

MSSU (Maritime SPOR SUPPORT Unit) Puts Down Roots

As a collaboration of patients, lay citizens, policy- and decision-makers, health care professionals, and researchers from Nova Scotia, New Brunswick, and Prince Edward Island, the Maritime SPOR SUPPORT Unit (MSSU) seeks to consolidate and build upon existing research capacity and maximize the use of existing regional resources. MSSU forms an integral part of Canada's Strategy for Patient-Oriented Research Program (SPOR), a Canadian Institutes of Health Research-led coalition of federal, provincial and territorial partners dedicated to integrating research into care.

MSSU is funded by the governments of the Maritime provinces, the Nova Scotia and New Brunswick Health Research Foundations, and a dollar-for-dollar match from CIHR. Since funding approval in May 2013, the MSSU has been busy building the foundations for a sustainable unit to support coordinated health research in the region. Collaborators from all three provinces helped establish the governance and structure which includes Oversight, Executive, Scientific Advisory, Data and Privacy Advisory, and Training Advisory Committees, the engines that drive the MSSU. The Executive and Oversight Committees provide guidance and overall management to the Unit. Committee membership on the Advisory Committees and their working groups is open to interested individuals.

A strong organization, of course, begins with its personnel. MSSU continues to attract a strong team, including investigators, methodologists, data analysts, documentation specialists, knowledge translation coordinator and administrative support staff. The most

recent member of the team is the patient engagement coordinator who will facilitate the effort to incorporate public and patient perspectives into MSSU research, a key element of the initiative.

MSSU is committed to increasing access to administrative health databases for research purposes. These routinely-collected data represent well-defined populations, and when linked with other sources of data such as patient or treatment registries, facilitate high quality, population-based, patient-centred outcomes and health services research. MSSU supports external investigators using these data and is undertaking projects of direct interest to Departments of Health (NB) and Health and Wellness (NS, PEI). For example, the MSSU is currently working on a project to characterize regionalization of complex surgical services in the Maritimes. In the first phase, we investigated variation in rates of coronary artery bypass surgery (CABG), and hip and knee replacement surgeries in NS. The next steps include carrying out parallel analyses in NB and PEI to explore the extent of shared services across the Maritimes and determine the association between location of care/ service volumes and treatment and patient outcomes.

In the coming months, MSSU will provide more information on its research and training activities. Please watch for upcoming announcements.

For more information, please contact Marsha Bennett at marsham.bennett@cdha.nshealth.ca or go to the website: spor-maritime-srap.ca

June 2014

What's happening...

Mobility at Capital Health (M@CH): Research that will revolutionize the treatment of osteoarthritis in the Maritimes and beyond



Shown at the M@CH launch in April 2014 are (left to right) Hon. Leo Glavine, Nova Scotia Minister of Health and Wellness and M@CH research leader Dr. Michael Dunbar.

Spearheaded by orthopedic surgeon Dr. Michael Dunbar, and supported by the Atlantic Canada Opportunities Agency's Atlantic Innovation Fund and industry partners, Emovi Inc., Kinduct Technologies, and OrthoMX Inc., the \$2.6 million M@CH project is pioneering diagnostic and assistive technologies for people with spine, hip and knee problems. These technologies will enable surgeons to monitor patients with diseases such as osteoarthritis, from a distance.

The technologies aim to free patients from the burden of excess travel, streamline the assessment process, open up surgeons' schedules, and reduce wait times for badly needed spine, hip and knee surgeries. M@CH will also contribute to Canada's growing medical technology sector – as industry partners tap the global market potential of these technologies – and generate revenues in that will flow back to the health care system.

Licensing agreement for revolutionary ear-imaging probe

New technology developed at Capital Health and Dalhousie University will give ear specialists their first tool for obtaining high-resolution images of the middle and inner ear. Canadian ultrasound technology firm, Colibri Technologies Inc., has licensed the technology and plans to begin manufacturing the new probe in its Toronto facilities.

"This is the world's first high-resolution, micro-fabricated endoscopic ultrasound-imaging probe," says the technology's lead inventor, Dr. Jeremy Brown, an assistant professor in Dalhousie's School of Biomedical Engineering and departments of Electrical Engineering and Surgery. He developed the probe with co-investigators, Dr. Manohar Bance and Dr. Rob Adamson, and a team of students, postdoctoral fellows and research engineers, by adapting technology from the semiconductor industry to produce microscopic components for the device. As Dr. Brown explains, "It provides a resolution more than ten times higher than MRI or CT scans, which makes it ideal for examining the tiny structures inside the ear."

What's happening...

The new handheld probe is a revolutionary device with important clinical – and economic – benefits. “We see a major market opportunity for the ear-imaging probe in the multi-million-dollar global medical-imaging market,” says Brian Courtney, president and CEO of Colibri Technologies. “Unlike MRI or CT, it is small, portable and inexpensive, so it can be used widely in clinics to diagnose and monitor ear pathologies quickly, easily and non-invasively. On top of this, it has the potential to be adapted for use in cardiology, urology and other health care fields.”

The ultrasound ear-imaging probe has been developed through a \$3.8 million Capital Health-led research and development project, with an investment of \$2.6 million from the Atlantic Canada Opportunities Agency’s Atlantic Innovation Fund. Other funders include NSERC, Canadian Institutes of Health Research, Innovacorp, Capital Health and Dalhousie University. The licensing agreement, negotiated by Dalhousie Industry Liaison and Innovation, will return royalties to Capital Health and Dalhousie University to be re-invested in research programs.

“This is a prime example of how we can build a viable economic sector by investing in health research – innovation breeds innovation, especially when it generates revenues for continued research and development,” says Dr. Patrick McGrath, Integrated VP of Research and Innovation at Capital Health and the IWK Health Centre. “Of course, not only will this technology help support future research in Nova Scotia, it will dramatically improve clinical management and outcomes for people with hearing disorders around the world.”

The ultrasound probe is the just part of the ear-technology equation at Capital Health and Dalhousie. Drs. Bance, Brown and Adamson have already developed and licensed subcutaneous bone-conduction hearing aids that could replace more invasive bone-anchored aids, and are working on numerous other technologies with potentially widespread commercial applications. They hold more than a dozen patents and co-own several companies, with ambitious plans for the future.



Shown at the June 10 celebration of the licensing agreement with Colibri Technologies Inc. are (left to right) J. Brown, S. Hartlen, P. Hogan, B. Courtney, R. Adamson, M. Bance, G. Maksym, D. Grant and P. McGrath.

Congratulations...

March 2014 Capital Health Research Fund (CHRF) Award Recipients

Fifteen successful CHRF applicants received awards totaling \$211,067. Applications for the next round of CHRF awards are due at 4 p.m., Monday, September 15, 2014. Details at: <http://www.cdha.nshealth.ca/discovery-innovation/research-fund-competiton>

Name	Department	Award	Research Description
Mohamed Abdollel	Diagnostic Imaging	\$15,000	Toward personalized breast cancer risk assessment: revisiting the contribution of breast density in the era of full-field digital mammography
Lisa Barrett	Medicine/Infectious Disease	\$50,000	Understanding poor vaccine responses: immune exhaustion in HIV infection
Shaun Boe	Medicine/Physical Medicine and Rehabilitation	\$15,000	Motor imagery with neurofeedback: establishing feasibility in patients post stroke
Chris Blanchard	Medicine/Cardiology	\$14,580	Cardiac rehAbilitation sedentaRy bEHaviour correlateS (CARES)
Michael Dunbar	Surgery/Orthopedic Surgery	\$14,608	A ten-year evaluation of implant fixation in four total knee replacement designs using radiostereometric analysis
Gail Eskes	Psychiatry	\$14,912	The behavioural and neural mechanisms in prism adaptation treatment for spatial neglect
Yugi Gu	Anesthesia/Pain Management and Perioperative Medicine	\$5,000	The effect of simulator fidelity on acquiring non-technical skills: randomized controlled trial
Richard Hall	Anesthesia/ Pain Management and Perioperative Medicine	\$15,000	Proton pump inhibitors for stress ulcer prophylaxis in critically ill patients: pilot randomized trial.
Arnold Mitnitski	Medicine/Geriatric Medicine	\$15,000	The basis of frailty: complex network modeling
Brigit Pierce	Nursing	\$2,193	Waiting for a liver transplant: an exploration of experience of patients and their caregivers in Atlantic Canada
Olga Theou	Medicine/Geriatric Medicine	\$4,944	Sedentary behaviors in hospitalized older patients: how much time they are sedentary and how it affects their health
Andrew Travers	Emergency Medicine/EMS	\$14,830	Outcomes of a provincial cardiac reperfusion strategy: a population-based, retrospective cohort study
Rudolf Uher	Psychiatry/Addictions and Mental Health	\$15,000	Effect of cognitive-behavioural intervention on the trajectories of brain development in adolescents at risk for severe mental illness
Andrew Williams	Pathology & Laboratory Medicine /Anatomical Pathology	\$5,000	Expression of germ cell tumor markers OCT4, SALL4, NANOG, and SOX2 in testicular and extra testicular diffuse large B cell lymphoma
David Wilson	Surgery/Orthopedic Surgery	\$5,000	Validation of a statistical shape modelling algorithm for use on navigated total knee arthroplasty point cloud data
Paul Yaffe	Anesthesia/Critical Care	\$5,000	Chronic narcotic use after ICU discharge: the ICUPMP dataset

Opportunities...

Funding Opportunities

Deadline	Program Name	Agency	Website
July 2, 2014 (LOI)	Terry Fox New Frontiers Program Project Grant	Terry Fox Research Institute	http://www.tfri.ca/en/research/program-project-grants/program-project-grants-2015.aspx
July 17, 2014 (pre application submission)	Career Catalyst Research Grants: - Basic/Translational Research - Clinical Research	Susan G. Komen for the Cure Foundation	http://ww5.komen.org/ResearchGrants/FundingOpportunities.html
July 31, 2014 (LOI)	Macular Degeneration Research	BrightFocus Foundation	http://www.brightfocus.org/research/
Aug. 1, 2014 (reg.) Sep. 15, 2015 (app.)	Canada Creating Genomics Innovation Network	Genome Canada	http://www.genomecanada.ca/en/about/news.aspx?i=494
Aug. 4, 2014	Pilot studies in vasculitis: - Etiology/Pathogenesis - Epidemiology - Diagnosis - Treatment/Management	Vasculitis Foundation	http://www.vasculitisfoundation.org/research/research-program/
Aug. 20, 2014 (LOI)	"Focus on Brain" Program	Quebec Consortium for Drug Discovery (CQDM) partnering with Brain Canada	http://braincanada.ca/en/Focus_on_Brain
Sep. 1, 2014	Musculoskeletal Transplant Foundation (MTF)	Established Investigator Grants	http://www.mtf.org/research_grant_programs.html
Sep. 5, 2014	AFTD-ADDF Drug Discovery Grants	Association for Frontotemporal Degeneration and the Alzheimer's Drug Discovery Foundation (ADDF)	http://www.theaftd.org/research/request-for-proposals-rfps
Sep. 15, 2014	Capital Health Research Fund	Capital Health	http://www.cdha.nshealth.ca/discovery-innovation/research-fund-competiton
Sep. 24, 2014	Fellowship : Banting Postdoctoral Fellowships Program (2014-2015)	CIHR/NSERC/SSHRC)	http://www.ladytatatrust.org/StaticPage/Awards/o
Nov. 3, 2014	Translating Research into Care Grants (TRIC)	QEII Foundation	http://www.cdha.nshealth.ca/discovery-innovation/qeii-fdn-tric-grants

Research resources...

Researcher Directory to Go Live in August

All researchers performing research at Capital Health have an opportunity to be included in the new Capital Health website researcher directory. The directory will demonstrate the size and diversity of the local research community. Individual profiles will provide basic information about each researcher and linkages to other websites, videos and publications for additional information.

The directory will go live in August. If you want to be included, please mail your completed form and jpeg head shot to: emily.walker@cdha.nshealth.ca

If you do not have the researcher profile form, you can obtain a copy at:
<http://www.cdha.nshealth.ca/discovery-innovation/services-researchers-o>
or by contacting: emily.walker@cdha.nshealth.ca

Research Methods Unit (RMU)

RMU
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RMU

Do you need help refining the methods for your research project, developing an analysis plan, building a database, managing your data, analyzing your data or advice on qualitative research methods or data collection? Would you like a quote for methods support for an upcoming funding application? The RMU can help. Our priority is to support your research.

It's easy—visit our web site to download an RMU Consultation Request form. Complete and send the form to us. We'll be in touch shortly thereafter to book an initial consult during which we will work with you to identify the best solution(s) for your needs. For more information about how the RMU can help your research, how the RMU consulting process works or to request a quote for an upcoming research grant application, please visit: www.cdha.nshealth.ca/rmu or contact the RMU: rmu@dal.ca

Clinical Research Unit

Researchers now have access to a 5,400 square-foot, state-of-the-art Clinical Research Unit (CRU), located at the IWK Health Centre, for inpatient and outpatient research needs. Visit the CCfV web site at www.centerforvaccinology.ca for more information and a photo tour of the unit. All inquiries are welcomed. If you would like to tour the CRU and find out more about its services, please contact: Cathy Brown 902-470-7015 catherine.brown@iwk.nshealth.ca



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