



THE UNIVERSITY OF BRITISH COLUMBIA

Department of Physical Therapy

Faculty of Medicine

Annual Report

For year ended December 31, 2017

In 2017, the Department of Physical Therapy at the University of British Columbia continued to deliver on its promise to provide an outstanding learning environment and lead in innovative research to advance health.

Advances in technology are greatly affecting how we access information, interact with our communities and make discoveries that meet the needs of our community. We embrace the use of technology in education, research, and practice. Our powerful community of faculty, students, staff, patients, and other partners are capitalizing on these advances to develop innovative solutions to health and educational challenges.

While the Department embraces new technology, we have not abandoned the tried and true approach of interpersonal connections that is the cornerstone of our practice and society.



THE UNIVERSITY OF BRITISH COLUMBIA

Develop Leaders for a Rapidly Changing Health Care System

Attracting the Best Students into the Profession



UBC MPT class of 2018

Sixty-three students from around the world participated in the 2017 Vancouver Summer Program, which consisted of two courses:

Exercise is Medicine provided an exploration of exercise and physical activity in the treatment of chronic health conditions. Chronic conditions such as arthritis, cancer, cognitive impairment and cardiovascular disease were explored to give students an appreciation of the effects of exercise on brain function, bone and muscle health, and cardiovascular function. Topics also included the epidemiology of physical inactivity across the world, measurement of physical activity in chronic disease, strategies to get a nation more active, the role of health professionals in physical activity prevention and treatment, and mobile technology to motivate physical activity in chronic disease.



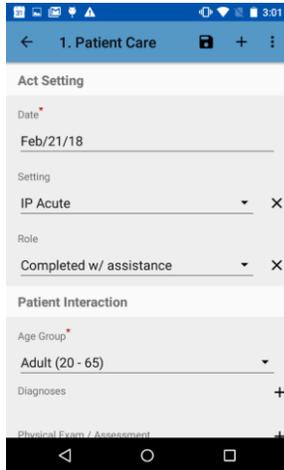
Blusson Spinal Cord Centre

A **Recovery from Injury** course introduced students to the science of rehabilitation and recovery from injury and disease. Students gained an understanding of how severe injuries and chronic diseases can impact the patient and family, both physically and emotionally. Conditions such as spinal cord injury, concussion, stroke, arthritis, and chronic obstructive pulmonary disease were used to illustrate the journey through rehabilitation, the road to recovery and adjustment to disability.

Students were introduced to concepts about the musculoskeletal, cardiovascular, pulmonary and neurological systems, as well as coping mechanisms and quality of life. In addition, cutting-edge research on novel rehabilitation treatments was introduced, including a visit to a world famous spinal cord injury research centre to view the latest treatments which included robotic suits to permit walking after spinal cord injury and e-Health applications (e.g., tele-medicine, video games, wearable sensors) to improve function. Students used a variety of interactive learning methods, including case studies, small group tutorials, and problem-based learning. They engaged in hands-on learning in a state-of-art fitness and exercise research facility designed to enable access for people with chronic disease and disability, interact with new mobile technology to motivate physical activity and measure the impact of exercise on physical function and cognition.

Transforming Education to Meet Societal Needs

T-Res



Our students use T-Res throughout the MPT program, in conjunction with their six clinical education placements. This clinical logging software enables students to efficiently record and reflect on their activities while on placement using a mobile device or web browser.

This program (and its reports based on submitted data from the students) assists the Clinical Education team in making sure our students are gaining experience in all core areas of practice, and includes clients spanning the age continuum.

Students' clinical logs can also form the basis for a professional portfolio after

they graduate and enter the workforce.

Learning Modules

Dr. Alison Greig and a team of educators from Physical Therapy, Occupational Therapy and Medicine developed a series of five web-based, interactive, simulated learning modules to teach health professional students the steps of evidence-informed health care. The purpose of the modules is to enable students and clinicians to help patients make decisions “based on the best available, current, valid and relevant evidence.”

The modules align with the five steps of evidence-based practice:

1. Translation of uncertainty to an answerable question
2. Systematic retrieval of best evidence available
3. Critical appraisal of evidence for validity, clinical relevance, and applicability
4. Application of results in practice
5. Evaluation of performance.

The content and design of the modules was developed to allow integration into the curricula of all health professional programs. In the MPT Program, students use these modules in PHTH 526 (Clinical Decision Making II) and PHTH 566 (Clinical Decision Making IV).

Reflection writing

In 2017, the Department rolled out a peer review process to facilitate MPT student engagement in written reflections. This was developed to better teach how to write a quality reflection and how to assess a reflection assignment and provide constructive feedback. Structured reflection writing is used in health professional education to facilitate the development of clinical reasoning skills. Learners commonly underappreciate the value of reflection writing in the development of core clinical and professional skill acquisition. The literature demonstrates that “peer review” can improve learners’ written and critical thinking skills.

Both cohorts of MPT students (2016-18 and 2017-19) have reviewed this module, and have completed the assessment of peers’ reflection assignments from clinical placement experiences. This equals 480 peer-reviewed reflections across the length of their program for each cohort. Qualitative data from focus groups indicate that this peer review process increased engagement in reflection writing and facilitated a better appreciation for the reflection in clinical practice. Additionally, blinded pre-/post-comparison demonstrated improved quality of reflections after learners participated in the peer review process.

GCOMPT



The Department began offering a new Graduate Certificate in Orthopaedic Manipulative Physical Therapy in 2017. This is the first university-based post-graduate course in advanced musculoskeletal physiotherapy to be offered in Western Canada.

Six clinicians enrolled in this inaugural year, and are due to graduate in 2019. Graduates of the course are granted status as a Fellow of the Canadian Academy of Manipulative Physiotherapy.

Integrating Research and Practice to Advance Science and Human Health

Stroke Coach



Dr. Janice Eng, with patient
Photo: iCord

Our researchers have been embracing technology to encourage an active lifestyle and enhance health.

Dr. Janice Eng became aware of the need for an easy-to-access program when working with colleagues in rural areas, discovering that some parts of BC have minimal rehabilitation services. In response she implemented and is evaluating *Stroke Coach*, a telehealth program to guide patients towards a healthy recovery and away from bad habits that could increase their risk of another stroke.

Participants receive seven telephone lifestyle coaching sessions over the course of six months. During the 30- to 60-minute sessions, a trained lifestyle coach shares information with patients about how to self-manage and monitor their health using a self-monitoring kit that includes blood pressure and activity monitors. Her evidence-based program empowers patients to better manage their health after stroke and could have applications for managing other diseases as well.

Telehealth exercise Guidance for cancer survivors



Photo : HealthLink BC

Dr. Kristin Campbell is utilizing a similar model to help cancer survivors. She has partnered with BC's provincial tele-health system, *HealthLink BC*. *HealthLink BC* provides access to non-emergency health information and advice available by telephone, a website, a mobile app, and a collection of print resources.

Dr. Campbell's funded work is increasing the capacity of *HealthLink BC* to provide evidence-informed guidance on exercise to cancer survivors by developing workflow documents and resources based on available evidence and published guidelines, and training HealthLink BC qualified exercise professionals on their use.

<https://www.healthlinkbc.ca/physical-activity-services>

“OPERAS”

Dr. Linda Li is helping people manage rheumatoid arthritis better with an e-health intervention, OPERAS (On-demand Program to Empower Active Self-management). The program includes a mobile app for self-recording symptoms and treatment use and is paired with a Fitbit wristband to automatically track physical activity levels. Activity levels and self-recorded information such as pain, sleep, disease activity, fatigue, stiffness and stress will be shown side-by-side. This means patients will be able to see how their treatment and lifestyle affect the disease over periods of time. Users can also choose to share their data with their medical practitioners.

The app sends an automated message when there appears to be a disease flare, which will prompt the user to alter activity or treatment and seek medical advice. Dr. Li will study outcomes in those using this mobile app along with physical activity coaching by phone with a physiotherapist.

By customizing existing technologies in a person-centred manner, patients will be empowered to better manage their disease. They will be able to monitor their health and will be prompted to access care when needed.



Using a new mobile app (and available technology) to monitor health conditions and better manage disease.

<http://www.arthritisresearch.ca/active-self-management-of-rheumatoid-arthritis-utilizing-a-fitness-tracker>

Engaging with the Community

Clinical Educator Workshops



Sue Murphy and Robin Roots conducted seven workshops throughout British Columbia for Clinical Educators. These day-long workshops provide valuable information for those new to taking students, those who are considering taking a student, or those who haven't taken a student in a while and would like a refresher.

Knowledge Translation

In addition to giving over 70 educational talks to members of the public, our core faculty members participated in a multitude of community events geared to educate and engage clinicians and the general public.

For example, Dr. Lara Boyd hosted Grade 5 students in a day of learning at *The Djavad Mowafaghian Centre for Brain Health*. Students were introduced to the wonders of the brain and the various research methods used to answer questions about how the brain works. The students participated in diverse activities from watching glial cells in real time to experiencing what it is like to be a research subject using robots, stimulators and doing some standardized tests. Dr. Boyd also serves as a “Human Book” for John Oliver Secondary at their Science Day and her lab has been a Vancouver Public Schools Mentorship site for gifted children who are interested in Neuroscience since 2015. As a mentorship site, they take 1-2 highly gifted children and mentor them over 10 sessions through the school year with the aim of attracting these talented individuals into an eventual career in Neuroscience.

Drs Pat Camp and Kristin Campbell created, and lead, networks consisting of practitioners who are interested in staying up-to-date on the evidence to inform their practice. In these endeavors, they produce webinars, newsletters and host journal clubs. Dr. Campbell leads the *British Columbia Cancer Rehabilitation Interest Network*; membership consists of physiotherapists and exercise professionals in British Columbia with an interest in rehabilitation for cancer survivors. Dr. Camp leads the *Pulmonary Rehabilitation Network of British Columbia* that has grown to over 100 members. This network has also supported the development of research partnerships between UBC and the community hospitals. In 2018, in collaboration with UBC, the Network will host, 1.5-day workshop on pulmonary rehabilitation.

Private Practice Module



Created and produced by members of the Clinical Education team (Carolyn Andersson, Anne Rankin and Sue Murphy) 2017 saw the release of the Private Practice Toolkit.

This online resource serves two purposes—to clarify common misconceptions and provide information for those interested in taking a UBC MPT student on placement, and to offer helpful tips and resources to potential (and current) private practitioners.

<http://physicaltherapy.med.ubc.ca/clinical-education/private-practice-toolkit-module/>

Research and Trainee Metrics

Publications

In 2017, our faculty members published 132 peer reviewed articles.

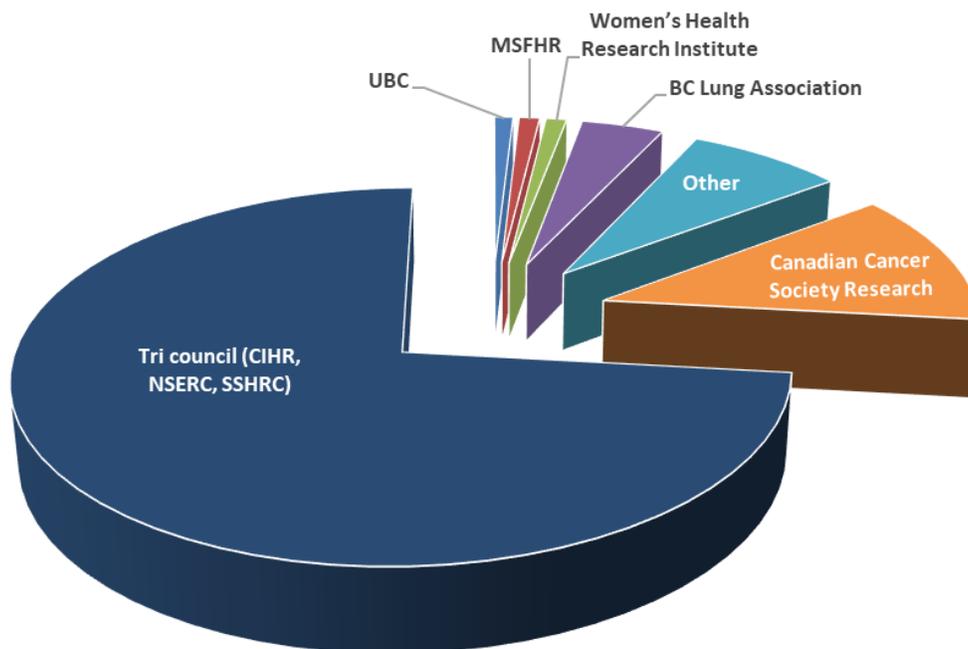
Trainee Supervision

Faculty members had 30 PhD, 23 MSc (thesis) and 18 Post-doctoral fellows under their supervision in 2017. Of the 132 papers published by faculty members in 2017, trainees were first authors on 75, and appeared as co-authors on 57. Trainees supervised by faculty members in 2017 were supported in their training with \$2,952,098* from various agencies including the Tricouncils.

** Total amount through the tenure of the awards*

Research Funding

Funding Agency Breakdown



In 2017 faculty members held a total of \$16,327,736 as nominated principal investigator*; in 2017 they were successful in obtaining \$2,544,856 in new funding to support research projects. An additional \$1,600 was received to purchase lab equipment;

** Total amount through the tenure of the grants*

Honours and Distinctions

- ▶ The Department is home to four current or former *Canada Research Chairs* (Lara Boyd, Linda Li, Teresa Liu-Ambrose - Tier II; Janice Eng - Tier I). In addition, three faculty currently hold *Michael Smith for Health Research Scholar Awards* (Pat Camp, Jordan Guenette and Michael Hunt). Jordan Guenette is supported by a *Canadian Institutes of Health Research Clinical Rehabilitation New Investigator Award* and in 2017 obtained the Faculty of Medicine *Early Career Distinguished Achievement Award for Overall Excellence in Research, Teaching and Service*.
- ▶ Instructor, Anne Rankin received the *2017 Physiotherapy Association of BC Leadership Award*.
- ▶ The Arthritis Alliance of Canada is composed of 36 groups across the country. This year, Dr. Linda Li was the recipient of the inaugural *AAC Knowledge Translation Research Award*. This award recognizes an individual who advances scientific methods to improve the impact of transforming research into practice.
- ▶ Clinical Professor Alison Hoens received the *Patient for Active Engagement in Arthritis Research Award*, sponsored by The Arthritis Society. This award is given to a patient who has meaningfully and actively collaborated in the governance, priority setting, and conduct of arthritis research, as well as in summarizing, distributing, sharing, and applying its resulting knowledge.
- ▶ Clinical Associate Professor Marie Westby received the *Knowledge Translation (KT) Practice Award* at the 2017 Arthritis Alliance of Canada Conference. This award is given for processes by which data and information are transmitted to relevant audiences to increase the application and uptake of evidence to bridge research-practice gaps.
- ▶ Michael Hunt received a *Killam Faculty Research Fellowship* to support work done during his sabbatical.
- ▶ Pat Camp and her MSc student, Christen Chan, collected the Physiotherapy Canada *Joan Cleather Knowledge Translation Silver Quill Award* for best knowledge paper published in the journal.
- ▶ The Springfield Department of Physical Therapy, USA, honoured Janice Eng as a *Greene Lecturer in Physical Therapy*.