

## DMNB QUARTERLY REPORT (RESEARCH)

**Q4: January – March 2019**

### RESEARCH

#### General Update

The January to March 2019 quarter began on a cheery note for the Dalhousie Medicine New Brunswick research team with the appointment of Dr. Daniel J. Dutton, Assistant Professor Community Health & Epidemiology, effective 2 January 2019.

In the short time since he joined the DMNB research team, Dr. Dutton has made a splash on the local scene. Not only was he appointed as a City of Saint John “Succeed and Stay” Steering Committee Member, but he also appeared on CBC New Brunswick for a written article entitled “Spend on social services, save on health care, says new Saint John doc” as well as a same-day radio interview on 14 January 2019. Dr. Dutton was also quoted in a 16 March 2019 PressProgress article entitled “Canada Social Spending is Still Among the Lowest in the Industrialized World.”

These past three months have also brought good news for other members of the DMNB research team. Dr. Keith Brunt, for instance, was pleased to see new private sector partnerships with the IMPART investigator team forged with Tieos, Protokinetix, Ausculsciences, Innovatia-Gemba, and Medtronic. AGE WELL and the Canadian Frailty Network also came on board as National Centres of Excellence Partners with the IMPART investigator team.

In Dr. Pulinilkunnil’s laboratory, PhD student Logan Slade was named the recipient of the Natural Sciences and Engineering Research Council of Canada (NSERC) CGS-Doctoral Scholarship and Alexander Graham Bell Canada Graduate Scholarship-Doctoral (CGS-D). These scholarships are awarded to the top-ranked Postgraduate Scholarships-Doctoral applicants based on their academic excellence, research ability or potential, and communication, interpersonal, and leadership abilities.

#### Metrics

##### Funding Awarded to Principal Investigators (PIs)

Our outstanding team of Principal Investigators brought in a total of \$339,969 in funding within the first three months of 2019.

Dr. Thomas Pulinilkunnil along with co-applicants Dr. Petra Kienesberger and Dr. Keith Brunt received \$100,000 from the Dalhousie Medical Research Foundation (DMRF) for an interdisciplinary team grant on understanding and treating heart failure through novel mechanisms, diagnostics, and potential therapeutics.



Dr. Pulinilkunnil was also awarded a monetary prize of \$40,000 as one of the two winners of the Chesley Family Research Award for his “Role of Transcription Factor EB in DNA Damage Repair and Cell Cycle” project. Excitingly, the other winner of the 2019 Chesley Family Research Award was Dr. Sarah Gander, one of our clinical faculty researchers, for her “Evaluating a Community Social Pediatrics Model in Urban New Brunswick” project.

For his research on understanding the cellular and molecular mechanisms regulating a novel and sexually dimorphic cause of diastolic dysfunction, Dr. Brunt received \$100,000 in funding from the Canadian Institutes of Health Research (CIHR).

The newest addition to the Dalhousie Medicine New Brunswick research team, Dr. Dan Dutton, was awarded an operating grant of \$99,969 for a project entitled “Estimating and Mapping Urban Differences in Health Outcomes for Adults with Chronic Disease in Canada.”

### Principal Investigator (PI) Peer-Reviewed Publications

Since the 2017-2018 DMNB Annual Report, our Associate Dean of Research, Dr. Tony Reiman, has had 4 manuscripts published:

1. Seymour L, Le Teuff G, Brambilla E, Shepherd FA, Soria JC, Kratzke R, Graziano S, Douillard JY, Rosell R, **Reiman A**, Lacas B, Lueza B, Aviel-Ronen S, McLeer A, Le Chevalier T, Pirker R, Filipits M, Dunant A, Pignon JP, Tsao MS; LACE-Bio Steering Committee. LACE-Bio: Validation of Predictive and/or Prognostic Immunohistochemistry/Histochemistry-based Biomarkers in Resected Non-small-cell Lung Cancer. *Clin Lung Cancer*. 2019 Mar;20(2):66-73.e6. doi: 10.1016/j.clcc.2018.10.001. Epub 2018 Oct 11. PubMed PMID: 30414783.
2. Urquhart R, Kendell C, Folkes A, **Reiman T**, Grunfeld E, Porter GA. Making It Happen: Middle Managers' Roles in Innovation Implementation in Health Care. *Worldviews Evid Based Nurs*. 2018 Dec;15(6):414-423. doi: 10.1111/wvn.12324. Epub 2018 Oct 6. PubMed PMID: 30291739.
3. **Reiman T**, Savage KJ, Crump M, Cheung MC, MacDonald D, Buckstein R, Couban S, Piliotis E, Imrie K, Spaner D, Shivakumar S, Kuruvilla J, Villa D, Shepherd LE, Skamene T, Winch C, Chen BE, Hay AE. A phase I study of romidepsin, gemcitabine, dexamethasone and cisplatin combination therapy in the treatment of peripheral T-cell and diffuse large B-cell lymphoma; the Canadian cancer trials group LY.15 study†. *Leuk Lymphoma*. 2018 Oct 10:1-8. doi: 10.1080/10428194.2018.1515937. [Epub ahead of print] PubMed PMID: 30301414.
4. Urquhart R, Kendell C, Folkes A, **Reiman T**, Grunfeld E, Porter G. Factors influencing middle managers' commitment to the implementation of innovations in cancer care. *J Health Serv Res Policy*. 2018 Oct 5:1355819618804842. doi: 10.1177/1355819618804842. [Epub ahead of print] PubMed PMID: 30290703.

Between them, our team of Principal Investigators have had 5 peer-reviewed publications appear in scientific journals from January to March 2019:

1. Slade L, **Kienesberger P**, **Pulinilkunnil T**. (2018). TFEB regulates apoptosis and DNA repair independently of the lysosome. *Keystone Symposia: Autophagy: From Model*

Systems to Therapeutic Opportunities: Date: February 17-21, 2019, Santa Fe, New Mexico, USA.

2. Trivedi P, Bartlett J, Kane D, Surette M, Trivedi P, Kienesberger, P, Pulinilkunnil T. (2018). Impaired autophagy and loss of TFEB action induces cardiomyocyte apoptosis and contractile dysfunction. Keystone Symposia: Autophagy: From Model Systems to Therapeutic Opportunities: Date: February 17-21, 2019, Santa Fe, New Mexico, USA.
3. Aguiar C, MacLeod J, Yip A, Melville S, Legare JF, **Pulinilkunnil T, Kienesberger PC, Brunt KR, Hassan A\***. (2019) The impact of Obesity on Postoperative Outcomes following cardiac Surgery (The OPOS trial) - Rationale and design of an investigator-initiated prospective trial. Accepted in *BMJ Open*. Mar 3;9(3):e023418. IF 2017: 2.413. <https://bit.ly/2Y07ial>
4. Aguiar CM, Macleod J, Yip A, Melville S, Legare JF, Pulinilkunnil T, Kienesberger PC, Brunt KR, Hassan A\* Impact of Obesity on Postoperative Outcomes following cardiac Surgery (The OPOS study): rationale and design of an investigator-initiated prospective study. *BMJ Open*. (2019, Mar 3;9(3))
5. Williams, Milaney, **Dutton**. Systematic factors explain differences in low and high frequency shelter use for victims of interpersonal violence. *Canadian Journal of Family and Youth*, 11(1), 2019

#### Presentations by Principal Investigators (PIs)

Dr. Dutton traveled to the University of New Brunswick in Fredericton to give a presentation on 14 March 2019 entitled "Today's practice of applied statistics in health research: a very slow algorithm and how to speed it up" as part of the UNB Department of Mathematics and Statistics Colloquium.

Kenneth D'Souza, Dr. Kienesberger's PhD student, gave a presentation in January entitled "Autotaxin-Lysophosphatidic Acid Signaling Impairs Mitochondrial Metabolism in Skeletal Muscle and Health During Obesity and Insulin Resistance" at the Keystone Symposia on Mitochondrial Biology in Heart and Skeletal Muscle in Keystone, Colorado. He received a travel grant from the New Brunswick Health Research Foundation (NBHRF) and a travel award from Dalhousie Medicine New Brunswick for this presentation.