Investigators: Trudy Robertson (Clinical Nurse Specialist)
Dulcie Carter (Registered Speech Language Pathologist)
Co-investigators: Tina Moran, Sue Kadyschuk and Jereme Bennett

Overview of the Study

Hospital-acquired pneumonia is a common infection and a significant cause of morbidity and mortality that can lead to increased health care resource use and decreased quality of life. The objective of this study was to explore whether a prevention-based, enhanced oral care (EOC) protocol reduced non-ventilator-associated hospital-acquired pneumonia (NV-HAP) in a neurosurgical population outside the critical care environment. Using a before-and-after observational design, pneumonia rates between subjects who received standard oral care (the 'before implementation' group) and those who received EOC (the 'after implementation' group) were compared. A statistically significant decrease in the pneumonia rate was observed following the implementation of the EOC protocol. The study was conducted on a 31-bed acute neurosurgical unit at Royal Columbian Hospital.

Funding Source

The study was funded through the Point-of-Care Challenge competition (FHA and the Michael Smith Foundation for Health Research). This funding competition exists to encourage nurses to develop skills in designing and conducting research – arising from questions at the point of care – that has the potential to improve care, build multidisciplinary teams and implement knowledge transfer strategies.

Demonstrating Impact

The *outcome* of the research study was the demonstrated reduction in the rate of hospital-acquired pneumonia following the implementation of the EOC protocol.²⁰ However, the *impact* of this research speaks to the long-term benefits that can be realized within FHA and beyond.

²⁰ Robertson T, Carter D. Oral intensity: reducing non-ventilator-associated hospital-acquired pneumonia in care-dependent, neurologically impaired patients. *Can J Neurosci Nurs*. 2013; 35(2): 10-7.

Demonstrating the value and impact of research is complicated by many factors; in particular, many positive aspects of research are not easily quantifiable, especially for small-scale studies. This document uses a case study approach to provide an examination of the costs (resources) and benefits associated with the implementation of the EOC protocol.

Health and Health Sector Benefits

Health benefits for recipients of EOC (i.e., oral care delivered in line with the protocol) relate to the reduced risk of acquiring pneumonia while in hospital, implying the prevention of sequelae of illness, fewer invasive tests and treatments, and fewer medications (and associated side effects), which combine to result in a better opportunity for patients to recover from their illness. Given that the intervention for this study was the implementation of a treatment protocol, it seems unlikely that there would be detrimental health effects. The study authors also refer to improved patient comfort and family satisfaction, although no data is provided to support this claim.

Benefits to the health sector could be realized through a reduction in length of stay for recipients of EOC. Although the authors allude to supportive evidence for a reduction in mean and median length of stay, the available data did not enable this question to be addressed in a robust manner. It is important to note that the small-scale study was not powered to identify significant differences in length of stay.

Cost/Resource Savings

Studies from the United States (US) have estimated hospital-acquired pneumonia to increase hospital charges in the region of \$28,000²¹ to \$41,000²² per case (costs *not* inflated to 2014 dollars). Caution is necessary when applying cost estimates from external sources. It is inappropriate to use the US cost estimates as a reliable source of information to determine cost savings for the EOC protocol; reasons include the varied clinical populations in the respective studies and the different hospital-funding mechanisms in Canada and the US. However, it is clear from the US studies that hospital-acquired pneumonia is associated with considerable health care costs.

An important consideration for any intervention that reduces the risk of hospital-acquired pneumonia – such as the EOC protocol – is the amount of additional resource required to implement the change in practice. In this case study, the intervention is a protocol only (not a new pharmaceutical, device or procedure). The authors report that unit nurses expected the EOC protocol to increase their workload. However, on conclusion of the study, nurses anecdotally reported no negative impact on their overall workload; the lower rate of hospital-acquired pneumonia during the study period appeared to reduce nursing workload.²³

In summary, assuming the anecdotal workload findings to be true and in the absence of further, large-scale study, the EOC protocol appears to be a cost-effective intervention. It is

²¹ Thompson DA, Makary MA, Dorman T, et al. Clinical and economic outcomes of hospital acquired pneumonia in intra-abdominal surgery patients. *Ann Surg* 2006; 243(4): 547-52.

²² Rello J, Ollendorf DA, Oster G, et al. Epidemiology and outcomes of ventilator-associated pneumonia in a large US database. *Chest* 2002; 122(6): 2115-21.

²³ Robertson T, Carter D. Oral intensity: reducing non-ventilator-associated hospital-acquired pneumonia in care-dependent, neurologically impaired patients. *Can J Neurosci Nurs*. 2013; 35(2): 10-7.

unlikely that the time costs associated with education sessions held for nursing staff to become familiar with the study (and, if necessary, refresher sessions to maintain quality of care standards) will outweigh the cost savings achieved through a reduction in the rate of hospital-acquired pneumonia.

Knowledge Production & Informed Decision-Making

A major research impact resulting from the EOC protocol study was the development of a clinical decision support tool (CDST) to support evidence-based oral care in care-dependent, neurologically impaired patients. Creation of a new EOC CDST is a tangible demonstration of knowledge production with an explicit focus on a patient-care goal. With regard to decision-making, the purpose of the CDST is to ensure that oral health care is a consistently administered, evidence-based component of standardized nursing care.

The publication of study findings in the *Canadian Journal of Neuroscience Nursing* ensures that the research has the potential to impact clinical practice beyond the boundaries of Fraser Health Authority.

Research Capacity

Expanding research and academic capacity is a high priority initiative within Fraser Health Authority. The study team's exposure to the steps involved in conducting research – protocol development, recruitment, data collection strategies, etc. – is a further step to building an academic health care organization where research plays an important role in improving health outcomes and ensuring health services sustainability.

In addition to the peer-reviewed manuscript, the Principal Investigators were recipients of the Canadian Association of Neuroscience Nurses (CANN) Codman Award for Achievement of Excellence in the Area of Neuroscience Nursing Research (Montreal, Quebec; 2013) and nominees for the World Federation of Neuroscience Nurses (WFNN) Agnes Marshall Award for Best Poster (Gifu, Japan; 2013). Manuscript preparation, addressing peer-review comments and presenting findings at academic meetings are all key components of the research process, providing valuable experiences for those involved.

Thinking about wider implementation of EOC protocols, the study investigators are interested in exploring the benefits of similar protocols in semi-dependent and independent patients. The emergence of new research question provides further evidence of the long-term benefits of fostering a culture of curiosity with the health care workforce.

Summary

The enhanced oral care protocol study has demonstrated significant impact through positive research findings (i.e., the likelihood of clinical effectiveness and cost savings, albeit in a small-scale study), development of a clinical decision support tool, dissemination through publication and conference presentations, and the identification of new avenues for further research.

APPENDIX 2

DATA COLLECTION and STAKEHOLDER ENGAGEMENT METHODS

Key Document Review

- “Identification of the Preferred Fraser Health Research Agenda” 2009
- FHA DERS Strategic Plan 2008
- FHA DERS Annual Reports 2005 to 2013
- Surrey Memorial Hospital Health Sciences and Innovation Strategy and Hosted Conversation Qualitative Feedback
- Advance our Research Agenda FHA Quarterly Business Meeting June 4, 2013
- BC Health Research Strategic Planning Documents
- CIHR Payback Model
- A Preferred Framework and Indicators to Measure Returns on Investment in Health Research, Report of the Panel on Return on Investment in Health Research 2009. Canadian Academy of Health Sciences. <http://cahs-acss.ca>
- FHA Strategy for Patient-oriented Research (SPOR) submission to MSFHR

Environmental Scan

Research strategies of other health care delivery organizations, including:

- Vancouver Island Health Authority Draft High Level Strategic Framework 2012
- Bridgepoint Collaboratory for Research and Innovation, Five Year Strategic Plan 2013-2018, May 8, 2013
- Ontario Shores Centre for Mental Health Sciences, Launching the Academic Mandate, 2012-2017 Academic Plan
- Strategic Research Intensity Plan 2014-2020, Memorial University, Newfoundland Rev. March 3, 2014 version 2

SWOT Analysis & Emerging Issues

The SWOT analysis was derived from secondary data obtained from:

- needs assessments conducted for the Surrey Campus Health Sciences and Innovation Strategy and the June 2013 Quarterly Business Meeting
- FHA DERS Annual Reports 2005-2013
- review of current operations with the DERS staff
- survey of 17 FHA clinical programs and services
- feedback from 44 workshop participants, March 10, 2014

Benchmarking

- FHA research productivity from 2009 to 2014
- Return on investment analysis and impact analysis
- Fraser Health Authority. Health Profile 2012. Office of the Medical Officer of Health. December 2012

Stakeholder Feedback

Awareness Raising: Presentations on the draft vision, mission, goals and strategies were made to the FHA Executive Committee, Vice President Medicine Portfolio, Program Medical Directors, the Clinical Integration and Executive Committee (CIEC) of Executive Directors and Program Medical Directors, the Integrated Professional Practice – Practice Committee, the Patient Advisory Council and DERS. Refer to Appendix 3 for schedule of presentations and number of stakeholders.

Feedback on program research goals: A short five question survey was emailed to 19 clinical programs (Executive Directors [EDs] and Program Medical Directors [PMDs]) in January with 17 responses (85% program response rate). The questions were:

1. What research strengths can you identify within your program?
2. What is the focus or themes of research within your program?
3. What potential research development can you foresee over the next 5-10 years:
 - i. For your program?
 - ii. For Fraser Health as a whole?

The purpose of the survey was to identify research strengths and weaknesses from the program perspective, as well as their priority research focus. This information was used to inform the SWOT analysis and the development of the research priorities. Refer to Appendix 4 for survey results.

Feedback on research strategy: A half day workshop held on March 10th, with 44 key stakeholders; 2 of these were SFU academics with appointments to FHA and 2 were members of the Patient Advisory Council. See Appendices 6, 7 and 8 for the workshop agenda/design, participant list and presentation. Eight round table discussion groups were held.

Participants were asked the following five questions, the results of which were used to validate and further refine the implementation objectives by identifying specific activities. A summary of the responses to these questions is included in the SWOT analysis.

- Is there anything missing? Is there further information needed to refine the vision, mission, goals, strategies and objectives?
- Does this make sense?
- Does this support the areas covered so far?
- What concerns do you have?
- Can this work for your program/area?

External peer review: The vision, goals, strategies and objectives were reviewed and endorsed by UBC Faculty of Medicine, Dr. Howard Feldman, and SFU Faculty of Health Sciences, Dr. John O'Neill.

PLAN FORMULATION: Analysis and Synthesis

The development of the plan was evolved from past and current research plans for the Department of Evaluation Services in order to define draft vision, mission, goals and strategy statements. These in turn were reviewed and refined according to the input received from the consultations held with various stakeholders. Implementation objectives were detailed after the March 10 workshop.

The overall emphasis of the plan is the identification of new objectives; less emphasis has been placed on DERS operations as these are assumed to be continuing.

APPENDIX 3

STAKEHOLDER CONSULTATION SCHEDULE

Stakeholder Group	# of Stakeholders	Date
VP Medicine Portfolio	11	January 8, 2014
Executive Team	11	January 14, 2014
Clinical Integration and Executive Committee	27	January 16, 2014
Program Medical Directors Meeting	17	January 16, 2014
Patient Advisory Council	12	January 27, 2014
Integrated Professional Practice/Practice Council	24	January 30, 2014
Programs/DERS	38	March 10 th , 2014
TOTAL	140	

APPENDIX 4

PROGRAM SURVEY RESULTS

Survey results are available as a separate attachment. Please contact Susan Chunick, Director, Department of Evaluation and Research Services.

APPENDIX 5

STRENGTH, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT) ANALYSIS

SUSTAINABILITY ATTRIBUTES			
Attribute and Elements	Strengths	Weaknesses	Opportunities
CONTEXT			
Climate	<ul style="list-style-type: none"> Increased recognition that it is legitimate for health authorities to conduct research FHA Patient Advisory Committee helps to ensure patient-centred care 	<ul style="list-style-type: none"> Recognition is not universal at the Ministry or academic institution level Lack of patient involvement in research development 	<ul style="list-style-type: none"> Share results of FHA research to demonstrate ROI for impact on health care Involve FHA Patient Advisory Committee in identifying research priorities from a patient perspective
<p>Culture</p> <p>Organization/leaders:</p> <p>support & expect learning & innovation</p> <p>value staff & empower all members to participate</p> <p>focus on customers/patients</p> <p>value collaboration and teamwork</p> <p>are flexible</p>	<ul style="list-style-type: none"> Research, care & education are integrated (enables more rapid application of evidence to practice and policy) Research & academic development is a strategic priority 91% FHA survey respondents value research being conducted in FHA. FHA researchers are embedded within the clinical health services delivery system and are aware of the need for 'change management' when new evidence based knowledge is implemented; there is less of a cultural gap in FHA than there exists between formal academic institutions and the health care system. Research vision and goals included in FHA and physician orientation Knowledge spread and reach at local level encourages creativity Library Services attends 	<ul style="list-style-type: none"> Lack of consistency in engagement of front staff as they do not feel empowered to do research Lack of systematic path for health professional/clinician scientists to develop their research career Perception that medical research is given more time than allied health research Research not included in orientation to FHA programs 	<ul style="list-style-type: none"> Strengthen FHA's identity as an academic health care organization Strengthen existing research support processes at the individual, program, and institutional level Use existing FHA structures to make research more visible, e.g. departments of medicine rounds, site management committee meetings, etc. Share results and impacts of FHA research Post research posters in FHA sites Create more opportunities for front line clinicians to be actively involved in useful research questions, bringing research to decision making and supporting research based CDSTs and QI.

	<ul style="list-style-type: none"> site leadership meetings DERS Communication strategy 		
<p>Leadership:</p> <p>Strong administrative leadership that provides role models for organizational values</p> <p>Leadership celebrates & even participates in improvement initiatives</p> <p>Emphasis on developing, fostering & inclusion in decision-making for clinical leadership & champions</p> <p>Board support: Board sets expectations by asking for reports on improvement initiatives and results</p> <p>Board provides continuity of expectations if administrative leadership changes</p>	<ul style="list-style-type: none"> Centralized leadership for research governance & support within DERS ensures compliance with applicable provincial, national and international guidelines related to research conduct 'Distributed' model of research leadership within FHA programs Program management facilitates development of program research priorities with support of EDs & PMDs Research to Practice Hubs formalized in Residential Care & Older Adult: pending in Public Health, Critical Care Existing committee structures used to promote research, e.g. CIEC, IPPC, HTA, Executive, program committees such as Rehabilitation Care Research Council Nursing research leadership, Nurse Research Facilitator Research leadership emerging in Cardiac Sciences, Critical Care, Emergency, Older Adult, Rehabilitation, End of Life, Public Health, Pharmacy, Laboratory Sciences Support programs, such as lab, pharmacy designating research coordinators to support access to their services 	<ul style="list-style-type: none"> Lack of consistent requirement for research evidence in FHA decision making Lack of consistent oversight/leadership for providing services to researchers amongst some support programs Lack of clear research leadership at the discipline level with the exception of nursing Lack of program accountability for research development at the Board level Lack of research strategic plans at program level 	<ul style="list-style-type: none"> Develop leadership strategy/professional development for research leaders Shape the demand for use of research/evaluation evidence for policy/practice change Integrate a research component in the FHA Manager's Excellence Initiative Use FHA Quality Committees as the governance structure for program research committees and priority setting Share results of FHA research Develop research strategic plans for each program
<p>Structure, Policies (i.e. Setting Characteristics)</p>	<ul style="list-style-type: none"> 8 hospital sites ranging in size from very small to large, including a recently opened state of the art ambulatory care centre; 	<ul style="list-style-type: none"> Lack of knowledge re FHA research-related policies Lack of incorporation of program research 	<ul style="list-style-type: none"> Designate leads for providing research support services Continuum of in-patient, out-patient

<p>Roles and responsibilities for improvement are clearly articulated</p> <p>Steering/oversight committees provide direction</p> <p>Teams and teamwork are part of structure</p>	<p>many community and residential sites; and in home care services</p> <ul style="list-style-type: none"> • The continuum of care includes prevention, primary, acute, rehabilitation and tertiary/specialized care. (obtain stats if necessary) • DERS integrated research infrastructure that includes policies, standard operating procedures, best practices, research governance for research ethics, program/site based research and research sustainability, and departmental support. • Member of EHealth Library Consortium 	<p>strategic goals into performance planning</p>	<p>and community care provides significant opportunity for clinical epidemiology/patient outcomes research</p> <ul style="list-style-type: none"> • Opportunity for research on the built environment, i.e. Surrey Memorial Hospital (SMH) is built as an elder friendly hospital • Opportunity for research with specific populations at specific sites, i.e. SMH has very large ACE Unit and Senior's Clinic at JP Centre. • Identify FHA as a ISO approved site for research quality management • Implement program and departmental research strategies through performance planning pathway
<p>System/ policy change</p> <p>Leaders set clear priorities for improvement</p> <p>Improvement plans integrated into the overall strategic plan as the means to achieve key strategic goals</p> <p>Leaders demonstrate both constancy of purpose & flexibility</p>	<ul style="list-style-type: none"> • Accreditation addresses research • Research became a priority initiative at the Executive level for 2013-2014 • Service plans include research and academic development • Surrey Campus and RCH are clinical academic campuses for UBC Faculty of Medicine (Distributed Medical Education Program) • Repatriation of children services to Surrey Memorial Hospital; part of Child Health Network, BC Perinatal Services BC and Optimal Birth BC • Patient centred research • Capacity exists to support 	<ul style="list-style-type: none"> • Lack of a systematic Awareness to Adherence Model of Knowledge Translation for the production and use of research evidence (awareness, agreement, adoption and adherence) • Extensive Privacy Assessment and data acquisition process for research • Less capacity to use and apply research 	<ul style="list-style-type: none"> • Develop top down organizational approach to support research at the institution/program level; and bottom up organizational approach at the individual level • Address ongoing relevance and support of research and research capacity building, accountability mechanisms, opportunities for course corrections and long term strategic/financial planning • Establish operational policies that enable

<p>Operational policies & procedures, including human resource policies, provide incentives, rewards & recognition.</p> <p>Incentives, rewards and recognition are aligned to support improvement work</p>	<p>the conduct of research in FHA</p> <ul style="list-style-type: none"> FHA Above and Beyond Awards 		<p>and support research related activities including uptake and application of research results</p> <ul style="list-style-type: none"> Put research on the annual agenda of FHA programs Scale up research from seed grant stage, and perform large studies on outcomes Define success for FHA's involvement in research Integrate patient outcomes research/evaluation into discharge planning
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BUILDING (RESEARCH) CAPACITY

<p>Champions (internal or external)</p>	<ul style="list-style-type: none"> Research champions within FHA programs which have been models for successful research development, e.g. Older Adult Falls and Fracture Team Nurse Research Facilitator, Professional Practice and Integration Innovation through technology occurring under leadership of new Head Health Sciences & Innovation for Surrey Campus SFU health economist faculty member embedded in FHA 	<ul style="list-style-type: none"> Lack of clear pathway to guide highly motivated researchers Untapped areas of expertise, e.g. InterRAI data team is largely untapped 	<ul style="list-style-type: none"> Large numbers of new physicians and staff who may have an interest in research will be required for the new SMH Critical Care tower Share results of FHA research Create embedded scientist positions for external academics
<p>Funding</p>	<ul style="list-style-type: none"> FHA operating budget supports DERS research capacity building activities Other program specific funding supports research coordination and activity at the site level FHA Foundations are beginning to be interested in and to 	<ul style="list-style-type: none"> Lack of funding for protected research time Inability to back fill positions when employees are funded to conduct research FHA foundation funding for research is a very small percentage compared to that of the VCHA, 	<ul style="list-style-type: none"> Distinguish between one time up-front investments from resource dependent processes, functions and structures that require continual financial investment FHA Foundations could allocate a fixed portion of their budget for research

	<p>identify opportunities to support funding FHA researchers (e.g. SMH Foundation funded the LEEF Chair)</p> <ul style="list-style-type: none"> • MOU between FHA and CIHR and MSFHR designated FHA as having 'Institution Paid Status' and therefore eligibility to receive and hold research awards • FHA's eligibility to receive CIHR funding means it is also eligible to receive funding from other granting agencies that adopt CIHR as the 'gold standard', e.g. MSFHR • Seed and Strategic Imperatives grants 	<p>PHSA foundations which ranges from 18 to 31%</p> <ul style="list-style-type: none"> • Lack of plan for private fund raising • Lack of systematic approach to funding research support through program operating dollars • Lack of funding for mid-level and large studies 	<ul style="list-style-type: none"> • Partner with not-for-profits, e.g. Alzheimer's Society • Promote industry grant-in-aids • Include 'value adds' in vendor contracts to support research • Explore feasibility of tapping into BC Knowledge Development Fund/Canada Foundation for Innovation, Leading Edge Endowment Fund • Explore feasibility of obtaining CIHR indirects • Share results of FHA research to external funders • Joint funding of research with academic partners • Involvement with BC SPOR SUPPORT unit business plan development
Workforce /Human Resources Staffing & Attributes	<ul style="list-style-type: none"> • 28,000 diverse staff including physicians, nurses, allied health, ancillary support and corporate support functions • FHA researchers are embedded within the health care delivery system and have knowledge of patient populations, patient needs and current standards of practice • Senior management staff, including physicians, conduct research • Senior management staff who conduct research are the decision makers required on funding applications to granting 	<ul style="list-style-type: none"> • Lack of time to think of right questions and to challenge current practice and invoke need to overcome comfort with what is known (need courage) • Lack of release time • Lack of research roles with accountability for research productivity <ul style="list-style-type: none"> ▪ CNS/CNE job descriptions – 'research' in JD, but no clarity on skills, roles, time, support for research role 	<ul style="list-style-type: none"> • Generational shift in new hires creates opportunity for specifying research interest • New staff will not have 'research fatigue' and therefore may be more ready to engage • Integrate research, 'reflective' practice into job descriptions • Create incentives: Research appointment initiative • Support clinical teams in using students effectively for local research priorities

	<p>agencies</p> <ul style="list-style-type: none"> • More staff obtaining advanced degrees in their discipline, i.e. Masters' and PhD prepared <ul style="list-style-type: none"> ▪ Specific recruitment strategy to include research opportunities; generational change in physicians and staffing • Specific job descriptions include research component and advanced preparation, e.g. CNS, Research Leader, etc. • Increase in research talent • Some programs are requiring a research component in the new positions, or physicians with research experience • Health Sciences and Innovation Office implemented for Surrey Campus and supported by Research Leader and LEEF Funded Chair. • Research co-ordinator staff positions funded by Critical Care and Emergency. 		<ul style="list-style-type: none"> • Create agreements with academic organizations to systematically embed students into research and evaluation activities • More graduates of clinical training programs are obtaining Masters and PhD level training: create JDs attractive for them
<p>Resources and Information</p> <p>Organization provides time for staff members to learn skills & participate in improvement work</p> <p>Financial/material resources & human resources are available for improvement</p>	<ul style="list-style-type: none"> • Administrative (e.g. DAD) and clinical databases (e.g. NSQUIP), i.e. the health record, can be linked • Research development/generation and knowledge transfer: DERS expertise and support—one stop shop; Library Services support • FHA DERS website with toolkits, ethics forms, etc. 	<ul style="list-style-type: none"> • Lack of dedicated research space • Lack of program specific methodological support • Insufficient data management support & study recruitment support • Lack of resources to help write up research findings • Barriers to efficiency: <ul style="list-style-type: none"> • Lack of proper 'data collection system' • Lack of support for research coordinator/implementer 	<ul style="list-style-type: none"> • RCH new development plan includes dedicated space for research • SFU space for Longitudinal Study on Aging – space will be vacant for 18 months every 3 years and is available for Surrey campus research • Economies of scale for site coordination - establish clinical drug trial coordinating centre • Develop administrative data warehouse

<p>Quality improvement support/expertise: A core group of improvement experts is available to help teams and individuals</p> <p>Quality improvement department coordinates & supports initiatives</p> <p>Needed clinical/administrative data are readily available</p> <p>Information is available to support improvement</p>		<p>mentation infrastructure at all sites</p> <ul style="list-style-type: none"> • inefficient administrative data access process due to lack of data warehouse and sufficient staff • Inefficient PIA process due to insufficient staff • Lack of statistical support software • Research approval/review processes including ethics, privacy and data access, perceived to take a long time. • Technology 	<ul style="list-style-type: none"> • Develop efficient data access and privacy review pathways • Implement consent to contact across FHA if pilot at JPOCSC successful
<p>Community/ Stakeholder Support/ Involvement</p>	<ul style="list-style-type: none"> • Accessible research participants • Since 2005, over 20,000 FHA patients, clients, residents and employees have participated in research conducted in the health authority • Patient Advisory Committee exists within the Quality portfolio • Eight hospital sites ranging in size from very small to large, including recently opened state of the art ambulatory care centre; many community and residential sites; and home care. • 2nd largest South Asian population outside of India • Large paediatric population • 80% of BC's government 	<ul style="list-style-type: none"> • Lack of communications strategy for raising research profile in the community • Low involvement of patients in research planning 	<ul style="list-style-type: none"> • Share results of FHA research <ul style="list-style-type: none"> • Raise visibility of research and its relevance within and outside of FHA • Respond to patient experience concerns not addressed elsewhere, e.g. national patient advocacy conferences • Develop mechanism for involvement of patient advisory groups in research planning and as advocates for research in FHA

	<p>assisted refugees live in Surrey</p> <ul style="list-style-type: none"> • Largest site volumes for many services, e.g. emergency, JP Centre pacemaker implants, neonatal ICU • Concentrations of at risk populations, e.g. high risk volumes of IVF births, infectious diseases 		
PROCESSES & INTERACTIONS			
<p>Engagement/ Relationship Building/ Communication Channels</p> <p>Organization has vehicles to communicate with stakeholder regarding priorities, initiatives, results & learning</p> <p>Ample forms of communication, including newsletter, forums, meetings & intranet sites</p> <p>Physicians are involved in planning improvement initiatives and participate as team members</p> <p>Opportunities for physician and clinical leadership of improvement</p> <p>Clinicians 'own' improvement</p>	<ul style="list-style-type: none"> • Current research agenda developed with stakeholder consultation • Trusted relationships have been developed by several program research teams that are needed to underpin true collegial engagement; this has made it easier for these teams to engage academic collaborators • Develop stronger relationships with hospital foundations • DERS research communication plan • The continuum of care includes prevention, primary, acute, rehabilitation, tertiary/specialized care and residential care. 	<ul style="list-style-type: none"> • Low awareness of value of DERS services and research among program management • Lack of research community culture 	<ul style="list-style-type: none"> • Develop regular communications with program management • Develop closer partnership with executive and STT on addressing gaps and supporting priority initiatives where research could play a role • Research community of practice
Shared decision	<ul style="list-style-type: none"> ▪ Residential Research to Practice to Outcomes 		

making among stakeholders	<p>Hub is linked to Quality Committee and is multi-disciplined</p> <ul style="list-style-type: none"> ▪ FHA Research Advisory Committee provides input on support issues across service departments/programs 		
Adaptation/alignment	<ul style="list-style-type: none"> • GRADE implementation strategy for evaluation of evidence based clinical decision support tools across FHA 	<ul style="list-style-type: none"> • Low awareness across FHA of latest evidence / best practice in every clinical area • Low ability to implement evidence / best practice due to human resource pressures and workload challenges • Lack of implementation science expertise, knowledge of best implementation practices • Lack of ongoing support to ensure adherence to new practice 	<ul style="list-style-type: none"> • Improve the use of high quality research/evaluation evidence • Embed implementation scientist • Develop implementation support team? • New SMH Critical Care facility design reflects new delivery processes: opportunity to study new delivery processes
Integration of rules/policies	<ul style="list-style-type: none"> • Centralized research governance, administration and research best practices vis a vis DERS, i.e. ethics, contracts • Integration with Privacy and data stewards for provision of data • Consent to contact & screen medical records pilot integrated into registration system at JPOSC; will expand across FHA if successful 		<ul style="list-style-type: none"> • Address systematically other special populations research enrolment challenges, e.g. cognitive impairment, children)
Evaluation & feedback	<ul style="list-style-type: none"> • DERS measures key performance indicators • FHREB reports to the FHA Board of Directors 	<ul style="list-style-type: none"> • Lack of annual research report to the FHA Executive • Lack of systematic collection of patient- 	<ul style="list-style-type: none"> • Define success/scorecard for FHA's involvement in research

		<p>reported outcome measures</p> <ul style="list-style-type: none"> • Lack of ROI measurement on research impact • Lack of systematic analysis of need – highest case mix – it is difficult to identify the greatest need for support in terms of the greatest # of problems presenting in FHA and hence where there might be opportunities for a ROI in research • Lack of inclusion of research activities in performance plans • Lack of data collection for health services projects in order to contribute to health services research knowledge base 	<ul style="list-style-type: none"> • Include research in performance plans • Increase concurrent evaluation planning for each new program / service initiative
<p>Training & Education</p> <p>Includes training in improvement methods, team and group work, project & meeting management and epidemiology</p>	<ul style="list-style-type: none"> • DERS/Library Services education series • Library Services provides literature search services vis a vis electronic databases using PICO strategy when applicable to research • Library Services promotes evidence use • Researchers' Cafes, Research Week, Research workshops, • Knowledge Synthesis & Exchange opportunities: Executive Briefings, Research Rx, Library Rx, Library Liaison representation on program committees • Capitalize on best practices/models already established, e.g. CIHR KT guidelines, N2 Network of Networks for clinical research SOPs • Growing academic 	<ul style="list-style-type: none"> • State of the art core competencies in KT and implementation science • Lack of formal mentoring program • Lack of inclusion of research and evaluation concepts in management development pathways 	<ul style="list-style-type: none"> • Model physician research projects after Toronto East General Hospital DOCH 2 Placement Program (see Reference) • Capitalize on models already established for mentoring, clinical trials network (e.g. Canadian Cancer Clinical Trials Network), determinants of success for innovation, Advanced Technology Program's Toolkit for Evaluating Public R&D Investment/Payback model; The Partnerships Analysis Tool • Include research /

	teaching role, e.g. 8 Schools of Nursing, family practice residents, hospital pharmacy residents, emergency residents, respiratory therapy students, etc.		evaluation training in OD / PD education sessions / pathways
Collaboration / partnership	<ul style="list-style-type: none"> • BC Health Research Council member • Academic partnerships - Affiliation agreements with BC academic institutions (UBC, SFU, UFV, TWU, UVic, RRU, UNBC, Langley College & McGill) permit academic researchers to conduct research in FHA • End of Life only Canadian health authority in federal Network of Centres of Excellence TechValueNet research program • South Asian Health Institute in development <ul style="list-style-type: none"> ▪ Opportunity to collaborate across programs, e.g. skin and wound committee is a med/surg/home health and residential care collaborative • SFU-FHA partnership agreement operationalized in many different ways including SFU Health Economist embedded in FHA • Collaboration with MSFHR re BC Ethics Harmonization • Core team participant for writing business case for provincial SPOR submission to CIHR • LEEF Chair Ryan D'Arcy: collaboration between SFU and FHA • Academic researchers conducting research in FHA must have a FHA co-investigator in order to 	<ul style="list-style-type: none"> • Lack of industry partnerships • Low # of embedded academics 	<ul style="list-style-type: none"> • Develop key strategic partnerships: • UBC and UVic Schools of Nursing are expanding opportunities for clinical appointments and have relevant research agendas in place, e.g. UBC Nursing – South Asian Cardiac studies • Partner with MoH and other HAs to focus on patient outcome research modeled on National Centre of Health Services Research and Health Care Technology Assessment Patient Outcome Assessment Research Program (NICE?) for medical treatment effectiveness research • Partner with MoH (eg. Victoria Schuckel) to identify research priorities and develop joint projects • Partner with Canada Research Chair on Patient-reported Outcomes, Dr. Rick Sawatsky, TWU • Partner with private physician offices to support epidemiological and

	<ul style="list-style-type: none"> • build research capacity • FHA part of the BC Health Technology Assessment Committee • UVic and SFU Centres for Gerontology actively engaged with FHA Residential Care, Home Health and Older Adult programs 		<ul style="list-style-type: none"> • outcomes research • CHSPR • Create opportunities to strengthen health research through links with research in other sectors including social and environmental studies, to advance knowledge about health promotion and disease prevention. • Partner with UBC's CHSRF 'Western regional training centre' • Facilitate partnerships between researchers/academic researchers and front line clinicians • Create embedded academic scientist positions • Create database of decision-maker / practice questions and research expertise (internal & external) to assist in matching
Navigating competing demands	<ul style="list-style-type: none"> • Less competition for research subjects among FHA researchers 	<ul style="list-style-type: none"> • Service delivery will always be a competing priority • Many other project based competing initiatives • Perception that time may be stolen from patient care 	<ul style="list-style-type: none"> • Help programs recognize that service plans can be aided by research through proper planning and generation of needed evidence for decision-making • Help management recognize that research addresses multiple strategic imperatives, including retention, better care, etc.
Ongoing support	<ul style="list-style-type: none"> • Department support for research provided by Health Records, 	<ul style="list-style-type: none"> • Lack of sufficient resourcing in some of these departments 	<ul style="list-style-type: none"> • Work with support departments to improve and

	Laboratory Services, Pharmacy Services, Health & Business Analytics, Medical Imaging, Privacy	<ul style="list-style-type: none"> Lack of standardization of provision of research support services among departments 	standardize research support (eg. recent project spearheaded by Finance to develop universal invoicing process and template)
Planning	<ul style="list-style-type: none"> Service Planning 	<ul style="list-style-type: none"> Lack of research planning at program level 	<ul style="list-style-type: none"> Support programs in developing research agendas and study prioritization processes

APPENDIX 6

DESIGN FOR RESEARCH STRATEGY REVIEW SESSION

March 10th 0830-1200
Newlands Golf Club, Surrey, BC

Attendees: PMDs, EDs, Research leads from clinical programs, SFU/UBC researchers, Patient Advisory members, Professional Practice reps

Lead: Susan Chunick and Dr Sonia Singh

Facilitators: Tiffany Fabro and Lindsay Macdonald

Purpose:

- To raise awareness of the Research Strategy and how it applies to clinical operations
- To generate interest amongst the clinical programs to actively participate in the implementation of the research strategy within FHA
- To obtain feedback on the implementation objectives

Outcomes:

1. To ensure a shared and clear understanding of the FHA Research Strategy mission, vision, goals, strategies and objectives
2. To identify any barriers or concerns to implementation of the strategy – capture minority views
3. To create shared ownership of the FHA Research Strategy amongst clinical programs
4. Showcase how some programs are already integrating research

NOTE: pre-reading materials sent out March 3rd - Research Strategy including vision, goals, strategies, objectives

Time	Activity	Lead
0830-0845	Breakfast networking	
0845-0855	Welcome and introductions – roundtable introductions. What brought you to this session today? Purpose and outcomes for today	Lindsay Macdonald
0855-0900	Opening Address	Dr. Andrew Webb
0900-0905	Overview of consultation process to date	Susan Chunick and Dr. Sonia Singh
0905-0930	Presentation on strategy section by section: As you hear the presentation make notes on the following: <ul style="list-style-type: none"> • Is there anything missing? Is there further information needed here to refine this section? • Does this make sense? • Does this support the other areas covered so far? • What concerns do you have about this section? • Can this work for your program? 	Susan Chunick and Dr. Sonia Singh
0930-	Small group activity:	Lindsay Macdonald

1000	Discuss the notes you made during the presentation. What key themes are emerging? (20 minutes) Capture on flipchart to share with the room (10 minutes)	
1000-1015	Large group discussion: based on the feedback from all the groups, what factors need to be in place to make this strategy a success?	Lindsay Macdonald
1015-1025	BREAK	
1025-1040	Showcases of research programs Critical Care Older Adult Pharmacy Professional Practice Residential Care	Susan Chunick Program Reps: Dr. Steve Reynolds Dr. Fabio Feldman, PhD Dr. Adil Virani, PharmD Dr. Angela Wolff, PhD Dee Taylor
1040-1110	Prioritization activity: If you were to pick the top three things your program should focus on what would they be – continuing activity or new areas of focus?	Lindsay Macdonald
1110-1125	Small group discussion: Share at your tables the areas you selected: what makes these important to your program? What opportunities are there to integrate these areas into your program activities? In what timeframe should these activities happen? What support do you need to make these areas live within your program?	Lindsay Macdonald
1125-1140	Individual activity: How will you start to live these goals and strategies in your program? What are the next steps you will take?	Program reps
1140-1145	Optional: Group discussion/brainstorm: What partnership opportunities do you see internally and externally to support the implementation of this research strategy?	Lindsay
1145-1155	What would your 20 second elevator speech be to other people in your program to garner support for research activities?	Lindsay
1155-1200	Recap purpose and objectives Thanks for participation	Susan Chunick Dr. Sonia Singh

APPENDIX 7

MARCH 10TH, 2014 WORKSHOP PARTICIPANT LIST

Table	Participant	Present	Program/Service
1	Adams, DeAnn	x	Professional Practice
1	Cumiskey, Leslie	x	Health Records
1	Howard, Linda	x	Library Services, SMH
1	McKenna, Ariadna	x	Informatics
1	Reynolds, Steve	x	Critical Care, RCH
1	van Osch, Mary	x	Emergency, RCH
2	D'Arcy, Ryan	x	Office of Health Sciences and Innovation, SMH/SFU
2	Fabro, Tiffany	x	Facilitator
2	Kristiansen, Lisa		DERS
2	Lambert, Allison	x	Library Service, RCH
2	Meloche, Margaret	x	Cardiac Services
2	Webb, Andy	x	VP, Medicine
2	Westfal, Linda	x	Health Records
3	Feldman, Anat	x	Office of Health Sciences and Innovation, SMH
3	Kelemen, Kathy	x	Laboratory Services
3	Palmer, Lynne	x	MICY, SMH
3	Viray, Camille	x	DERS
3	Whitehurst, David	x	DERS/SFU
3	Wolff, Angela	x	Professional Practice
4	Arnold, Caroline	x	Laboratory Services
4	Bingham, Brittany	x	Aboriginal Health
4	Donald, Erin	x	Professional Practice
4	Feldman, Fabio	x	Older Adult
4	Lavoie, Ashley	x	Library Services
4	Pardy, Petra		Primary Care
4	Swanson, Magdalena	x	DERS
5	Brolin, Scott		Rehabilitation
5	Gleeson-Noyes, Sarah	x	Library Services
5	Lee, Victoria	x	Public Health
5	Mason, Julie		Library Services
5	Purdon, Michelle	x	Library Services
5	Taylor, Deanne	x	Residential Care

6	Chunick, Susan	x	DERS
6	Hadden, Julie	x	DERS
6	Carr, Marcia	x	Medicine
6	Sandercock, Joyce	x	Patient Advisory Council
6	Thomas, Susan	x	Laboratory Services
6	Virani, Adil	x	Pharmacy
7	Ballantyne Scott, Brooke	x	Library Services
7	Constable, Lisa	x	Trauma
7	Hejazi, Samar	x	DER
7	Macdonald, Peter	x	Emergency
7	Shaker, Caroline	x	DERS
7	Thompson, Anita	x	Library Services
8	Cooper, Della	x	End of Life
8	Hilliard, Neil	x	End of Life
8	Macdonald, Lindsay	x	Facilitator
8	Mahoney, Karen		Renal
8	Singh, Sonia	x	DERS
8	Tien, George	x	Primary Care

APPENDIX 8

MARCH 10TH WORKSHOP POWER POINT PRESENTATION

The March 10th workshop power point presentation is available as a separate attachment. Please contact Susan Chunick, Director, Department of Evaluation and Research Services.

APPENDIX 9

MARCH 10TH WORKSHOP SUMMARY

The roundtable discussions were synthesized into five main themes:

1. How will we measure world class success?
2. What does support for research really look like? Clear definition needed
3. Capacity concerns
4. Culture concerns
5. Opportunities

Themes 2 and 5 have been used to expand on the implementation objectives detailed later in this document. Themes relating to capacity and culture concerns were integrated into the 'threat' component of the SWOT analysis. The first theme of how to measure success is addressed by identifying key performance and result indicators for each goal. A short summary follows in the table below.

Summary of Themes from March 10th, 2014 Workshop

<p>How will we know when goals are achieved? How will (world class) success be measured?</p> <ul style="list-style-type: none"> • Success measures must link to patients and frontline staff • Focus on a small area to become world class • What does 'world class' mean? • Need KPIs for each of the 5 domains; develop KPIs by program for each domain; except KTE and health systems research need FHA wide KPIs • Need an evaluation plan • Explain the order of the goals
<p>What does support for research really look like? Clear definition needed:</p> <ul style="list-style-type: none"> • Dedicated program funding/# of FTEs for research support positions and for research (e.g. CNS does not often have opportunity to participate in research) • Positive/supportive attitude towards research from lower and middle management even if funding and staff time is not being contributed • Cultivate funding from Foundations • Protected research time • Resolving barriers/clarify processes for researchers and research support roles – improve access to information • Cultivate physician and non physician research champions • Access to electronic data • Research governance structures for all programs/how to support program leadership • Mentorship • More methodological and grant development consulting support/ embedded in programs • Support for industry sponsored research including coordination • Communication plan • Recognition for researchers detailed • Support brief by frequent meetings to facilitate research discussions, i.e. huddles
<p>Capacity concerns</p> <ul style="list-style-type: none"> • What is a sustainable percentage in terms of volume of research activity?

- Culture of 'doing' for patients affects ability to 'do' research
- Perception that current research support is piece meal
- Support cannot be piece meal to be world class
- Less than 1% of operating budget currently funds research
- Who is going to do implementation science?

Culture concerns

- Failure to address culture of the front line worker results in confusion regarding the message to 'do research' while also 'doing patient care'

Opportunities

- Knowledge transfer (KT) using existing technology for real time communication in lay language
- KT champions
- Build capacity for publication
- Link to quality improvement and quality initiatives, evaluation and FHA Clinical Policy Office re clinical decision support tool development
- Integration of 'Patient Reported Experience Measures', 'Nursing Serious Adverse Event' data with outcomes research
- Think beyond BC for collaboration
- Include patients in programs as partners
- Who assesses evidence for policies?
- Build capacity through joint academic appointments for FHA employees/physicians and appointments for academics (utilize academic more to write grants/develop/manage projects)
- Encourage active engagement in research using job descriptions
- Consult support departments on redesign of DERS website

Developing and sustaining research capacity can be conceptualized as a “complex service innovation”, which in turn is a characteristic of high performing health care systems. In that regard, and in order to guide and structure the SWOT analysis, several frameworks used to explain high performing health care systems were drawn upon to provide a structure for the SWOT analysis of research capacity development in FHA. The attributes listed below have been found to be related to sustainability of complex service innovations which seemed relevant to understanding which organizational design features and processes are needed in order to accomplish a strategic integration of both conducting research and transferring research knowledge into practice within a health authority type of environment.

The following SWOT summary is a synthesis of the 'sustainability attributes' related to strengths, weaknesses and opportunities. Appendix 8 provides a more detailed analysis and a separate risk analysis.

APPENDIX 10

RISK ANALYSIS

Risk Category	Risk Description & Impact	Likelihood 1-5 (5 – high)	Impact 1-5 (5 – high)	Mitigation Strategy
Climate	Failure to obtain MoH support for HA-based research leads to reduced or no operating budget for DERS	1	5	
Culture	Failure to value research leads to lack of support by FHA staff	1	5	Demonstrate impact of research on patient care and achievement of service goals and strategic imperatives
Leadership	Failure to support the FHA research strategic plan	1	5	<p>Ensure research is a priority initiative</p> <p>Demonstrate impact of research on patient care and provide strategies to help managers support research at the individual/program levels</p> <p>Continue to support programs vis a vis DERS</p> <p>Demonstrate success of current governance structures that are integrated into Quality Committees</p>
	Failure to value & support research, evidence use at the Board, Executive and management levels leads to low morale & stagnation	1	5	
	Failure to implement accountability structures at the research governance committee level leads to conflicting research priorities	2	5	
	Failure to integrate research governance committees into FHA leadership structures leads to a lack of prioritization and therefore rational resourcing for research within programs	3	5	
Structure /policies	Failure to establish governance structures, articulation of role, responsibilities for research at the program level	3	5	Demonstrate success of governance structures currently in place
System/ policy change	Failure to include research development in program service plans using SMART objectives	2	5	Mandate inclusion of research in program service plans and accountability for measurement
Champions	Failure to provide incentives, rewards & recognition to	3	5	Develop 'pathway' for research champions

	support champions of research development			
Funding	<p>Failure to obtain any annual increase in DERS operating budget results in services not meeting demand</p> <p>Failure to obtain resources for salary support, release/back fill time, research implementation support leads to decline in staff motivation to pursue research & inability to attract the best expertise and maintain staff retention</p>	<p>4</p> <p>5</p>	<p>5</p> <p>5</p>	<p>Demonstrate demand for DERS services to FHA Executive/Board. FHA Executive/Board to endorse increase in FHA's internal funding commitment for DERS services.</p> <p>Develop strategy to identify new funding opportunities</p>
Workforce	<p>Failure to recruit research prepared staff leads to decrease in overall research activity</p> <p>Failure to incorporate research and evidence use requirements in job descriptions leads to a lack of using research evidence and engagement in research</p> <p>Failure to develop research appointment classification</p>	<p>3</p>	<p>5</p>	<p>Continue to work with Human Resources and program management to include research in JDs</p>
Resources	<p>Failure to have stable infrastructure for the provision of efficient data access, privacy & security (DAA, HSSBC) review delays research</p> <p>Failure to strengthen DERS as a regional resource that oversees best practices and research policy leads to duplication of site based resources & inability to ensure best practices are implemented</p>	<p>3</p> <p>2</p>	<p>5</p> <p>5</p>	<p>Identify businesses processes that maximize efficiency</p>
Communication/Engagement	<p>Failure to communicate research impact for stakeholders leads to a decrease in value for research & decrease in opportunity for developing new funding support</p>	<p>1</p> <p>2</p>	<p>5</p> <p>4</p>	<p>Develop comprehensive communication/KSE strategy to inform stakeholders of research achievements/impact</p>

	avenues Failure to communicate research policies and procedures results in staff lack of awareness of approval requirements, creating further risk of compliance with regulatory bodies, funders, etc.			Develop communication strategy to ensure all staff and physicians aware of requirement of approvals and of DERS as central contact for research activities
Shared decision making				
Adaptation/alignment				
Integration of rules/policies				
Evaluation & feedback	Failure to track research progress leads to inability to demonstrate ROI and therefore need for further support for research resources or funding support from external partners	2	5	Implement CIHR 'payback' measurement framework
Training & education	Failure to provide opportunities leads to staff disengagement & inability to be competitive for obtaining research grants	1	5	Continue to provide coordinated training & education opportunities through DERS Continue to demonstrate ROI for training & education provided
Collaborations	Failure to engage academic partners decreases FHA researcher competitiveness	1	4	Develop comprehensive communication/KSE strategy to maximize FHA's research reputation by informing stakeholders of research achievements/impact
Competing demands	Failure to support research at the front line results in a decrease in research being conducted and decrease in staff retention Failure to implement the Consent to Contact strategy FHA wide leads to decrease subject recruitment and competitiveness for industry sponsored research (grant)	3	5	Continue to demonstrate ROI for research conducted by front line and integration into practice Ensure pilot consent to contact initiative is evaluated and feedback/measurement presented to FHA Executive
Ongoing				

Support				
Planning	Failure to embed research planning into program service planning leads to lack of support and dedicated resources for research	1	4	Support programs in developing research agendas and processes for project prioritization

APPENDIX 11

PRIORITIZATION OF STRATEGIC PLAN KEY ACTION OBJECTIVES

Key Action Objective	# of Programs Assigning Priority
1. Develop a research governance structure for each program	10 - Cardiac Services, Critical Care, Emergency, End of Life, Health Informatics, Health Information Management, Library Services, Maternal/Infant/Child/Youth (MICY), Quality Improvement, Residential Care/Assisted Living/Specialized Populations
2. Implement pathway for health professional and clinician scientists	7 - Cardiac Services, Critical Care, End of Life, Health Informatics, Patient Advisory Council, Pharmacy, Professional Practice
3. Assist each program/service to create a model for supporting their research development	7 - Aboriginal Health, End of Life, Health Informatics, Health Information Management, Library Services, MICY, Medicine
4. Promote successful models of existing collaborations	6 - Aboriginal Health, Cardiac Services, Library Services, Medicine, Older Adult, Primary Health Care
5. Implement a knowledge management strategy	5 - Emergency, Health Information Management, Library Services, Primary Health Care, Quality Improvement
6. Foster collaboration within and across FHA programs	4 - Lab Services, Library Services, Public Health, Trauma
7. Create opportunities to participate in and lead research	4 - Aboriginal Health, Older Adult, MICY, Trauma
8. Create diversified funding opportunities	4 - Office of Health Sciences and Innovation (SMH), Library Services, Public Health, Trauma
9. Expand the FHA Communications strategy for research	4 - Patient Advisory Council, Quality Improvement, Residential Care/Assisted Living/Specialized Populations
10. Implement Patient-Reported Outcome Measurement and effectiveness studies	4 - DERS/SFU, Emergency, Pharmacy, Public Health
11. Implement a KT capacity building strategy	3 - Lab Services, Library Services, Professional Practice
12. Promote a research culture	3 - Lab Services, Primary Health Care, Professional Practice
13. Promote, reward and celebrate use of evidence	2 - Pharmacy, Professional Practice
14. Develop a plan to secure academic appointments for FHA researchers	2 - Critical Care, Older Adult
15. Provide patients and the public with the best and latest information	2 - Patient Advisory Council, Residential Care/Assisted Living/Specialized Populations
16. Develop a road map for industry sponsors	1 - Office of Health Sciences and Innovation
17. Implement model/process of patient engagement in research planning	1 - Patient Advisory Council
18. Publish results of FHA research	1 - Patient Advisory Council

19. Embed use of evidence in all job descriptions and performance planning	1 - Library Services
20. Measure return on investment	0
21. Determine annual priorities for each domain	0
22. Continue to develop research competencies	0
23. Implement a roadmap for FHA researchers	0

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