

Vancouver Coastal Health Research Institute

Strategic Plan

2022-2027

Integrating Research Innovation and Health Care

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Message From The **Executive Director**

Since joining Vancouver Coastal Health Research Institute (VCHRI) in 2018, I have been continually impressed by the level of integrity, ingenuity and social accountability of VCHRI investigators, trainees and staff. Together, we strive to push the boundaries in delivering the best care to our patients through the discovery of novel preventative, therapeutic and rehabilitative strategies and policies to improve health and minimize disease burden. Every day, I have the privilege of witnessing our researchers, clinician scientists and health professionals making incredible medical discoveries, forging meaningful partnerships and looking for solutions to improve the lives of patients and communities.

As we move through a global pandemic, I would like to take this opportunity to reflect on how we have made great strides towards achieving many of our goals despite being faced with numerous challenges over the past year. We recognized early on the need to come together as a community. Colleagues from academia, health care and industry are working together with patients, government and other stakeholders to maximize resources to face challenges head-on, pivoting investigations to address the need to find new treatments and approaches to combat the COVID-19 virus and its wide-reaching implications. Our ability to rise to the occasion is a testament to the commitment, collegiality and devotion of our team.

VCHRI researchers are paving the way for the next generation of health care delivery. Together, we will continue to build on clinical applications and evidence-based research. Our shared mission is to lead and excel in the generation of health knowledge through discovery, education, application and evaluation.

In addition to the outstanding research that VCHRI investigators have contributed to the various fields of medicine, we must recognize the tremendous success that we have had in commercializing discoveries that maximize therapeutic benefit and economic return. In recent years, the life sciences and biotechnology industry in British Columbia has become a multibillion-dollar industry. There is great optimism and hope for further expansion of the health sciences and knowledge economies in British Columbia. In addition to working closely with universities and industry partners, VCHRI will maintain its leading role in training the next generation of researchers for this rapidly growing sector of the Canadian economy.

This five-year strategic plan presents our guiding principles, goals and objectives that foster research discovery and innovation to address major challenges of medical and societal relevance. It builds on VCHRI's past successes and sharpens our collective vision for how we plan to move forward in a meaningful and impactful way.

I invite you to learn more about the strength of our research community and our performance metrics. Contained within this strategic plan are several examples of how the innovative work of our research community is positively impacting the health care system and the delivery of patient care. Inherent in this is our collaborative approach and commitment to the work we do. I encourage you to continue to engage in the process of shaping the future of VCHRI as we move ahead in our journey to advance health knowledge, care and equity.

David Granville, PhD, FAHA

Executive Director,
Vancouver Coastal Health Research Institute
Professor and Associate Dean, Research,
Faculty of Medicine, University of British Columbia

British Columbia is uniquely positioned to modernize health care and drive economic development by advancing and translating health research discoveries into practice. As one of Canada’s largest health care providers, Vancouver Coastal Health (VCH) delivers health services to nearly 1.25 million people within our catchment area—home to one of the most culturally, economically and geographically diverse populations in Canada. Health research has a profound impact on the health of Canadians and leads to a greater understanding of diseases

and life-saving treatments for a range of health conditions and disorders. In addition to advances in medical knowledge and improving the health and well-being of our diverse communities, research also provides significant return on investment by potentially reducing costs through new approaches to therapies, early detection and treatment, as well as the commercialization of technologies.

Leading Health Research in British Columbia

VCHRI is one of the top funded health research institutes in Canada. Since its inception in 2003, VCHRI has played a pivotal role in leveraging the impact of research on public health and patient care. As the research arm of VCH and a major partner of the Faculty of Medicine at the University of British Columbia (UBC), VCHRI is composed of over 2,400 personnel who are engaged in both clinical and discovery science that directly touches upon health outcomes.

Our research community is committed to accelerating the implementation of new innovations, technologies, systems changes and treatment options in the health care system for the communities we serve. With an annual research revenue of over \$100 million, VCHRI is a major player in the health research industry in British Columbia.

Vision

Healthier lives through discovery

Mission

To lead and excel in the generation of health knowledge that drives improved patient care through discovery, education, application and evaluation.

Values

The adoption of core values is essential to executing strategies and decision-making as we work to realize our Vision and Mission:

Integrity — We hold ourselves to the highest ethical standards and moral principles.

Accountability — We manage our operations and services with transparency, efficiency and reliability.

Collaboration — We promote synergy, teamwork and partnerships.

Equity — We foster fairness, diversity and respect in the workplace and in our thinking.

Community- and patient-focused — We improve health outcomes and bring meaningful results to patients and the broader population.

Healthier lives through discovery

Our Commitment to Integrating Research into Care

Health research has a profound impact on the care of patients as well as on the population as a whole by informing further discoveries, treatments, diagnostics or health policies. Therefore, VCHRI is not only a research partner, but is also a partner in providing the highest quality of care.

Health Impact

Research expertise and infrastructure at VCHRI enable both home-grown discoveries and participation in national and international clinical trials. As a result, British Columbians have access to cutting-edge diagnoses and treatments that would not otherwise be available, as well as faster translation of research into new gold standards of disease prevention and management.

Social Impact

Research dissemination and implementation strategies impact health knowledge, attitudes and behaviour within the society at large. Health research improves health status by contributing to interventions that improve quality of life, and reduce morbidity, mortality and disability. Research findings directly drive, transform and define health policies and guidelines.

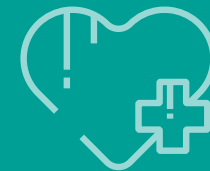
VCHRI communicates the high-quality work of our researchers to leverage the accomplishments of our research teams in support of research and research funding, as well as enhanced clinical practices, patient care, health policies and, ultimately, health outcomes for British Columbians.

Economic Impact

Clinical, fundamental and health systems research at VCHRI shape and balance both the supply and demand chain of health resources, including improved detection, reduced treatment times and lower hospital readmissions. This leads to cost savings and cost-effectiveness in the health care system.

Commercialization and technology transfer help research discoveries reach their maximum potential. The research enterprise at VCHRI is a magnet for collaboration and investment from across Canada and around the globe. Funding and investments from government, academic and private sectors are key drivers of return on investment, job and venture creation, and a new generation of B.C. knowledge leaders.

Health Impact



Improved quality of life through disease prevention, early detection and chronic disease management

New treatments, diagnostics, devices, behavioural modifications and therapeutics

Strategies for successful knowledge translation in health care practice and policy-making

Social Impact



Adherence to research-informed health policies and practices

More efficient health system resources

Positive health literacy, self-efficacy and behavioural change

Economic Impact



Optimized supply and demand of health services

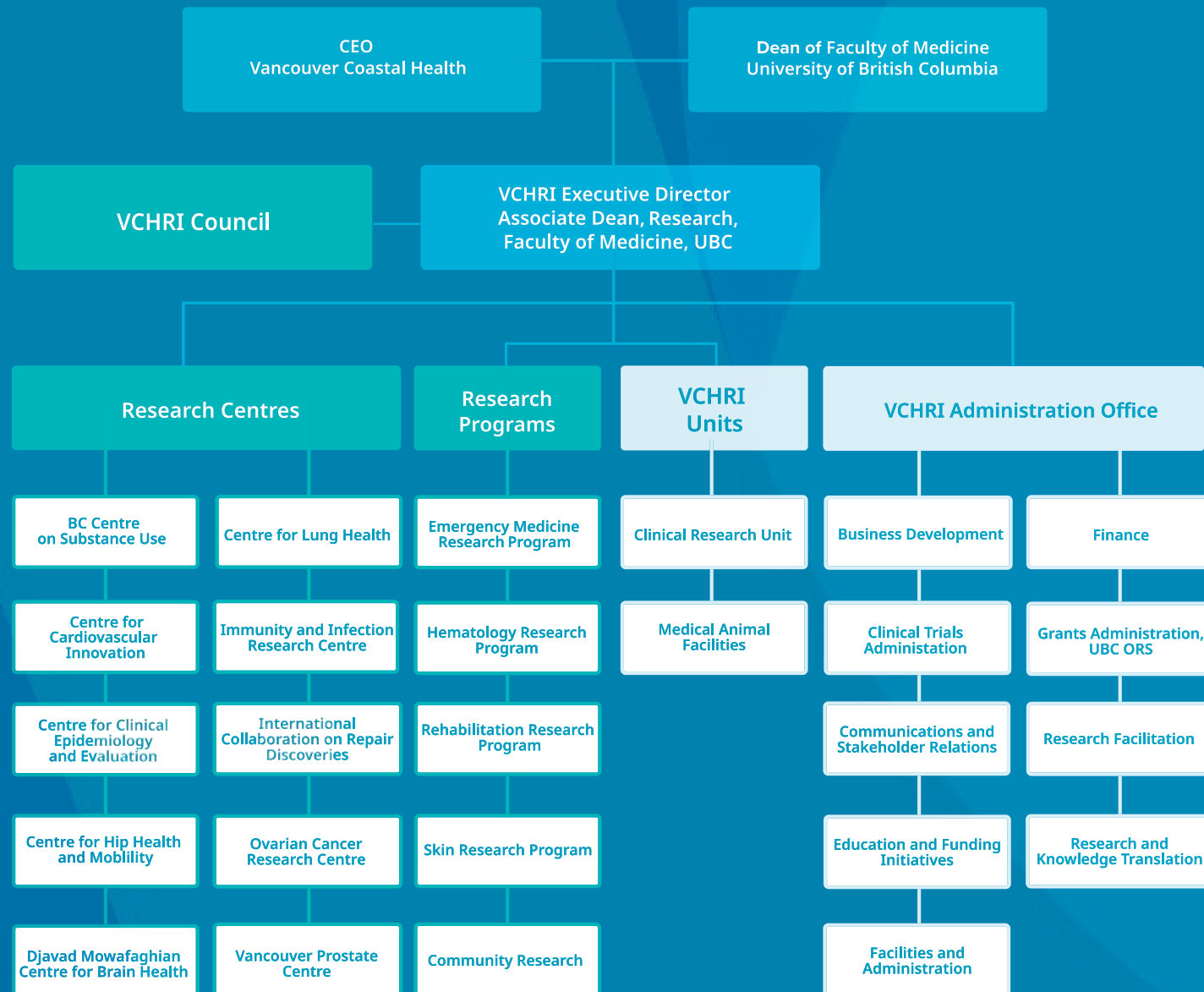
Economic gain through the generation of intellectual property, spin-off companies and jobs

Education to prepare trainees for the in-demand jobs of the emerging life sciences knowledge economy in British Columbia

Governance

VCHRI is the research engine of Vancouver Coastal Health, which includes three academic and teaching hospitals (Vancouver General Hospital, UBC Hospital and GF Strong Rehabilitation Centre) as well as community health centres and local hospitals across the health authority.

In academic partnership with the University of British Columbia, VCHRI brings innovation and discovery to patient care, advancing health in communities across British Columbia, Canada and beyond.



Leveraging Our Mandate in Alignment with VCH and the UBC Faculty of Medicine

Innovation for Impact

Health research creates direct benefits for patients, the health care system and society. VCHRI promotes the integration of clinical needs and research excellence in alignment with VCH’s strategic priorities. Specifically, alignment with the VCH strategic priority of “Innovation for Impact” is part of every strategic effort made at VCHRI. The research culture at VCHRI fosters innovation that is translated into improved patient outcomes and population health. The breadth of research crosses health sector priority areas that are critical to both the quality and sustainability of the health care system. We continue to deepen our relationships with the BC Academic Health Science Network to enable optimal engagement of patients and the public in the design, delivery and evaluation of health research.

Transforming Health for Everyone

VCHRI also operates in alignment with the UBC Faculty of Medicine’s commitment to “Transforming health for everyone.” At the core of making health care and health systems more people-centred is our ability to adapt and address the rising needs of current and prospective patients. This is evident in the multidisciplinary, integrated and patient-oriented research programs at VCHRI, which support translational science to improve individual and population health. Research knowledge and technological innovation are the cornerstones of better quality of life. To secure our continued success and further maximize our potential, VCHRI is the place for knowledge generation and translation, as well as a magnet for new investments and new ventures. A better understanding of biological mechanisms, drug treatments and prevention strategies all shape the delivery of health care and the well-being of people in British Columbia, Canada and around the world. The crossover of expertise and curious minds between the medical and academic worlds is yielding the next generation of researchers whose innovations will improve the quality of health care for future generations.

Organizational Structure

In order to maximize operational effectiveness, VCHRI strives to promote the transparency of its operations, encourage member involvement in decision-making, and further stimulate cross-pollination, integration and collaboration with other health research institutes and organizations in B.C. The VCHRI Council and the Internal Senior Leadership Team will be responsible for the implementation of the Strategic Plan 2022-2027.

VCHRI incorporates our institutional values—**integrity, accountability, collaboration, equity, community- and patient-focused**—into all decision-making processes to enhance the research culture and involvement of the VCH research community.

Equity, Diversity and Inclusion

VCHRI is committed to creating a positive working and learning environment based on mutual respect, open communication and inclusion. Towards the goal of fostering a research culture with increased equity, diversity and inclusion (EDI), VCHRI encourages the representation of individuals from four designated groups—persons with disabilities, Indigenous peoples, members of visible minorities or racialized persons and women. VCHRI leads efforts to enhance the diversity of researchers, staff and trainees by encouraging individuals from racial and ethnic groups, and other underrepresented or marginalized communities, to apply for employment opportunities, grants, educational opportunities, fellowships and awards.

Continual attention and effort are required in order to identify and eliminate barriers and inequities, and to support VCHRI members in fulfilling their research, academic and career goals. In partnership with VCH Aboriginal Health and the UBC Faculty of Medicine, VCHRI will offer coaching, education and training to raise awareness about EDI issues in employment and funding opportunities.

VCHRI Council

The VCHRI Council is a decision-making body with the mandate to provide leadership and to advise VCHRI with respect to implementing its strategic initiatives and research priorities, which encompasses inclusive, transparent, accountable and collaborative activities. The Council strives to be interactive and responsive to the changes in health care systems in order to

ensure that VCHRI researchers are well-equipped to accelerate research and improve patient care. It fosters collaborations with research entities outside of VCHRI, such as health authorities, granting agencies, external research partner organizations and provincial, national and international research initiatives.

Council members (as of Fall 2021) include:

- Dr. Penny Ballem, Vancouver Coastal Health
- Dr. Shernaz Bamji, Djavad Mowafaghian Centre for Brain Health
- Dr. Penny Brasher, Centre for Clinical Epidemiology and Evaluation
- Dr. Jeff Brubacher, Emergency Medicine Research Program
- Dr. Christopher Carlsten, Centre for Lung Health
- Angela Chapman, VGH & UBC Hospital Foundation
- Dr. Patricia Daly, Vancouver Coastal Health
- Dr. Jan Dutz, Skin Research Program
- Vivian Eliopoulos, Vancouver Coastal Health
- Dr. Janice Eng, Centre for Hip Health and Mobility, Rehabilitation Research Program
- Dr. Mark FitzGerald, Centre for Lung Health
- Dr. Martin Gleave, Vancouver Prostate Centre
- Dr. David Granville, Vancouver Coastal Health Research Institute
- Dr. David Huntsman, Ovarian Cancer Research Centre
- Cheyenne Johnson, British Columbia Centre on Substance Use
- Dr. Teresa Liu-Ambrose, Centre for Hip Health and Mobility
- Dr. Craig Mitton, Centre for Clinical Epidemiology and Evaluation
- Dr. Kishore Mulpuri, Orthopaedics
- Dr. Lynn Raymond, Djavad Mowafaghian Centre for Brain Health
- Dr. Neil Reiner, Immunity and Infection Research Centre
- Dr. Kevin Song, Hematology Research Program
- Dr. Wolfram Tetzlaff, International Collaboration On Repair Discoveries
- Dr. Teresa Tsang, UBC Department of Medicine
- Dr. David Wood, Centre for Cardiovascular Innovation

Internal Senior Leadership Team

Members of the Internal Senior Leadership Team (ISLT) work collaboratively on setting goals that align with VCHRI's vision. ISLT meets on a monthly basis to leverage opportunities and combine resources to maximize efficiency in achieving organizational goals. The team is responsible for anticipating future needs and opportunities; identifying and resolving issues; and ensuring the organization's sustainability. ISLT includes the Executive Director and senior operations leads at VCHRI along with others, as determined by the Executive Director.

Key members are:

- Dr. David Granville, Executive Director
- Dr. Amanda Chisholm, Senior Manager, Education and Funding Initiatives
- Karen Donaldson, Manager, Facilities and Administration
- Dr. Sara Khosravi, Director, Business Development
- Stephania Manusha, Director, Clinical Trials Administration
- Michelle Storms, Director, Clinical Research Unit
- Vivian Sum, Director, Brand and Communications
- Joyce Wong, Finance Manager

Executive Summary

Vancouver Coastal Health Research Institute (VCHRI) is a key provincial resource in discovery-based and clinical health research that has achieved national and international recognition in many fields. VCHRI is one of the top funded research institutions in Canada with over \$113 million in research funding in 2020/2021. The success of the organization rests on the depth and breadth of its research enterprise across three research-intensive institutions—Vancouver General Hospital, UBC Hospital and GF Strong Rehabilitation Centre—as well as Richmond Hospital, Lions Gate Hospital and various public health agencies in Vancouver and across Vancouver Coastal Health and the University of British Columbia. VCHRI comprises 15 nationally renowned research centres and programs. In 2020, we had over 1,000 researchers who held research funding and obtained research grants and contracts from internal and external sources. We have worked to create a leading research institute where the contributions of researchers, trainees and staff are respected and supported. At our core, we enshrine policies and values that promote equity, diversity and inclusion.

Realizing the Value of Our Untapped Assets

British Columbia is rapidly becoming a leading biotechnology hub on the world stage. Towards this end, VCHRI provides support to researchers at all stages of their research development process: from training the next generation for the jobs in demand, to ensuring discoveries are translated into practice and leveraged for commercialization.

VCHRI is an innovation powerhouse where researchers, clinicians, health administrators and industry work together. VCHRI is also an established leader in clinical trials and is emerging as the go-to preclinical and clinical destination for many of B.C.'s leading biotechnology companies.

In collaboration with our partners, we advance innovations with the goal of improving health outcomes, driving economic development and contributing to the overall health of British Columbians and beyond.

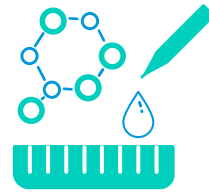
VCHRI is well-positioned to accelerate new discoveries and technological advancements into practice. In addition to VCHRI-led research—from preclinical testing and validation through to clinical trial implementation and expertise—we are well-poised to make significant contributions to the growth and expansion of the B.C. life sciences industry, jobs and venture creation.

We facilitate and develop new infrastructure models that provide efficiency gains within the health care system, including:



Clinical innovation

Evaluate and improve clinical care delivery models and surgical innovations leading to better health outcomes and health system sustainability



Biomedical engineering

Connect engineers with care providers to generate solutions for identified challenges and areas of clinical need



Medical device development

Invest in medical hardware and technologies that support imaging, testing and information sharing



Drug target discovery, disease modelling and validation

Enable validation of promising therapeutic targets into experimental models to support advancement in clinical trials



Biobanking and analytics

Increase availability of human tissue biopsies, biofluids and data for research into diagnostics and disease mechanisms



Digital health

Increase adoption of digital technologies to improve patient care and quality of life

British Columbia is home to world-class teaching hospitals as well as research universities. It is also rapidly emerging as a global hub for entrepreneurs who are commercializing medical technologies. VCHRI is committed to providing an enriched setting for researchers and health professionals to advance innovative research that will contribute to this landscape.

We identify leaders and support individual researchers and teams who are working to improve the overall health and well-being of British Columbians; enhance health services and patient care; and fuel economic development in the province.

As the leading research institute in B.C., VCHRI is committed to providing an enriched setting for researchers and health professionals to advance innovative research that will contribute to this landscape.

Adapting to the Rapidly Changing Health Care Landscape

VCHRI's previous strategic plan expired in 2016, providing us with an opportunity to identify strengths to build on, weaknesses to improve, opportunities to grow and potential threats to address. Health research remains a critical lifeline supporting and informing the health care system. Our researchers continue to respond and adapt to challenging questions and to further facilitate greater understanding of disease and health, ultimately leading to healthier people and a healthier system of care.

Our new strategic plan takes into consideration the increasing challenges facing the health care sector in view of our aging population, depreciating infrastructure and rapidly changing provincial health care trends. The strategic plan's goals, priorities and associated metrics were developed with reference to the [UBC Faculty of Medicine Strategic Plan 2021-2026](#), [Vancouver Coastal Health Service Plan 2019/20 – 2021/22](#) and [Ministry of Health Services Plan 2020/21 – 2022/23](#).

The process of engagement and iterative dialogue reveal new ways of thinking and improve the decision-making process to help bridge the gap between research discovery and clinical implementation. The strategic plan has been disseminated to VCHRI Centre and Program Directors, who have conferred with their respective research and operations teams to ensure that the strategic plan encompasses the full range of initiatives at the research institute.

The over-arching themes of this strategic plan include Integrated and Translational Research; Impact and Partnership; Knowledge Building and Translation; and Biomedical Innovation and Clinical Implementation. Each theme has clear objectives and measurable goals that support VCHRI's mission to improve the lives of British Columbians. Achieving these goals requires an integrated effort between our researchers in collaboration with the leaders of associated research units at the UBC Faculty of Medicine, as well as affiliated hospitals at VCH.

VCHRI Strategic Planning Process

The strategic plan outlines research priorities and goals that advance the mission and vision of the research institute over a five-year period. In the spring of 2021, VCHRI began a consultation process that engaged with more than 150 members and stakeholders from the VCH research community. This process led to the development of the **Strategic Plan 2022-2027: Integrating Research Innovation and Health Care**.

Environmental Scan and Assessment

January – March 2021

The strategic planning process began with a comprehensive scan of the research activities across VCH. This included the geographical location of research investigators in the VCH/UBC research community along with their research foci and research grants and contracts they received in the past five years—drawn from the UBC Research Information Systems database. The environmental scan and review provided a bird's-eye view of the broad spectrum of health research conducted by VCHRI researchers.

Engagement and Consensus Building

April – July 2021

An outline of the strategic plan was developed to facilitate ideation and discussion, and to identify common goals and action plans. The participatory decision-making process ensured all VCHRI members had the opportunity to be heard and to contribute to the VCHRI's strategic direction in the best interest of the entire research community.

- VCHRI Council Meeting on May 4, 2021
- VCH Senior Executive Team Meeting on June 22, 2021
- VCHRI Council Meeting on June 29, 2021
- VCHRI Town Hall Meeting on July 15, 2021
- One-on-one meetings between the Executive Director and investigators between May and August 2021
- Online survey in July 2021

After listening to all ideas and perspectives, the executive team at VCHRI defined goals and conducted risk assessments that honour the shared wisdom of the VCH research community. Inclusive participation resulted in more effective development of the strategic plan that provides a shared vision to guide decisions and practices.

Endorsement and Completion

August – October 2021

After extensive consultation with internal and external partners, VCHRI's five-year strategic plan was completed in October 2021. The finished product aligns with the strategic plans of VCH and the UBC Faculty of Medicine. The plan articulates a collective vision for a healthier future through research discovery, collaboration, knowledge exchange and innovation. It outlines the next steps towards developing the implementation plan and identifying feasible milestones.

Transforming health for everyone

Our Research

Given the complex and dynamic nature of health and biomedical research, it is not uncommon to find technologies and researchers whose research straddles multiple disciplines. Priority research areas at VCHRI are intertwined and often complement one another. Given the size and diversity of VCHRI, we must continually strive to improve awareness, communication and collaboration amongst our investigators. The breadth of technical, biological and clinical research expertise within VCHRI provides a unique opportunity to address challenging, complex problems in the health care system.

The dynamic and diverse research community at VCHRI creates opportunities for new scientific knowledge and its translation to improve health outcomes for British Columbians. A primary focus of this strategic plan is to improve cohesion between researchers; integrate research into patient care; and provide support for shared core technology platforms in order to efficiently and cost-effectively accelerate health research. VCHRI will also align its core technology platforms with other research institutes and the UBC Faculty of Medicine to avoid redundancy and improve cooperation, expertise and collaboration amongst researchers.



Other Areas of Research

- Addictions
- Aging
- AI and machine learning
- Big data
- Biobanking
- Cancer
- Diagnostic imaging
- Drug discovery
- Genetics
- Hematology
- Immunology
- Mental health
- Mobility
- Pancreatic cancer
- Pathology
- Rehabilitation
- Sleep
- Substance use
- Telehealth
- Wearable devices

Our researchers investigate core areas of critical importance to combat human diseases and improve well-being.

Research Areas of Emphasis

Our researchers investigate core areas of critical importance to combat human diseases and improve well-being, including research into **aging; brain and mental health; heart and lung; cancer; spine; rehabilitation; immunity and infectious diseases; bone and joint health; and population health.**

Extensive clinical research is conducted in critical care, dermatology, emergency medicine, gastroenterology, general surgery, geriatrics, intensive care, mechanisms of organ dysfunction, nephrology, primary health care, pulmonary care, renal pathology, urology and gynecology. VCHRI brings together the expertise of renowned researchers dedicated to understanding the science of aging and how it relates to the onset and progression of diseases. They provide new insights into medical devices and technological development, and translate these findings into new drugs and therapeutic approaches.

A Culture of Collaboration

The research culture at VCHRI is grounded in knowledge exchange, participation and empowerment. We nurture and reinforce a culture of collaboration by supporting interdisciplinary projects that incorporate basic and clinical research. In response to technological advances, VCHRI actively bridges research discoveries with clinical care, integrating knowledge from **imaging and diagnostics; engineering, telehealth; data and analytics; AI and machine learning; drug development; regenerative medicine; microbiome research and other technologies and approaches.**

Equity, Diversity and Inclusion in Health Research

VCHRI is committed to creating a positive working and learning environment based on the principles of equity, diversity and inclusion (EDI). This approach involves fostering mutual respect, open communication and inclusion throughout our research culture, centres and programs. Our current efforts are directed towards individuals from four distinct groups: persons with disabilities; Indigenous peoples; members of visible minorities or racialized persons; and women.

We aim to enhance the diversity of our researchers, staff and trainees by encouraging individuals from racial and ethnic groups, as well as other under-represented or marginalized communities, to apply for our fellowships, awards, grants and employment and educational opportunities. Continual attention and effort are required to identify and eliminate barriers and inequities that may stand in the way of some VCHRI members fulfilling their research, academic and career goals. As such, VCHRI partners with VCH and the UBC Faculty of Medicine to offer coaching, education and training that is raising awareness about EDI issues in employment, along with funding opportunities.

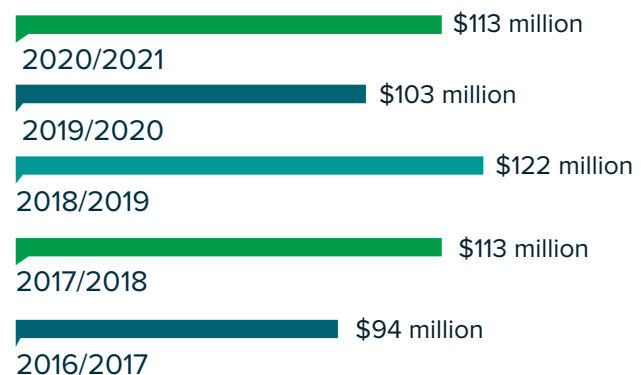
Integrating Indigenous Health Care Needs and Perspectives into Health Research

VCHRI is integrating Indigenous health-related priorities and perspectives into our research strategy. We will support the vision and goals of VCH Aboriginal Health, as well as the UBC Faculty of Medicine's goal to develop educational and health care systems that are accessible, equitable, effective, culturally-safe and free of Indigenous-specific racism and discrimination. Our efforts will also advance reconciliation with Indigenous peoples and support the work towards achieving health equity by embedding practices of cultural safety and humility into the architecture of the health care system.

Our strategy is designed to help transform the health care system to better serve Indigenous health needs, and to ensure equitable and safe care for all Indigenous peoples. In partnership with VCH Indigenous Health, VCHRI will establish and promote organization-wide research and data governance policies that align with the principles of self-determination. Our work towards this end will support the development and raise the profile of Indigenous-led research programs at VCH.

Research Funding

VCHRI is one of the top funded health research institutes in Canada. This graph illustrates the substantial growth in research funding **from 2016/17 to 2020/21** (in millions of dollars):



VCHRI Centres, Programs and Areas

VCHRI is a diverse organization that aims to support the research activities of multidisciplinary health care professionals. VCHRI is home to 15 core research centres and programs:

- BC Centre on Substance Use
- Centre for Cardiovascular Innovation
- Centre for Clinical Epidemiology and Evaluation
- Centre for Hip Health and Mobility
- Centre for Lung Health
- Community Research
- Djavad Mowafaghian Centre for Brain Health
- Emergency Medicine Research Program
- Hematology Research Program
- Immunity and Infection Research Centre
- International Collaboration on Repair Discoveries
- Ovarian Cancer Research Centre
- Rehabilitation Research Program
- Skin Research Program
- Vancouver Prostate Centre

Researchers are also active in a wide variety of evolving research areas, including gastroenterology, trauma care, ophthalmology, pancreas care, nursing, physiotherapy, occupational therapy, diabetes and islet cell transplantation.

Research Space and Facilities

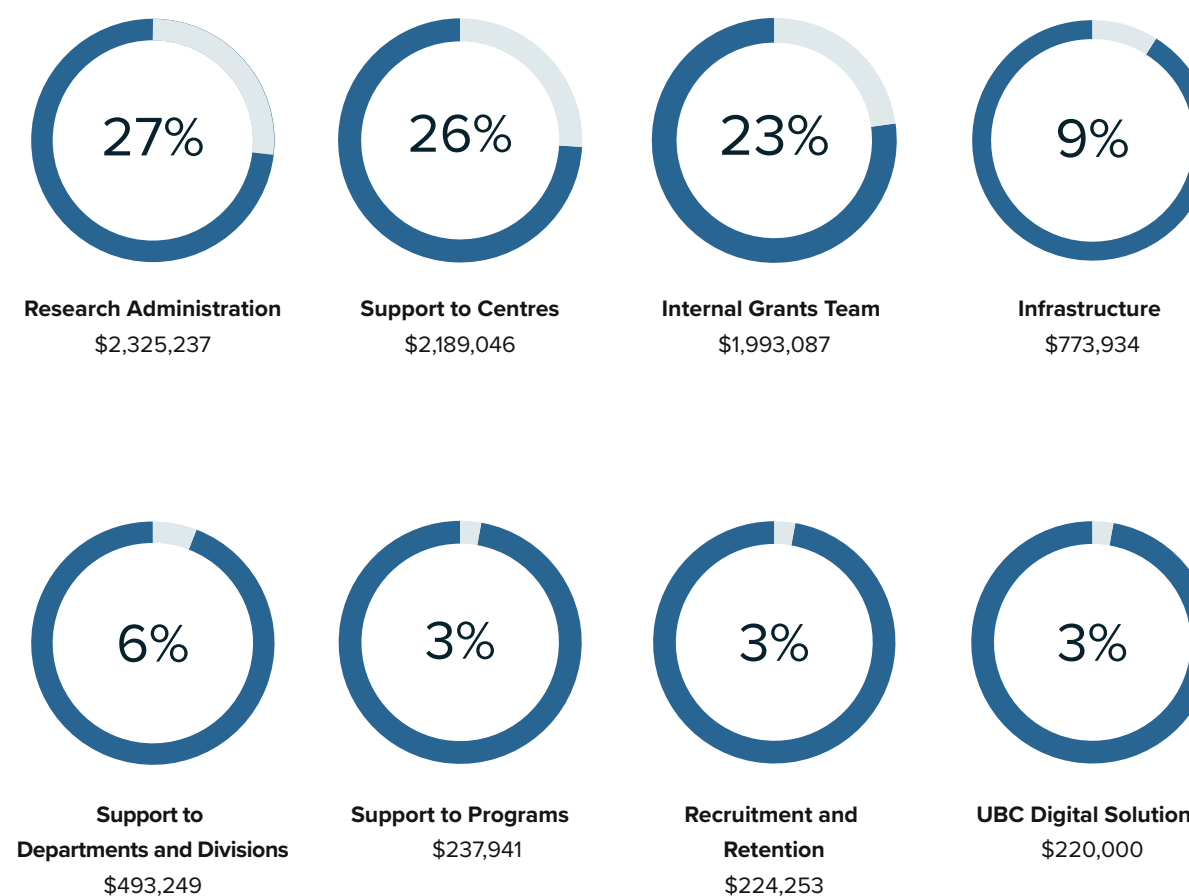
VCHRI oversees approximately 473,000 square feet of research space within VCH locations with the vast majority carried out at Vancouver General Hospital (VGH), UBC Hospital (UBCH) and GF Strong as well as smaller geographic areas in Richmond, Coastal and other rural and remote sites. Major research facilities include:

- Blusson Spinal Cord Centre
- Djavad Mowafaghian Centre for Brain Health
- Detwiller Pavilion
- Eye Care Centre
- GF Strong Rehabilitation Centre
- Gordon and Leslie Diamond Health Care Centre
- Heather Pavilion
- Jack Bell Research Centre
- Jim Pattison Pavilion (North)
- Koerner Pavilion
- Leon and Judah Blackmore Pavilion
- Purdy Pavilion
- Robert H. N. Ho Research Centre
- Skin Care Centre
- VGH Research Pavilion

Support for Research

VCHRI receives budget support from a number of sources including an operating budget from VCH, support for the awards programs from VGH & UBC Hospital Foundation, a proportion of the Indirect Costs Program from the federal government, as well as a proportion of the overheads from clinical trials and industry contracts.

The following is a summary of the distribution of the budget and support of research and administrative activities:



Administrative Services

The VCHRI administrative office is committed to providing health professionals with administrative support, advice and information to manage their research projects from planning to the publication and implementation stages. In addition, VCHRI provides on-site research support to clinician-researchers across VCH, including the Richmond, Coastal (North Shore and Coast Garibaldi) and Vancouver (community services) regions. Research within VCH takes place at each stage of the patient care journey, both within acute care settings and in the community, to foster the translation of research results into clinical practices.

VCHRI Internal Award Competitions

VCHRI offers grants and award programs for individual investigators and teams with the aim to foster continuity in research and support discovery from bench to bedside. Internal award competitions include the Innovation and Translational Research Awards, Innovators' Challenge, Investigator Awards, Knowledge Translation Challenge, Sidhoo Fund, Team Grant, Research Challenge, Top Graduating Doctoral Student Award and Rising Star Award.

Research within VCH takes place at each stage of the patient care journey, both within acute care settings and in the community.

In-house research services and units include:

- Business development and industry partnership
- Clinical Research Unit
- Clinical trials administration
- Communications and public affairs
- Grant review and on-site support through the UBC Office of Research Services
- Facilities and maintenance
- Finance administration
- Funding initiatives and internal award competitions
- Health and safety
- Medical Animal Facilities
- Research education, professional development and event planning
- Research facilitation

Research Innovation: A Potent Driver of Improved Health and Economic Return

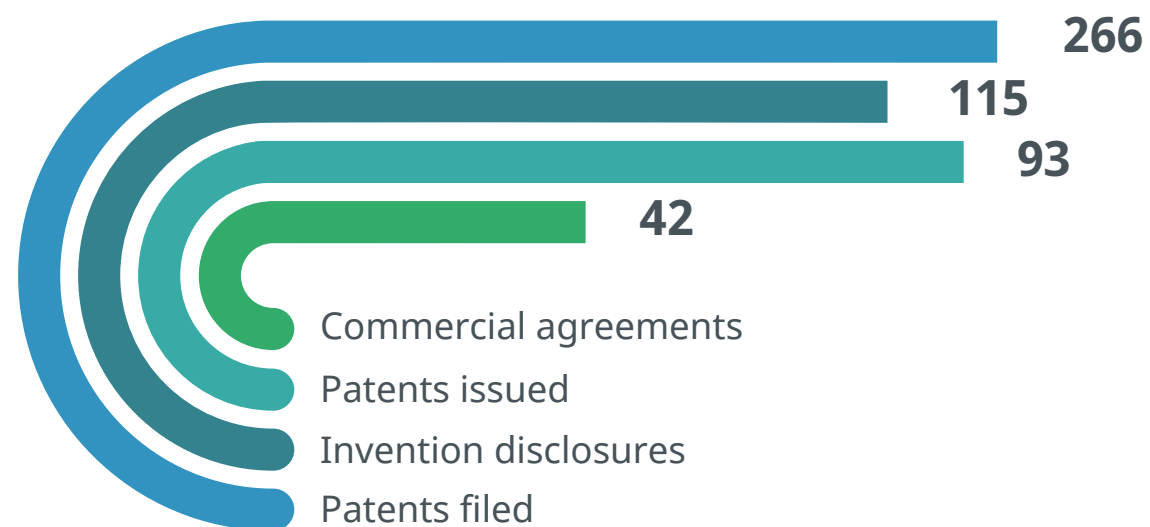
High quality research is a driver of health innovation. Better and faster translation of research into commercial outcomes is a critical building block to drive innovation, boost productivity and reap the economic benefits of research in B.C. VCHRI is committed to maximizing the social impact and commercial return of our research assets, transforming ideas and technologies into new products, services and policies.

Promoting commercial literacy and encouraging collaboration with industry enables research development that is innovative, commercially significant and likely to succeed.

With an outstanding track record in medical research, VCHRI is well-positioned to catalyse health innovation through partnerships and commercialization.

Informatics is an emerging priority area for VCHRI. The health data produced through informatics has become a driving force of critical advances in health care that stand to directly benefit patients and their families. VCHRI will be seeking new ways to raise awareness among health authority leadership teams and academics about the use of informatics in health research.

Inventory Summary 2016-2020



VCHRI aims to increase the translation of research into commercial outcomes and align institutional priorities with industrial strengths and community interests. In partnership with VCH and the UBC Faculty of Medicine, VCHRI will assess existing research priorities and tailor strategies to increase the commercial returns from research.

Building better bridges between research and industry

- Provide greater incentives for research-industry collaboration
- Consolidate existing projects and initiatives that focus on collaboration with industry to increase their scope and competitiveness
- Recognize industry-relevant experience in internal research grants
- Strengthen data, intellectual property and cybersecurity

Realizing the potential of existing research infrastructure

- Undertake a reassessment of existing resources and infrastructure
- Develop a long-term infrastructure investment plan that aligns with demand within the research and industry sectors
- Explore opportunities to better integrate VCHRI with the B.C. life sciences sector and to increase incubator space and shared core facilities on the VGH campus
- Increase accessibility to research
- Offer industry more points of access to commercially-relevant research
- Strengthen the potential link between research funding and intellectual property dissemination

Prioritizing High-Impact Health Research in B.C.

Meeting the needs of a growing and aging population will continue to be a priority for British Columbians and health authorities. The health care needs of seniors are often complex and increase with age. The COVID-19 pandemic has clearly identified the vulnerability of seniors in long-term care and the need for better safeguards to protect this vulnerable population. VCHRI is focusing attention towards supporting research that merges leading scientific findings with health care providers across disciplines to identify new approaches that can address and meet the health care needs of seniors.

Health care measures must be sustainable to be viable. Towards this end, VCHRI is prioritizing investigations that maximize return on investment in terms of reducing socioeconomic health burden and enhancing commercialization. Part of this picture involves bridging the gap between research and commercialization. This is why another one of our focus areas is to foster the translation of leading research into clinical applications and commercial enterprises.

Building better bridges between VCHRI research and industry

Realizing the potential of existing research infrastructure

Our endeavours are guided by fundamental science, patient needs, economic factors, input from hospital, government and industry leaders and patient well-being. Taking these considerations into account helps us direct funding and resources to priority areas. To enhance the impact of our researchers and research teams, we promote a reciprocal exchange between laboratories and clinicians.

Clinical expertise, patients and specimens are made available to biomedical research laboratories; conversely, science expertise, discoveries and technology innovations are made available to clinicians. This also promotes a culture of collaboration and applied research that strengthens the health research community and the translation of health research into patient care.

Strategic Research Priorities

VCHRI advocates for “Healthier lives through discovery”. We have identified four overarching strategic themes: **Integrated and Translational Research; Impact and Partnership; Knowledge Building and Translation;** and **Biomedical Innovation and Clinical Implementation.** These build on the strengths of the VCH research community and complement our core values of integrity, accountability, collaboration, equity, community- and patient-focused.

Integrated and Translational Research

VCHRI has a longstanding history of research excellence, productivity and translation of knowledge into practice. The impact of research at VCH is not only reflected in our ranking, but also in the breadth of our expertise and endeavours.

VCHRI prioritizes resources and funding for research that shapes and transforms lives. Over the next five years, we will increase our support for translating research into tangible health, economic and societal outcomes.

Research priorities for action:

Accelerate the translation of research discoveries into clinical practice and care

- 1.1** Increased emphasis on identifying and understanding unmet clinical needs
- 1.2** Identifying, building and expanding shared research core platforms that ensure researchers are equipped with the most advanced technologies available
- 1.3** Integrating research into every aspect of health care and clinical practice
- 1.4** Facilitating the adoption of informatics and developing robust information systems to improve the quality of clinical care management
- 1.5** Improving dialogue amongst scientists, engineers, health care providers, industry and other stakeholders to expedite translation and clinical implementation
- 1.6** Providing access to virtual communication platforms and other community engagement initiatives that support knowledge transfer, relationship building and trust, collaboration, collegiality and new avenues of exploration
- 1.7** Integrating Indigenous health-related priorities and perspectives into our long-term research strategies
- 1.8** Developing ethically responsible and culturally sensitive research on multiracial identity, and supporting the public health and social health resource needs of particular underserved individuals with high risk profiles

Ensure research is ingrained into every aspect of patient care

- 2.1** Identifying and prioritizing unmet clinical needs and bringing appropriate expertise to generate solutions
- 2.2** Greater attention to aging and chronic diseases
- 2.3** Exploring how technological advances in research programs and centres can be applied to other areas such as aging, assisted living and long-term care
- 2.4** Promoting integration across research groups and centres in order to optimize research productivity, quality, equity and efficiency
- 2.5** Asset mapping, gap analyses, and developing functional and innovative research initiatives and facilities that support multi-dimensional translational research
- 2.6** Partnering with health authorities, patients and community groups to identify and respond to their needs

Embed and strengthen patient-centred research and a community-focused approach to policy development

- 3.1** Increasing patient advocacy and public participation in clinical trials through proactive research awareness campaigns and consultation
- 3.2** Improving processes for ethics and operational approvals for multi-site research studies and clinical trials
- 3.3** Encouraging the use of existing platforms such as drug discovery, genomics, bioinformatics, statistics, disease modelling and preclinical facilities
- 3.4** Working with our partners to bring government and health policy decision-makers on-side with respect to specific policy priorities

Impact and Partnership

VCHRI has a strong track record of tackling many of the most important health challenges that arise both locally and globally. Lessons in recent years have illustrated that when barriers are removed and patients, university, health authorities, hospitals, government and industry align, solutions can be advanced with great speed and efficiency. Conversely, we have also identified areas that could be improved. Many promising discoveries and advancements have failed to make an impact due to the lack of local investment into life sciences.

The life sciences sector brings value to patients and is driving force in job creation and advancing the knowledge economy. The impactful research and innovation that occur at VCHRI will continue to play a key role in meeting current and emerging clinical needs and priorities in B.C.'s health and life sciences sectors. A key driver of our success will be to ensure the sustained growth of our teams, and ongoing engagement with our partners, including health authorities, universities, hospitals, medical research institutions and local communities.

Research priorities for action:

Ensure that VCHRI maintains its role as a leader in the B.C. health research environment

- 1.1** Fostering a translational research culture across VCH through enhanced collaboration between researchers, clinicians, health professionals and the entire B.C. life sciences community
- 1.2** Creating opportunities for collaborative research projects, including clinical networks and shared infrastructure
- 1.3** Improving relationships and removing barriers to research continuity between universities, hospitals and industry
- 1.4** Continuing to educate and inform politicians and other policy makers about the value of research on patient health, economy and overall well-being

Empower and foster research collaboration

- 2.1** Increasing research capabilities and capacity at VCH through our strategic alignment with academia, health authorities and funding agencies
- 2.2** Raising awareness about collaborative research activities and achievements at VCH
- 2.3** Facilitating engagement and networking with new and emerging researchers and in support of research initiatives among members
- 2.4** Exploring collaborative research and mentoring opportunities across VCHRI centres and programs
- 2.5** Promoting a community-working environment in partnership with other health authorities to reduce redundancies in research processes and practices

Integrate sustainability into existing structures

- 3.1** Working with local biotechnology companies and core facilities that are mutually beneficial
- 3.2** Targeting provincial funding sources and participating in federal research funding initiatives
- 3.3** Facilitating asset planning and resource coordination amongst VCHRI centres and programs
- 3.4** Assessing and evaluating VCHRI administrative services to streamline and improve efficiency of processes

Knowledge Building and Translation

In preparation for shifting health care priorities, including addressing the needs of an increasingly aging population, VCHRI will continue to develop opportunities to build, translate and exchange knowledge with an emphasis on preparing young and emerging researchers for the road ahead.

Part of this will involve addressing systemic and historical inequities that continue to shape students' learning experiences. Over the next five years, VCHRI will explore new ways to foster inclusive teaching and learning to give all members of the VCH research community equitable access to career growth and educational opportunities.

Research priorities for action:

Attract, train and retain the top talent in health research and the health care sector

- 1.1. Promoting joint research initiatives with provincial research institutions and organizations to secure more national and international grants
- 1.2. Promoting and rewarding the research excellence of young and emerging researchers
- 1.3. Assessing the need for additional translational research education and training programs

Establish enriched learning experiences for career development

- 2.1. Offering targeted career development and on-the-job training that is aligned with market needs
- 2.2. Ensuring graduates and post-doctoral fellows are prepared to enter the workplace and are motivated to pursue careers in health and medical research
- 2.3. Providing coordinated joint education and training programs across other research institutes that enable participants to access education at any site
- 2.4. Promoting fellowship scholar programs and exploring mentorship and joint hire programs with other research institutes

Biomedical Innovation and Clinical Implementation

In part due to lessons learned from the pandemic, it is clear that the most efficient way to ensure success is when academia, research hospitals, government, patients and industry work together towards a common goal. Consequently, the public and government are placing increased emphasis on clinically-relevant research that has the potential to improve patient health and economic return to fuel further growth and sustainability.

B.C. has emerged as a global powerhouse in biotechnology. Life sciences is now viewed as a key sector for job creation and economic growth. As such, VCHRI will continue to play a vital role in the research continuum from idea to innovation to implementation. VCHRI is committed to developing comprehensive strategies that deepen our relationship with industry, particularly within the biomedical and digital health research communities.

Research priorities for action:

Target research directed towards health innovation and commercialization

- 1.1** Maximizing the use of research facilities for fundamental, preclinical and clinical studies that encourage translational research collaborations
- 1.2** Repositioning and strengthening the VCHRI brand to maximize its appeal to key stakeholders, companies and venture creation
- 1.3** Harnessing the power of digital technology and e-health to promote research and commercialization
- 1.4** Expanding on drug target discoveries, disease modelling and target validation platforms

Invest in new technologies, facilities and practices to meet societal demand

- 2.1** Ensuring existing and new research facilities are financially effective
- 2.2** Establishing guidelines for the use and allocation of existing and new research space
- 2.3** Increasing our biobanking capacities and synergizing efforts with other hospitals and health authorities
- 2.4** Implementing a shared research resources strategy that includes facilities and equipment such as imaging; grant development support; IT support; statistical and methodological support; access to databases; research dissemination; and financial management

Facilitate commercialization, investment and industry partnerships

- 3.1** Supporting opportunities for business development, such as technology licensing and spin-off companies
- 3.2** Improving engagement with industry partners through showcasing and networking events and other joint research initiatives
- 3.3** Investigating biotechnology research opportunities
- 3.4** Increasing awareness through networking, seminar series and professional development activities

Outcomes and Performance Indicators

Identifying tangible outcomes for the defined strategic priorities will support the successful implementation of this strategic plan.

Integrated and Translational Research

- Improved alignment between foundational research, discovery, translation and clinical implementation
- Improved health care and clinical practices through interdisciplinary research
- Increase in clinical trials and research studies support through VCHRI
- Increase in clinical trial participation rates
- VCHRI governance model refreshed and approved by Council
- Improved access to research tools and resources centralized and readily available on the VCHRI website
- Streamlined multi-site ethics and operational approval process
- Business plans designed to drive, support and improve translational research outcomes
- Brand recognition synonymous with health research excellence
- Novel digital platforms that enhance research opportunities
- Website enhancement and growth in site traffic and usage
- Improved community understanding and support for health research

Impact and Partnership

- Increase the number of grants, publications, citations and research awards
- Networking events held to celebrate collaborative translational research
- Reduce barriers, improve relationships and enable collaboration with universities, other hospitals, industry, patients and other stakeholders
- Successful collaborative research grants
- Increase placements for researchers, staff and trainees across VCHRI centres and programs
- Facility plans that are designed to drive, support and improve translational research outcomes

Knowledge Building and Translation

- Training and education programs designed to address traditional as well as emerging career opportunities in demand
- Ensuring that trainees and researchers are nimble and prepared for health challenges of the future
- Cultivate a research environment and culture that attract and retain researchers
- Increase in research training and professional development course participation rates
- New agenda supports for early career researchers to undertake proof-of-concept projects in a specific interest area of their choosing
- A fair and transparent peer review process for all VCHRI internal competitions

Biomedical Innovation and Commercialization

- Reduce barriers and augment relationships between VCHRI and industry to create opportunities for more collaborative research agreements, spin-off companies and licences
- Quantification of commercial agreements, invention disclosures, patents filed, patents granted, patents licensed or assigned
- Resources and assets mapped
- Assessment of VCHRI-wide commercialization and investment opportunities
- Commercial ventures established
- Increased joint private and public research ventures
- Shared access and infrastructure agreements in place
- Approved and implemented biotechnology research projects

Enablers for Success

The COVID-19 pandemic has had a profound impact on the health care system and health research environment. In the face of ongoing and considerable uncertainty, VCHRI will be a source of support for our researchers and clinician scientists. However, recent experiences and lessons learned from COVID-19 have reinforced how quickly and efficiently technologies can be transformed from ideation to practice when academics, clinicians and industry work together towards a common goal.

To enable success, VCHRI will continue to adjust our operations to meet the needs of the health care system and our research community, including through:

- Forging partnerships with national health researchers and organizations
- Encompassing equity, inclusion and diversity into recruitment, research and operational endeavours
- Improving access and opportunities for interaction and collaboration amongst academics, scientists, engineers and clinicians
- Fostering a more collegial, cooperative and sharing environment with various stakeholders (universities, hospitals, government, industry, patients, donors) to uphold the highest standards for guidelines, policies and processes to improve public health and clinical practice
- Funding outstanding research that benefits British Columbians and addresses health care system needs
- Aligning clinical research data sharing practices, agreements and contracts with those of other research institutes and universities where appropriate to streamline processes
- Responding to emerging high-priority areas in health care delivery and research, such as highly infectious diseases and the care needs of our increasingly aging population
- Securing sustainable investments in technology and infrastructure
- Promoting safety and best practices in the workplace
- Advancing leadership in health ethics and laboratory animal welfare
- Growing Indigenous health research capacity

Research Performance Indicators

The success of this strategic plan requires evaluating specific performance indicators. Some of these are currently collected by VCHRI and the UBC Faculty of Medicine, while others will need to be developed and collected in partnership with VCHRI centres, programs and other units across the research community.

Outcome evaluation metrics include:

- Accelerated uptake of discoveries and clinical innovations
- Clinical trials activities
- Grant and contract funding
- Publications, citations and journal impact
- Symposium and conferences organized
- Intellectual property, disclosures, royalties and spin-off companies
- Scholarships and fellowships
- Faculty, postdoctoral fellow and graduate student honours
- Partnership with the provincial government and federal government
- Uptake and implementation of new policies, practices and methodologies

Progress and performance will be reported to the VCHRI Council, VCH and UBC Faculty of Medicine on an annual basis. VCHRI will continue to develop performance measures and metrics to define and assess the impact of the research we support.

Acknowledgements

Throughout the ideation and development of this five-year strategic plan, we have given deep consideration to how VCHRI can achieve meaningful and sustainable impact for our patients and community. From the outset, we sought to listen to the full range of voices across the VCH research community—investigators, clinicians, trainees, academic and professional staff—and those of our research collaborators and partner organizations. VCHRI is fortunate that leaders and members continually share insights to enhance improvements in our research and services. The commitment, passion and energy for research excellence are highly valued.

Thank you to the VCHRI Council, VCH Senior Executive Team and the UBC Faculty of Medicine for their continued insights throughout the strategic planning process in 2021. Council members have provided inspiring ideas and recommendations on research priorities, enabling factors and overarching strategies. In addition, suggestions and feedback from across the VCH and UBC research community helped renew our shared purpose to advance discovery and translational research in this five-year strategic plan. We would also like to thank our research centres, programs and units, foundations and external research partner organizations for their valuable input.

We are ready to embark on this journey in health care through research.



Thank You to All Participants

Dr. Penny Ballem
Dr. Shernaz Bamji
Dr. Brittany Bingham
Leslie Bonshor
Dr. Penny Brasher
Dr. Jeff Brubacher
Dr. Christopher Carlsten
Angela Chapman
Dr. Patricia Daly
Alistair Duncan
Dr. Jan Dutz
Vivian Eliopoulos
Dr. Janice Eng
Dr. Mark FitzGerald
Dr. Blake Gilks
Dr. Martin Gleave
Dr. David Granville
Dr. Pierre Guy
Dr. Kendall Ho
Dr. David Huntsman

Dr. Cheyenne Johnson
Dr. Dermot Kelleher
Dr. Karim Khan
Dr. Agnes Lee
Dr. Teresa Liu-Ambrose
Dr. Dianne Miller
Dr. W. Robert McMaster
Dr. Heather McKay
Dr. Craig Mitton
Dr. Kishore Mulpuri
Dr. Lynn Raymond
Dr. Neil Reiner
Dr. Kevin Song
Vivian Sum
Dr. Wolfram Tetzlaff
Dr. Teresa Tsang
Dr. David Wilson
Dr. Michelle Wong
Dr. David Wood

Healthier lives
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