THE CANADIAN INSTITUTE FOR MILITARY AND VETERAN HEALTH RESEARCH

SERVING THOSE WHO SERVE US

A REPORT OF OUR PROGRESS SEPT 2010 TO SEPT 2014

CIMVHR
Canadian Institute for Military and Veteran Health Research

ICRSMV
L'Institut canadien de recherche sur la santé des militaires et des vétérans

CANADIAN INSTITUTE FOR MILITARY AND VETERAN HEALTH RESEARCH (CIMVHR) EXISTS TO ENHANCE THE LIVES OF CANADIAN MILITARY PERSONNEL, VETERANS AND THEIR FAMILIES BY HARNESSING THE NATIONAL CAPACITY FOR RESEARCH.

WITH OVER **65,000** SERVING MEMBERS IN THE CANADIAN ARMED FORCES, **25,000** IN THE PRIMARY RESERVE FORCES, OVER **600,000** VETERANS, AND THEIR FAMILIES, WE HAVE A SIGNIFICANT POPULATION WITH UNIQUE RISKS, EXPOSURES AND EXPERIENCES. THESE CANADIANS REQUIRE UNIQUE STANDARDS OF HEALTH PROTECTION, PREVENTION AND CARE.

FOR **4 YEARS** WE HAVE WORKED TO ENGAGE EXISTING ACADEMIC RESEARCH RESOURCES, FACILITATE NEW RESEARCH, INCREASE RESEARCH CAPACITY AND FOSTER KNOWLEDGE TRANSLATION.

AT ITS CORE, THE INSTITUTE IS BUILT ON A STRONG FOUNDATION OF COMMITTED PARTNERSHIPS WITH ACADEMIA, CLINICIANS, MILITARY, VETERANS, GOVERNMENT, INDUSTRY AND GROUPS OF CARING CANADIANS. ON THAT BASE, CIMVHR HAS BUILT A NETWORK OF ACADEMIC RESEARCHERS FROM ACROSS CANADA, AND HAS BECOME THE HUB FOR **33 UNIVERSITIES** WHO HAVE AGREED TO JOIN FORCES IN ADDRESSING THE HEALTH RESEARCH REQUIREMENTS OF THE CANADIAN MILITARY, VETERANS AND THEIR FAMILIES.

SINCE 2010 CIMVHR HAS ENGAGED OVER **1000** RESEARCHERS, SHOWCASED OVER **450** RESEARCH PROJECTS TO MORE THAN **1700** STAKEHOLDERS, INFLUENCING INNUMERABLE POLICY, PRACTICE AND RESEARCH DECISIONS, FOR **ONE REASON** – IMPROVING THE LIVES OF MILITARY PERSONNEL, VETERANS AND THEIR FAMILIES.

CIMVHR: SERVING THOSE WHO SERVE US.

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Dr. Alice B. Aiken
Director, CIMVHR
Associate Professor and Associate Director,
School of Rehabilitation Therapy,
Queen's University

A MESSAGE FROM THE DIRECTOR AND ASSOCIATE DIRECTOR

As Director and Associate Director of the Canadian Institute for Military and Veteran Health Research (CIMVHR), Queen's University and the Royal Military College of Canada have entrusted us with the development and growth of this truly unique research institute.

Since 2010, we have had the honour and privilege to work along-side our 33 academic partners, visionary leaders from the Canadian Military, Veterans Affairs, and National Defence, as well as philanthropic groups such as True Patriot Love, The Royal Canadian Legion, and Wounded Warriors Canada. With their trust and guidance, CIMVHR has grown to become the hub for Canadian academic health research for military personnel, Veterans and their families.

We are proud of how far we have come in just 4 short years and have endless gratitude for the people who have helped along the way. This report is an opportunity to look back and highlight some of our most exciting accomplishments in research. Looking forward, our hope is that this report will encourage further support which is essential for us to continue to shepherd the growth of this research institute dedicated to serving those who serve us.

Stéphanie A.H. Bélanger, PhD
Directrice associée, ICRSMV
Professeure agrégée, CMRC

UN MESSAGE DE LA DIRECTRICE ET DE LA DIRECTRICE ASSOCIÉE

En tant que directrice et directrice associée de l'Institut canadien de recherche sur la santé des militaires et des vétérans (ICRSMV), nous sommes fières d'avoir obtenu la confiance de l'Université Queen's et du Collège militaire royal du Canada qui nous ont confié le développement de cet institut à caractère unique.

Depuis 2010, nous avons eu l'honneur et le privilège de travailler avec 33 partenaires académiques, avec des conseillers de la Défense canadienne et d'Anciens combattants Canada, ainsi qu'avec des groupes philanthropiques tels que True Patriot Love, la Légion et Wounded Warrior Canada. Grâce à leur soutien à leurs bons conseils, l'ICRSMV a grandi jusqu'à devenir le pilier de la recherche académique canadienne sur le personnel militaire, les vétérans et leurs proches.

Nous nous félicitons des immenses progrès accomplis lors des quatre dernières années et nous sommes éternellement reconnaissantes envers les gens qui ont fourni leur aide en cours de route. Ce rapport est une opportunité de commémorer quelques-uns de nos plus grands accomplissements en matière de recherche. Nous espérons que ces avancées encourageront nos partenaires à renouveler leur confiance pour nos futures recherches. C'est grâce à cet appui que l'Institut peut continuer à croître et à soutenir ceux et celles qui servent notre pays.

OUR VISION

THE HEALTH AND WELL-BEING OF CANADIAN MILITARY PERSONNEL, VETERANS AND THEIR FAMILIES IS MAXIMIZED THROUGH WORLD-CLASS RESEARCH RESULTING IN EVIDENCE-INFORMED PRACTICES, POLICIES AND PROGRAMS.

OUR MISSION

TO ENHANCE THE LIVES OF CANADIAN MILITARY PERSONNEL, VETERANS AND THEIR FAMILIES BY HARNESSING THE NATIONAL CAPACITY FOR RESEARCH.

OUR FOCUS

AS WE WORK TOWARD OUR VISION, CIMVHR HAS IDENTIFIED 4 PILLARS ON WHICH WE FOCUS OUR EFFORTS:

I. RESEARCH
II. EDUCATION
III. KNOWLEDGE TRANSLATION
IV. PARTNERSHIPS

"CIMVHR PLAYS AN INVALUABLE ROLE NOT ONLY IN SUPPORTING AND SUPPLEMENTING DEFENCE DEPARTMENT AND VETERANS AFFAIRS HEALTH RESEARCH, BUT ALSO IN MOBILIZING AND COORDINATING NATIONAL ACADEMIC RESEARCH EFFORTS IN SUPPORT OF MILITARY AND VETERAN HEALTH."

Brigadier-General Jean-Robert Bernier, Surgeon General

RESEARCH

CIMVHR HAS DEVELOPED PARTNERSHIPS AND PROCESSES TO ENSURE THE BEST POSSIBLE UNDERSTANDING OF THE CURRENT CANADIAN RESEARCH LANDSCAPE AS IT PERTAINS TO MILITARY, VETERAN AND FAMILY HEALTH RESEARCH. CIMVHR IS ABLE TO HIGHLIGHT AND DISSEMINATE CUTTING EDGE RESEARCH, AND WITH THE ACTIVE ENGAGEMENT AND SUPPORT OF VETERANS AFFAIRS CANADA, AND THE DEPARTMENT OF NATIONAL DEFENCE, SPECIFICALLY THE SURGEON GENERAL, DEFENCE RESEARCH AND DEVELOPMENT CANADA, AND THE CHIEF OF MILITARY PERSONNEL, CIMVHR IS ABLE TO HELP IDENTIFY COLLABORATIONS AND RESEARCH OPPORTUNITIES THAT DIRECTLY ADDRESS CURRENT RESEARCH PRIORITIES. CIMVHR GATHERS NATIONAL AND INTERNATIONAL EXPERTS TO FOCUS THEIR TALENTS ON THE HEALTH NEEDS OF OUR NATIONAL HEROES.

"THE ROYAL MILITARY COLLEGE OF CANADA PRODUCES OFFICERS WHO SERVE AS LEADERS IN THE CANADIAN FORCES. WE ARE PROUD TO CO-LEAD CIMVHR, TO GIVE BACK IN SERVICE TO THOSE MEN AND WOMEN WHO SERVE US."

Dr. H.J. (Harry) Kowal, BGen (Ret'd), Principal, Royal Military College of Canada

HOW IS CIMVHR IMPACTING RESEARCH IN CANADA?

BUILDING TEAMS

CIMVHR LINKS RESEARCHERS AND RESEARCH TEAMS TO FOCUS THEIR EFFORTS ON MILITARY AND VETERAN HEALTH.

SUPPORTING ACCESS TO GRANTS AND STUDY POPULATIONS

TO DATE CIMVHR HAS SUPPORTED RESEARCHERS IN OBTAINING OVER $5 MILLION IN RESEARCH GRANTS AND PROVIDED ACCESS TO MILITARY AND VETERAN STUDY POPULATIONS AND DATA FOR OVER 30 RESEARCH TEAMS.

CIMVHR HAS FACILITATED PILOT FUNDING FOR MORE THAN 30 NEW PAN-CANADIAN RESEARCH TEAMS WORKING ON PRIORITY HEALTH RELATED RESEARCH.

BUILDING THE NEXT GENERATION OF RESEARCHERS

ROYAL CANADIAN LEGION MASTERS SCHOLARSHIP

IN NOVEMBER 2013, THE ROYAL CANADIAN LEGION DONATED $30,000 AND ENTRUSTED CIMVHR TO ADMINISTER A MASTERS SCHOLARSHIP OPPORTUNITY IN MILITARY AND VETERAN HEALTH RESEARCH. THE SCHOLARSHIP WILL ADDRESS THE UNIQUE ISSUES FACING VETERANS AND THEIR FAMILIES THROUGH THOROUGH AND SYSTEMATIC RESEARCH OF THE NEEDS OVER THE LIFE COURSE OF THOSE WHO HAVE SERVED OUR NATION. THE WINNER OF THE SCHOLARSHIP WILL BE ANNOUNCED NOVEMBER 2014.

WOUNDED WARRIORS DOCTORAL SCHOLARSHIP

IN MAY 2013, WOUNDED WARRIORS CANADA PRESENTED CIMVHR WITH A CHEQUE FOR $400,000 TO FUND 10 DOCTORAL SCHOLARSHIPS OVER THE NEXT 10 YEARS. STUDENTS WILL BE SUPERVISED BY CIMVHR RESEARCHERS WORKING ON MENTAL HEALTH ISSUES AND THE CHALLENGES OF POST-TRAUMATIC STRESS DISORDER.

THE FIRST SCHOLARSHIP RECIPIENT IS DUNCAN SHIELDS FROM THE UNIVERSITY OF BRITISH COLUMBIA (UBC). MR. SHIELDS' AREA OF RESEARCH FOCUSES ON IMPROVING THE MENTAL HEALTH AND WELL-BEING OF MILITARY AND VETERAN POPULATIONS BY INCREASING ACCESS TO AND ENGAGEMENT IN SERVICE THROUGH "CULTURALLY" APPROPRIATE PRACTICE. MR. SHIELDS IS SUPERVISED BY CIMVHR RESEARCHERS DRS MARVIN WESTWOOD AND DAVID KUHL, AT UBC – FOUNDERS OF THE VETERANS TRANSITION PROGRAM, WHICH FOCUSES ON HELPING CANADIAN VETERANS REINTEGRATE WITH THEIR FAMILIES AND COMMUNITIES.

ENSURING THE APPLICABILITY OF THE RESEARCH TO ALL CANADIANS

THROUGH EFFECTIVE COMMUNICATIONS AND PUBLICATIONS, CIMVHR IS ABLE TO ENSURE THE RELEVANCE AND APPLICABILITY OF THE RESEARCH TO ALL OTHERS WHO WORK IN SIMILAR ENVIRONMENTS, INCLUDING FIRST RESPONDERS, HUMANITARIANS, AND INDEED ALL CANADIANS WHO BENEFIT FROM MEDICAL AND REHABILITATION ADVANCES MADE IN THE MILITARY.

REWARDING EXCELLENCE IN RESEARCH

THE MAJOR SIR FREDERICK BANTING MC, RCAMC AWARD FOR MILITARY HEALTH RESEARCH IS AWARDED ANNUALLY AT THE MILITARY AND VETERAN HEALTH RESEARCH FORUM AND IS SPONSORED BY THE TRUE PATRIOT LOVE FOUNDATION. THE AWARD IS ADJUDICATED BY THE SURGEON GENERAL AND COMMANDER OF THE CANADIAN FORCES HEALTH SERVICES AND HONOURS MAJOR SIR FREDERICK BANTING; A WORLD RENOWNED PHYSICIAN, RESEARCHER, AND NOBEL PRIZE WINNER WHO DISCOVERED INSULIN. THE AWARD RECOGNIZES HIGH QUALITY CANADIAN RESEARCH THAT ADDRESSES MILITARY HEALTH ISSUES.

2013 WINNER: DR. MARK ZAMORSKI, DND DIRECTORATE OF MENTAL HEALTH, FOR HIS RESEARCH *"SITTING ON A GOLD MINE: THE 2013 CANADIAN ARMED FORCES CROSS-SECTIONAL MENTAL HEALTH SURVEY DATASET."*

2012 WINNER: DR. JACQUELINE HEBERT, UNIVERSITY OF ALBERTA, ASSOCIATE RESEARCH CHAIR IN CLINICAL REHABILITATION, FOR HER RESEARCH *"A NOVEL METHOD TO PROVIDE SENSORY FEEDBACK AND IMPROVE FUNCTION OF MYOELECTRIC PROSTHESES AFTER UPPER LIMB AMPUTATION."*

2011 WINNER: DR. JITENDER SAREEN, UNIVERSITY OF MANITOBA, FOR HIS PAPER *"ADVERSE CHILDHOOD EXPERIENCES IN RELATION TO MOOD AND ANXIETY DISORDERS IN A POPULATION-BASED SAMPLE OF ACTIVE MILITARY PERSONNEL."*

"OVER THE PAST FOUR YEARS I HAVE BEEN AWED BY THE MAGNITUDE AND RIGOR OF RESEARCH ALREADY BEING UNDERTAKEN, AND INSPIRED BY THE CAPACITY AVAILABLE TO PURSUE NEW PROJECTS. WE ARE EAGER TO LEARN FROM THE HUNDREDS OF CIMVHR RESEARCHERS WE WORK WITH ACROSS THE COUNTRY, AND IN TURN WE ARE HONOURED TO BE GIVEN THE OPPORTUNITY TO SUPPORT THEM AS THEY FOCUS THEIR WORK ON MILITARY PERSONNEL, VETERANS AND THEIR FAMILIES."

Dr. Alice Aiken, Director, Canadian Institute for Military and Veteran Health Research

DR. LUCIE PELLAND AND DR. KODJO MOGLO

DR. LUCIE PELLAND, SCHOOL OF REHABILITATION THERAPY, FACULTY OF HEALTH SCIENCES QUEEN'S UNIVERSITY

DR. KODJO MOGLO, DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING, ROYAL MILITARY COLLEGE OF CANADA

RESEARCHING

FLIGHT-RELATED NECK PAIN AMONG MILITARY HELICOPTER PILOTS IN THE CANADIAN FORCES

This problem is complex in nature, arising from the dynamic interactions among multiple factors, including ergonomics, spine biomechanics, muscle and pilot fatigue, and the vibration environment of the helicopter. Drs Pelland and Moglo have developed a collaborative approach to better understand the nature of flight-related neck pain by linking a mathematical model to a biomechanical one. This project merges a computational simulation of a finite element (FE) model of the head and neck with lab-based measurement of neck muscle activation and strength to predict the effects of different mechanical demands placed on the head-neck segment during pre- and in-flight pilot tasks on biological tissues of the cervical spine, as well as the associated demands on muscles. Their goal is to develop a standardized biomechanical platform for the identification of pilot-specific risk factors associated to flight-related neck pain, to provide evidence-based evidence of effectiveness of engineering and physical medicine interventions, and to support multi-center collaboration and exchange of findings.

Drs. Pelland and Moglo are using the principles of math and biomechanics to revolutionize the understanding of neck strain in combat pilots.

WORKING WITH CIMVHR

CIMVHR linked these two researchers so Dr. Moglo's mathematical model could be tested in Dr. Pelland's biomechanical laboratory on actual pilots.

CIMVHR assisted with finding funding for this important work.

Through the annual research Forum, CIMVHR has provided the venue for the work of Drs Pelland and Moglo to gain recognition and utilization within the CAF

COLONEL DR. HOMER TIEN

CHAIR, CANADIAN FORCES MAJOR SIR FREDERICK BANTING TERM CHAIR IN MILITARY TRAUMA RESEARCH

RESEARCHING

TRAUMA-RELATED BLEEDING AND DELIVERY OF CARE TO INJURED SOLDIERS

Colonel Homer Tien is a military trauma surgeon, is medical director of the trauma centre at Sunnybrook Health Sciences Centre, and is an associate scientist at the Sunnybrook Research Institute.

In 2012, Dr. Tien was presented with the Canadian Forces Major Sir Frederick Banting Term Chair in Military Trauma Research. The Chair provides Dr. Tien with funding to continue his research in trauma medicine that will better serve the Canadian Armed Forces (CAF) and civilian populations.

The focus of Dr. Tien's clinical work and research is on improving care delivered to injured soldiers on the battlefield. He leads the Canadian Forces research and clinical groups in trauma research, and is researching how to treat trauma-associated coagulopathy. Dr. Tien and his team are also working on how to improve the delivery of trauma care to frontline soldiers who are injured in combat.

Dr. Tien was the first Canadian surgeon deployed to Kandahar in 2006 and in 2011. After five separate deployments he was also the last Canadian surgeon deployed to Afghanistan.

WORKING WITH CIMVHR

Because of CIMVHR, Colonel Tien was recognized as a Research Chair linked with Sunnybrook Hospital and the University of Toronto.

CIMVHR assists Colonel Tien in his efforts to collaborate with military trauma researchers from around the world.

Through the annual research Forum, CIMVHR has provided the venue for Colonel Tien to gain recognition within the broader civilian community.

DR. IBOLJA CERNAK

PROFESSOR & CHAIR IN MILITARY AND VETERANS' CLINICAL REHABILITATION RESEARCH, UNIVERSITY OF ALBERTA

RESEARCHING

RESILIENCE AND READINESS IN MILITARY PERSONNEL

It has been recognized that today's military engagements occur in complex, fluid, and unpredictable operational environments, which expose troops to extraordinarily difficult conditions. As a consequence, intensified operational stressors, mental health injuries such as posttraumatic stress disorder (PTSD), depression, suicide, and divorce have been reported among military personnel. Resilience can be viewed as a defense mechanism, which enables people to thrive in the face of adversity. Different resilience levels may correspondingly influence performance, professional success, response to and/or recovery from injury, and determine the likelihood of chronic health problems. Thus, the ability of military personnel to maintain operational readiness can be in direct relationship with their resilience to withstand repeated operational stressors.

Previously, researchers evaluated the effects of a military environment on the armed forces as a whole rather than individually, a practice that might mask trends. Dr. Cernak's research focuses on identifying a set of biological parameters that are designed to extrapolate reliable, quantifiable, and objective information about the resilience of individual soldiers over the course of their military careers. Participants complete a series of questionnaires about their self-view, resilience, and social and emotional support networks; perform computerized cognitive tests on things like impulse control, memory and multitasking; and provide saliva and urine so the researchers can measure biomarkers such as hormones. By combining objective data from computerized tests and biomarkers with more subjective sources from self-reporting, the study aims to get a more complete picture about a soldier's susceptibility toward mental health injuries.

Dr. Cernak was Canada's first academic, not affiliated with military, to embed with the Canadian Armed Forces (CAF) in Afghanistan. She spent the month of October 2013 with the CAF Task Force working alongside soldiers in the same living conditions, to complete the second, during-deployment, baseline of her study.

WORKING WITH CIMVHR

CIMVHR worked with the University of Alberta, Faculty of Rehabilitation Medicine to create the first-ever civilian Research Chair position dedicated to military and Veteran health research.

CIMVHR assisted with obtaining funds for Dr. Cernak's work through the True Patriot Love Foundation, as well as support for a post-doctoral fellowship in her laboratory.

Through the annual research Forum, CIMVHR has provided the venue for Dr. Cernak's work to gain recognition within the Canadian Armed Forces, Defence Research and Development Canada and Veterans Affairs.

DR. BRADFORD MCFADYEN

DEPARTMENT OF REHABILITATION, LAVAL UNIVERSITY, RESEARCHER IN THE CENTRE FOR INTERDISCIPLINARY RESEARCH IN REHABILITATION AND SOCIAL INTEGRATION (CIRRIS)

RESEARCHING

GAIT AND MOBILITY IN BOTH HEALTHY AND BRAIN-INJURED POPULATIONS AND THE DEVELOPMENT OF ASSESSMENT TOOLS TO IMPROVE RETURN-TO-FUNCTION DECISIONS FOLLOWING BRAIN INJURY

Over the past several years his program has also concentrated on the residual effects of traumatic brain injury (TBI) on walking capacity. His publications have shown that even when basic walking capacity is well recovered following moderate and severe TBI, residual deficits remain in the ability to plan for and execute fine adjustments to step over or navigate around obstacles. These findings may begin to help explain decreased social participation following TBI in persons otherwise felt to have recovered ability. A recent doctoral dissertation from his laboratory has also shown that navigational ability is abnormal one month following a first diagnosed concussion in elite athletes who have been cleared for return to play. The elite athlete may be a reasonable model for the highly trained and fit soldier for whom deficits in the ability to navigate complex environments following TBI could put both themselves and their peers in danger. Overall, this research involving TBI of all severities may help to inform better return to function guidelines.

Dr. McFadyen has been involved in the development of virtual reality (VR) technology and the CIRRIS houses an early version of the systems now used by the Canadian Forces Health Services Group in Ottawa and Edmonton. A PhD thesis under his supervision, showing how virtual environments are navigated in the same manner as real ones, has opened the door to exploit VR to further explore mobility deficits following TBI. Presently, Dr. McFadyen and Major Luc Hébert of Valcartier Garrison are heading up a team to develop specific VR technology to look a range of issues for military personnel from TBI to low back pain. Finally, Dr. McFadyen's research program also studies mobility in the elderly and more recently in persons with fear of falling and mild cognitive impairments. Such work will be of specific interest for better understanding and helping to improve the mobility of the Veteran population of Canada.

WORKING WITH CIMVHR

In collaboration with CIMVHR, Dr. McFadyen and Université Laval are working to secure funding for a research chair in Mobility Following Acquired Brain Injury in Military Personnel, Veterans and Canadians.

Through the annual research Forum, CIMVHR has provided the venue for Dr. McFadyen's work to gain recognition within the Canadian Armed Forces.

DR. JITENDER SAREEN

PROFESSOR OF PSYCHIATRY, UNIVERSITY OF MANITOBA

RESEARCHING

ADVERSE CHILDHOOD EXPERIENCES IN RELATION TO MOOD AND ANXIETY DISORDERS IN ACTIVE MILITARY PERSONNEL

Dr. Sareen's research interests are diverse and include: traumatic stress, anxiety disorders, aboriginal suicide, psychiatric neuroimaging, and military mental health. In 2011 he was the inaugural winner of the Major Sir Frederick Banting Award for Military Health Research – an award presented annually at CIMVHR's research Forum.

The award was presented to Dr. Sareen for his presentation of the paper titled "Adverse Childhood Experiences in Relation to Mood and Anxiety Disorders in a Population-based Sample of Active Military Personnel'. The research examined the relationship between adverse childhood experiences and vulnerability to combat stress. By examining data collected from a cross-sectional survey of active military personnel, Dr. Sareen concluded that adverse childhood events are important risk factors for mood and anxiety disorders among active military personnel.

WORKING WITH CIMVHR

CIMVHR has facilitated the presentation of Dr. Sareen's work to the House of Commons Committee on Veterans Affairs.

Through the annual research Forum, CIMVHR has provided the venue for Dr Sareen and his graduate students' work to gain recognition within the CAF, Veterans Affairs and to many Veterans advocacy groups.

As well, the Forum enables Dr. Sareen to disseminate timely and relevant mental health research to hundreds of military leaders and clinicians so it can be incorporated into practice.

CAPTAIN (NAVY) DR. RAYMOND KAO

INTERNAL MEDICINE AND CRITICAL CARE MEDICINE, 1 CANADIAN FIELD HOSPITAL AND UNIVERSITY OF WESTERN ONTARIO

RESEARCHING

BIOLOGICAL INNOVATIONS TO IMPROVE THE RESUSCITATIVE PROCESS AND INCREASE SURVIVAL RATES IN WOUNDED SOLDIERS

In 2013, Captain (Navy) Dr. Raymond Kao was the recipient of the first Chair in Military Care Research in Canada. Surgeon General Brigadier-General Jean-Robert Bernier presented the Chair to Dr. Kao on behalf of the Canadian Armed Forces (CAF).

Dr. Kao is widely recognized for his research on erythropoietin, a hormone produced by the kidneys that stimulates the production of red blood cells and in turn, haemoglobin. When combined with saline, erythropoietin can improve blood flow and tissue oxygen usage after an injury. Dr. Kao's research findings can be used to help stabilize wounded soldiers in the battlefield.

Another of Dr. Kao's studies is looking at the use of C-Peptide in shock and resuscitation. C-peptide is an insulin connecting protein which has protective effects to various stressed organs. The research is showing that the use of C-Peptide reduces both lung and gut injuries after hemorrhagic shock and fluid resuscitation.

WORKING WITH CIMVHR

Because of CIMVHR Captain (Navy) Kao was recognized as a Research Chair linked with London Health Sciences Centre and Western University.

Through the annual research Forum, CIMVHR has provided the venue for Captain (Navy) Kao's work to gain recognition within the broader civilian research community.

DR. JACQUELINE HEBERT

PHYSICAL MEDICINE & REHABILITATION, FACULTY OF MEDICINE & DENTISTRY, UNIVERSITY OF ALBERTA AND ASSOCIATE RESEARCH CHAIR IN CLINICAL REHABILITATION

RESEARCHING

ADVANCED TECHNOLOGY FOR AMPUTEE REHABILITATION

Dr. Hebert has founded a program of research focused on improving the use of advanced prosthetic devices following limb amputation; jointly referred to as the "Bionic Limbs for Improved Natural Control" (BLINC) projects. These projects encompass collaborators from several disciplines, faculties, institutions and countries. The BLINC line of research integrates an inter-disciplinary approach to improving prosthetic function after amputation, from surgical techniques to device development, motor control and sensory feedback.

In 2012 Dr. Hebert was awarded the Major Sir Frederick Banting award for the presentation of her paper entitled "A Novel Method to Provide Sensory Feedback and Improve Function of Myoelectric Prostheses after Upper Limb Amputation".

Also in 2012, Dr. Hebert was named the Associate Chair in Clinical Rehabilitation at the University of Alberta's Faculty of Rehabilitation Medicine.

WORKING WITH CIMVHR

CIMVHR worked with the University of Alberta, Faculty of Rehabilitation Medicine to create this civilian Associate Research Chair position.

CIMVHR has facilitated pan-Canadian networking meetings for Dr. Hebert and other scientists in Canada working with computer based rehabilitation environments for research.

Through the annual research Forum, CIMVHR has provided the venue for Dr. Hebert's work to gain recognition within Veterans Affairs and Veterans advocacy groups

EDUCATION

A CORNERSTONE OF CIMVHR IS EDUCATING THE NEXT GENERATION. TO DO THIS CIMVHR IS BUILDING THE FIRST-OF-ITS KIND GRADUATE PROGRAM

CIMVHR GRADUATE LEVEL COURSES

IN THE FALL OF 2012, CIMVHR LAUNCHED ITS FIRST GRADUATE LEVEL COURSE IN THE FORM OF A WEBINAR, AT QUEEN'S UNIVERSITY AND AT THE ROYAL MILITARY COLLEGE OF CANADA (RMCC). THE WEBINAR EXAMINES THE HEALTH-RELATED ISSUES ASSOCIATED WITH ACTIVE MILITARY PERSONAL, VETERANS AND THEIR FAMILIES. THE COURSE IS PART OF AN ONGOING PROGRAM TO CAPITALIZE ON THE KNOWLEDGE OF ACCOMPLISHED RESEARCHERS AND WILL DEVELOP A NEW GENERATION OF GRADUATE STUDENTS WHO WILL FURTHER RESEARCH IN THE FIELD OF MILITARY, VETERAN AND FAMILY HEALTH. THIS COURSE IS OFFERED ON AN ANNUAL BASIS AND IS ACCEPTED FOR CREDIT AT MANY CIMVHR PARTNER UNIVERSITIES.

THIS COURSE PROVIDES AN OPPORTUNITY FOR MASTERS AND PHD STUDENTS TO FOCUS ON THE MILITARY POPULATION AND WILL GROW THE PAN-CANADIAN CADRE OF RESEARCHERS. EDUCATING AND TRAINING THE NEXT GENERATION OF STUDENTS ON THE NEEDS OF THIS POPULATION IS CRUCIAL FOR INCREASING THE AMOUNT OF FUTURE RESEARCHERS WHO CHOSE TO FOCUS THEIR RESEARCH ON MILITARY MEMBERS, VETERANS AND THEIR FAMILIES.

ASSISTING STUDENT RESEARCH

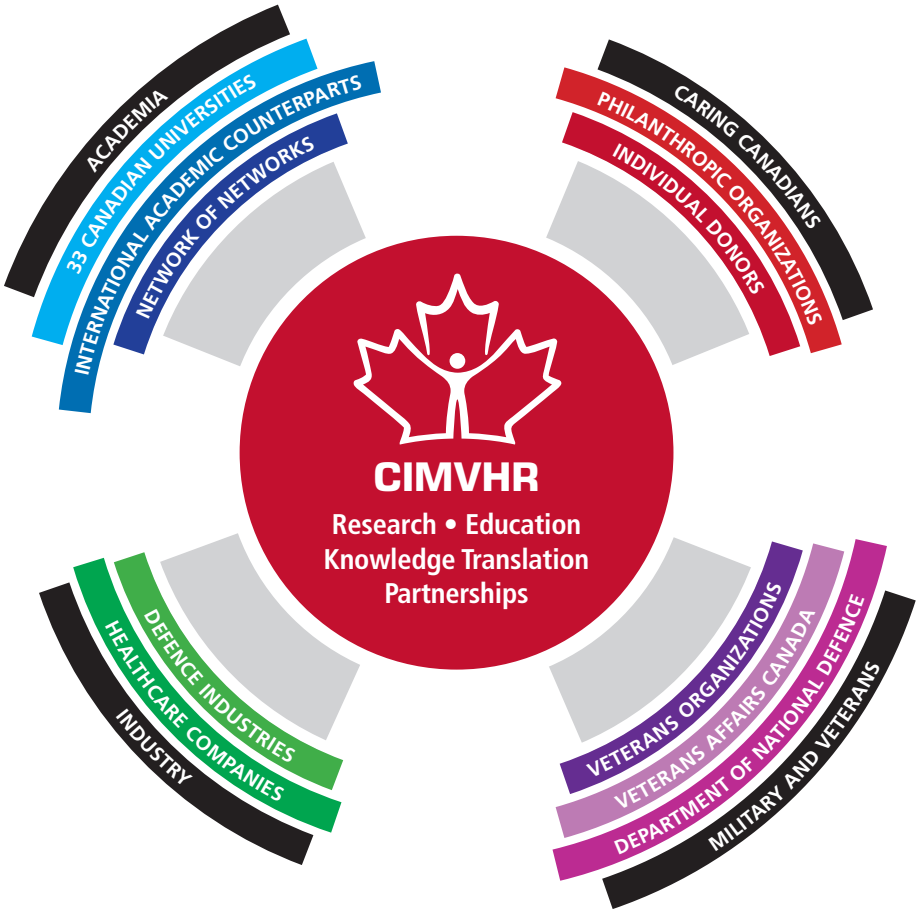
CIMVHR WORKS TO ASSIST STUDENTS IN FINDING PROJECTS AND PLACEMENTS. SPECIFICALLY, CIMVHR HAS WORKED TO HELP MEDICAL RESIDENTS, WHO WILL BE JOINING THE MILITARY, TO FIND RELEVANT RESEARCH PROJECTS AND HAS FACILITATED GOVERNMENT PLACEMENTS FOR MASTERS OF PUBLIC HEALTH STUDENTS.

"CIMVHR CONNECTED ME WITH VETERANS AFFAIRS CANADA AND HELPED ME TO ARRANGE A PRACTICUM PLACEMENT WITH THEIR RESEARCH DIRECTORATE – ONE OF THE BEST LEARNING EXPERIENCES OF MY LIFE."

Debra Kriger, MPH, PhD (Candidate)

KNOWLEDGE TRANSLATION

ESSENTIAL TO THE SUCCESS OF OUR MISSION TO ADVANCE MILITARY AND VETERAN HEALTH RESEARCH, IS THE ABILITY TO IDENTIFY, ENGAGE WITH AND LEARN FROM THE MANY STAKEHOLDERS COMMITTED TO THE HEALTH AND WELL-BEING OF CANADA'S MILITARY, VETERANS AND THEIR FAMILIES. CIMVHR DEVELOPS PARTNERSHIPS WITH THESE ORGANIZATIONS AND INDIVIDUALS, AND THEN CONNECTS THEM TO EACH OTHER USING A HUB-AND-SPOKE MODEL – AN EFFICIENT MODEL FOR NETWORKING AND KNOWLEDGE EXCHANGE. PARTNERS ARE REPRESENTED BY FOUR "SPOKES" OF THE CIMVHR HUB:



AS THE HUB, CIMVHR HAS CREATED CONNECTIONS BETWEEN AND AMONG STAKEHOLDERS, RESULTING IN NEW COLLABORATIVE PROJECTS, FUNDING OPPORTUNITIES, THE SHARING OF INSIGHTS, THE ADVANCEMENT OF EXISTING PROJECTS, AND THE IDENTIFICATION OF AREAS IN WHICH MORE WORK IS NEEDED.

NEW STAKEHOLDERS ARE INTRODUCED TO CIMVHR EVERY DAY, AND ADVANCEMENTS IN MILITARY AND VETERAN HEALTH RESEARCH ARE EMERGING FROM AN EVER-GROWING NETWORK OF COMMITTED PARTNERS.

KNOWLEDGE TRANSLATION

EFFECTIVE KNOWLEDGE TRANSLATION IS KEY TO THE SUCCESS OF CIMVHR. EVERY EFFORT IS MADE TO ENSURE PROFESSIONAL, CONCISE, TIMELY AND RELEVANT COMMUNICATIONS ACTIVITIES THAT ENGAGE AND INFORM ALL STAKEHOLDERS ABOUT THE VALUE AND IMPORTANCE OF MILITARY AND VETERAN HEALTH RESEARCH.

LEGEND

- Speaking
- Publication
- Event/Course
- Media

2010

CBC Radio interview for Canadian Veterans Health Under the Microscope

CIMVHR hosts inaugural Forum in Kingston, ON

Community Health and Epidemiology Research Day, Kingston, ON

National media cover launch of National Military and Veterans Health Research Institute.

2011

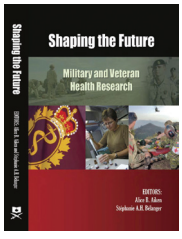
The Surgeon General's Health Research Forum, Washington, DC

The Hill Times: Renaissance Needed for Canadian Veteran Health Research

Physical Therapy Journal: Advancing the Evidence Base in Rehabilitation for Military Personnel and Veterans

Vanguard: Standing Up a Canadian Health Institute

2nd Annual Forum, Kingston, ON



CIMVHR PUBLISHES: Shaping the Future: Military and Veteran Health Research

2012

Hosted CIMVHR Research Workshop, Kingston, ON

Society for Brain Mapping and Therapeutics, 9th Annual Conference

Women of War Conference, Hydra Greece

Member of Parliament Breakfast on TBI research

Tri-nation Military Mental Health Symposium, Canadian Embassy, Washington DC

2012

CIMVHR offers inaugural graduate course "Issues in the Health of Military Personnel, Veterans and their Families"

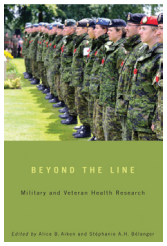
CBC Radio covers Forum 2012

3rd Annual Forum, Kingston, ON

CIMVHR PUBLISHES: A New Coalition for a Challenging Battlefield: Military and Veteran Health Research

Putting Military and Veteran health on the research agenda, Cross Currents: The Journal of Addiction and Mental Health

2013



CIMVHR PUBLISHES: Beyond the Line: Military and Veteran Health Research (#7 The Hill Times Best 100 Books in Politics)

Media Event to announce Wounded Warriors Post-Doctoral Scholarship Donation

Witness at House of Commons Committee on National Defence about the Health of Military Personnel

Presented at True Patriot Love Multinational Symposium on Veteran Transition, Canada House, London UK

CIMVHR offers graduate course for 2nd time

Supported Military Ethics Conference, Hosted by RMCC

4th Annual Forum, Edmonton, AB, Co-hosted by University of Alberta

2014

CIMVHR rases awareness in Parliament Hill, Ottawa ON

Senate Sub-Committee on Veterans Affairs, Parliament Hill, Ottawa, ON

CIMVHR hosts RMCC/ Queen's Research Day – RMCC

Society for Teaching and Learning in Higher Education, Kingston, ON

Witness at House of Commons Committee on Veterans Affairs to discuss New Veterans Charter

* Timeline reflects activities until September 2014

"THE FORUM IS THE PREEMINENT GATHERING OF THE MILITARY AND VETERAN HEALTH RESEARCH COMMUNITY AND AN INVALUABLE OPPORTUNITY TO LEARN FROM AND CONNECT WITH THE RESEARCHERS WHOSE WORK WILL IMPROVE THE LIFE AND HEALTH OF CANADA'S VETERANS."

Dr. Dave Pedlar, Director of Research, Veterans Affairs Canada

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"AS A CIMVHR MEMBER AND CO-HOST OF FORUM 2013, UNIVERSITY OF ALBERTA AND ITS RESEARCHERS NOW HAVE A NATIONAL PRESENCE IN MILITARY AND VETERAN HEALTH RESEARCH."

Dr. Elizabeth Taylor, Associate Dean Faculty of Rehabilitation Medicine, University of Alberta

"BY HELPING OUR RESEARCHERS CONNECT AND PARTNER WITH COLLEAGUES FROM ACROSS CANADA, THE CIMVHR NETWORK HAS GREATLY EXPANDED THE SCOPE OF HEALTH RESEARCH CONDUCTED AT THE UNIVERSITY OF REGINA."

Dr. Vianne Timmons, President and Vice Chancellor, University of Regina

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Dr. Richard K. Reznick
Chair of the Board, CIMVHR
Dean, Faculty of Health Sciences, Queen's University

"I was first introduced to CIMVHR in 2010 and I recall feeling compelled to learn more about this Institute that set out to create synergies between military, government and academic researchers working in military and Veteran health.

As Dean of Health Sciences at Queen's, I can appreciate the value in the leadership role that CIMVHR has taken in mobilizing, synergizing and focusing academic research efforts for such a unique population.

As a surgeon, I respect their vision to become the hub that unites military, government, academia and groups of caring Canadians all in the name of advancing research.

And as board chair, I am amazed at the strides this group have made in creating engagement, fostering partnerships and advancing research that will best serve our military, Veterans and their families.

It is an honour to work with such a dedicated and committed group, and I look forward to what the next year will bring."

Richard K. Reznick,
Chair, CIMVHR Board of Directors

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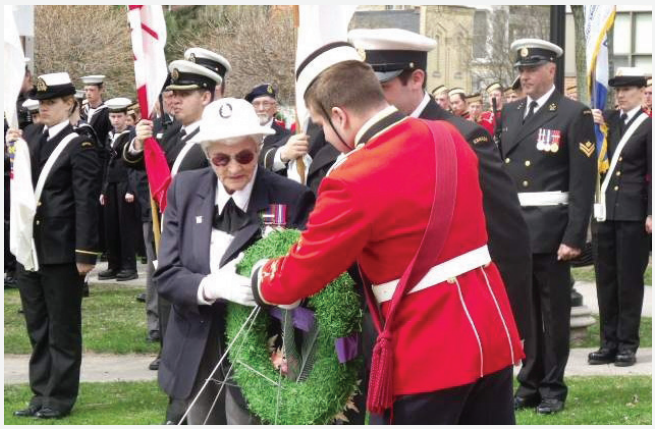

SUPPORT

THE CANADIAN INSTITUTE FOR MILITARY AND VETERAN HEALTH RESEARCH HAS BEEN ABLE TO ACHIEVE INCREDIBLE RESULTS IN JUST FOUR SHORT YEARS INCLUDING:

- DEVELOPING A NETWORK OF OVER 1000 ENGAGED RESEARCHERS AND 33 CANADIAN UNIVERSITIES ALONG WITH THEIR ASSOCIATED RESEARCH HOSPITALS AND INSTITUTES;
- DEVELOPING THE INFRASTRUCTURE TO SUPPORT THE DEVELOPMENT OF THE "HUB" OF MILITARY AND VETERAN HEALTH RESEARCH IN CANADA;
- BUILDING THE FIRST-CLASS, CANADIAN ANNUAL RESEARCH FORUM AS A VENUE FOR TRANSLATING KNOWLEDGE ABOUT CURRENT, FUTURE AND NEEDED MILITARY AND VETERAN HEALTH RESEARCH;
- ENGAGING CRITICAL STAKEHOLDERS FROM INDUSTRY AND PHILANTHROPIC ORGANIZATIONS;
- DEVELOPING PARTNERSHIPS WITH INDUSTRY AND CARING CANADIANS WILLING TO HELP FUND EDUCATION AND RESEARCH; AND,
- CREATING INTERNATIONAL LINKAGES WITH RESEARCHERS AND INSTITUTES IN 10 COUNTRIES.

"DONATING TO CIMVHR IS AN EXCELLENT WAY FOR INDUSTRY TO PUBLICLY ENDORSE HEALTH RESEARCH FOR OUR TROOPS, THEIR FAMILIES AND THE PEOPLE WHO HAVE RETIRED FROM SERVING OUR COUNTRY."

Michael Burns, Co-Founder and Co-President, True Patriot Love Foundation

THESE RESULTS HAVE BEEN MADE POSSIBLE WITH SUPPORT FROM QUEEN'S UNIVERSITY, RMCC, THE PROCEEDS FROM THE ANNUAL FORUM AND GENEROUS DONATIONS FROM THE TRUE PATRIOT LOVE FOUNDATION AND THE JUDGE HENDERSON FOUNDATION. AS CIMVHR HAS GROWN, WE ARE INCREASINGLY PRESENTED WITH OPPORTUNITIES TO ADVANCE HEALTH RESEARCH FOR MILITARY, VETERANS, THEIR FAMILIES AND THE CANADIAN POPULATION. TO TAKE ADVANTAGE OF, AND FOSTER THESE OPPORTUNITIES, CIMVHR IS IN NEED OF A COMMITTED, SUSTAINABLE SOURCE OF FUNDING.

TO DISCUSS HOW YOU CAN SUPPORT CIMVHR, CALL, EMAIL OR VISIT US. WE WOULD BE HAPPY TO SHOW YOU HOW YOUR SUPPORT WILL HELP TO SERVE THE MEN AND WOMEN WHO SERVE OR HAVE SERVED OUR COUNTRY.

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