



THE ARTHRITIS RESEARCH CENTRE OF CANADA
ANNUAL GENERAL MEETING – THURSDAY, DECEMBER 8, 2011

ANNUAL REPORT OF THE SCIENTIFIC DIRECTOR
JULY 2010 – JUNE 2011

The past year has been a very successful one for ARC Scientists and staff. In a year when funding has been hard to get, ARC has done very well. As in previous years, ARC Scientists and trainees published a record number of manuscripts (60 papers this year, with the previous record of 49 occurring last year). The Clinical Trials Department has been active. The Maureen and Milan Ilich/Merck Chair in Statistics for Arthritis and Musculoskeletal Diseases was filled and ARC Calgary was opened. Appended are tables outlining operating grants awarded to ARC scientists for peer-review research projects (Appendix I); a list of clinical drug trials conducted at ARC (Appendix II); and, a list of publications (Appendix III), all for the period of July 2010-June 2011. Here are some highlights.

TRAINEES

New Trainee Grants

In September 2010, **Lindsay Wall Burns** (supervisors: **Jan Dutz, Hyon Choi**) was awarded a Canadian Institutes of Health Research (CIHR) Skin Research Training Centre scholarship. Ms. Wall is evaluating the impact of depression on the risk of heart disease and death among individuals with psoriasis and psoriatic arthritis. It is known from earlier work at ARC that heart disease is increased in people with psoriasis and psoriatic arthritis.

In June 2011, **Allison Ezzat** was awarded the Physiotherapy Foundation of Canada-Dominion of Canada Scholarship. This award is given to one physiotherapist in Canada who is in graduate research training. Working with **Linda Li** and **Jolanda Cibere**, Allison's MSc thesis studies the role of occupational activities in knee osteoarthritis in men and women. Previous research has shown that certain activities such as kneeling and squatting are associated with knee osteoarthritis in men; but the evidence is not so clear in women due to the definition of occupation in the older studies. Using Jolanda's Knee Osteoarthritis Cohort, Allison will be able to add new insight to this area.

In May 2011, **Claire Barber** (supervisors: **Deborah Marshall, John Esdaile**) was awarded a UCB-CRA-TAS Research Fellowship. The title of her proposal was "Analysis of preventable infections in patients with systemic autoimmune rheumatic disease (SARD)". She had valuable input from her mentor, Paul Fortin, as well as from **Diane Lacaille, Antonio Avina** and Louise Bergeron of CAN's Consumer Advisory Council. Claire also received a post-doctoral fellowship by Alberta Innovates Health Solutions (known locally as AIHS - akin to MSFHR in BC and FRSQ in QU).

Summer Studentships

Marko Yurkovich was awarded a CRA-Roche Research Studentship and worked with **Diane Lacaille** and **Antonio Avina**. Marko is a second year medical student who did a systematic review of instruments used to measure co-morbidities in administrative data.

Leslie Chin was awarded a CRA-Roche Research Studentship and worked with **Jolanda Cibere**. Leslie is a first year medical student. He evaluated physical activity in the early knee osteoarthritis cohort study. He

determined how frequently people with knee pain reduce physical activities as a result of knee pain and what the predictors of physical activity reduction are.

Erin Bambury is a second year Physical Medicine student who did her five week placement at ARC from June 6th – July 8th. Supervised by **Linda Li**, Erin was involved in the following projects: ANSWER (assisting with patient recruitment to test a methotrexate decision aid), ERAHSE-2 (interviewing patients who are recently diagnosed with RA), and the OPEN study (assisting with the online tool development).

Trainee Degrees

In September 2010, **Antonio Aviña-Zubieta** (supervisors: **Diane Lacaille, John Esdaile**; supervisory committee members: **Hyon Choi**, Michal Abrahamowicz) passed his oral examination for a PhD in experimental medicine at UBC. Antonio performed a review of the world literature on the increase in deaths due to heart attack and strokes in people with rheumatoid arthritis. This paper was published and attracted considerable scientific attention as both heart attack and stroke were increased 50% above that in the normal (non-rheumatoid arthritis) population. Antonio then studied 30,000 people with rheumatoid arthritis in BC and showed that the use of prednisone was a major cause of increased heart attacks, but not strokes.

In February 2011, **Robin Roots** (supervisor: **Linda Li**), completed her Master's degree in Rehabilitation Sciences. Robin sought to understand the practice of occupational therapists and physical therapists in rural areas to inform an educational framework for rural rehabilitation practice. The study asserted the importance of incorporating rural content in professional training programs and the need for accessible professional development resources to address health human resource shortages in rural areas.

RESEARCH

Grants Funded

In June 2010, **Allen Lehman** and **Diane Lacaille** (Co-PIs: **Linda Li, Catherine Backman, Antonio Aviña-Zubieta, John Esdaile, Matthew Liang, Pam Montie** (CAB), and others were funded by the Canadian Arthritis Network National Aboriginal Arthritis Research Initiative for a grant titled "Development and pilot testing of a culturally sensitive and family-based self-management program for Aboriginal Peoples with arthritis". Community partners included James Wilson (Kwakiutl Band Council), **Lianne Gulka** (ARC Consumer Advisory Board), Linda Day (Vancouver Coastal Health Authority) and Marg Vandenberg (formerly Executive Director, Arthritis Society BC & Yukon Division)). The project will: 1) develop a culturally sensitive and family-based program for Aboriginal people and family members to improve self-management of arthritis; 2) evaluate how well the program works in Aboriginal communities and find out if it improves social support from family and coping skills at managing arthritis symptoms after six months; and, 3) improve the capacity for care and research by Aboriginal people for Aboriginal people. If successful, the program could be made available to Aboriginal people throughout Canada. This will offer an approach to improve arthritis care by focusing on arthritis education and self-management, which is an important aspect of care in addition to standard medical treatment.

In June 2010, **Shauneen Kellner** with support from **Helen Prlic**, Cheryl Koehn (Arthritis Consumer Experts), Nancy Roper (Arthritis Society BC & Yukon Division) and **Lianne Gulka** (ARC Consumer Advisory Board) was awarded a grant titled "New web-based tools for understanding arthritis" from the Canadian Institutes of Health Research (CIHR) under the Institute Community Support Program. Six web videos, each two minutes long, showcase cutting edge CIHR funded research at ARC. The videos are posted on the ARC website and the ARC's social networking page.

On July 26, 2010, ARC was visited by the Honourable Leona Aglukkaq, Minister of Health. Minister Aglukkaq came to ARC announce funding of four large team grants, two of which are held at UBC and one of which was the ARC team grant on hip osteoarthritis (see below). After the media announcement, Minister Aglukkaq watched a yoga session that was lead by former Board member **Lynn Hsu's** daughter, Kim Scarrow. Overall, it was a very exciting day for everyone at ARC. The Minister was very interested in the information shared with her about the burden of arthritis in Canada and the benefits of research.

The Minister awarded a Canadian Institutes of Health Research Team grant for \$2.5 million entitled "CIHR team in Investigations of Mobility, Physical Activity, and Knowledge Translation in HIP pain (IMPAKT-HIP)". ARC Scientists involved in the team included: **Jolanda Cibere, John Esdaile, Donald Garbuz, Jacek Kopec, and Linda Li**; ARC CAB member **Otto Kamensek**; long-time ARC collaborators David Wilson, Hubert Wong, A Robin Poole (McGill) and Michal Abrahamowicz (McGill); ARC trainees **Allen Lehman** and **Chuck Ratzlaff**. Other team members and investigators include Mike Gilbert (Orthopaedics), Bruce Forster and Alex MacKay (Radiology), Heather McKay (Hip Health), and Carolyn Emery (U Calgary). A grant of this size has many collaborators whose input and membership on the research team is essential to being able to perform the research and whose participation reassures the reviewers that the proposed projects are feasible. These individuals include Louise Bergeron (Canadian Arthritis Patient Alliance), Tung Chan (SUCCESS), Pricilla Henderson (Kwakiutl District Health Council), Stephen Owen (UBC), Kim Roberts (Kwakiutl District Health Council), Jay Wortman (First Nations and Inuit Health Branch) and Marie Westby (Mary Pack Arthritis Program).

The application assesses one of the most exciting discoveries in recent years - that subtle deformities of the hip combined with excessive physical activity particularly with major hip flexion (e.g., hockey, soccer, jogging, tennis and so on) may be a major cause of hip osteoarthritis. If correct, individuals at risk could be identified and the disease prevented.

In December 2010, **Allen Lehman** was awarded a grant from the Vancouver Foundation for his application entitled "Development and pilot testing of a culturally relevant and family-based self-management program for First Nations people with arthritis". The grant is a partnership between ARC scientists, The Arthritis Society BC/Yukon, and the Old Massett Village Council and Health Centre that serves the Haida people. Co-investigators include **Diane Lacaille, Linda Li, Catherine Backman, John Esdaile, Antonio Avina**, Patrick McGowan (University of Victoria), Deborah Da Costa (McGill University), and **Matthew Liang** (Harvard University). Key collaborators include Michelle Brown and Lisa White (Old Massett Village Council and Haida Health Centre), **Paul Adam** (Mary Pack Arthritis Program), Joyce Greene (First Nations consumer, Manitoba), **Pam Montie** and **Lianne Gulka** (ARC Consumer Advisory Board). The study team also includes all current CIRCLE (Collaboration in Inflammatory Rheumatic Conditions: Legacy in Education for Aboriginal Patients and Families) team members working with the Kwakiutl District Council and Kwakiutl Health Centre, funded in 2010 by the Canadian Arthritis Network. The research plan is to extend the development and pilot testing of the family based self-management program to the Haida people living in Old Massett, Hadai Gwaii.

Cheryl Barnabe received funding from the Canadian Initiative for Outcomes in Rheumatology Care (CIORA) for her project titled "Detecting Inflammatory Arthritis in a First Nations Community". Rheumatic disease is highly prevalent among persons of Aboriginal ancestry, and each Nation has its own barriers to rheumatic disease care, as well as community strengths and resources to improve that access. She will evaluate the Siksika Nation which is a Blackfoot community of 3,700 on-reserve members in southern Alberta. Siksika Health Services collaborated on the project and Drs. Steve Mintsoulis, Dianne Mosher, Sharon LeClercq, Marvin Fritzier and Hani El-Gabalawy were co-investigators.

In May 2011, **Linda Li** received Canadian Institutes of Health Research funding for her study titled "Capitalizing on the teachable moment: the OPEN (Osteoarthritis Physical Activity & Exercise Net) for improving physical activity in early knee osteoarthritis". Co-investigators on the study include **Jacek Kopec, Jolanda Cibere, John Esdaile**, Sydney Lineker (The Arthritis Society), Allyson Jones (University of Alberta), Scott Lear (Simon Fraser University), Valorie Crooks (Simon Fraser University), Ryan Rhodes (University of

Victoria), and James Pencharz (Credit Valley Hospital, ON). Linda and her team will develop and test an interactive website, called OPEN, to see if it can increase physical activity in people with early knee osteoarthritis. This project directly targets physical inactivity at a time when the joint damage tends to be mild, and when people are more motivated to adopt a healthy behaviour. If the website is found to be effective in improving physical activity, it opens further opportunities to promote early diagnosis and to implement lifestyle interventions.

In June 2011, **Michael Hunt**, an ARC Affiliate Scientist, received a grant from the BC Sports Medicine Research Foundation for his study titled 'Biomechanical differences in patients with femoroacetabular impairment'. Dr. Mike Gilbert (UBC) is co-investigator on the study. While the common functional limitations of femoroacetabular impingement are well known (for example, difficulty with stair climbing, squatting, and lunging), very little is known about the magnitude of these limitations. A lack of research in quantifying functional differences between those with and without femoroacetabular impingement has limited the ability to treat the condition. The study proposes to conduct the most thorough biomechanical examination of functional impairments in this patient population to-date.

CLINICAL TRIALS

Drs. Antonio Aviña, Ken Blocka, Andrew Chalmers, Jan Dutz, Alice Klinkhoff, Jason Kur, Jennifer Reynolds, Kam Shojania, John Wade and John Watterson are all actively performing clinical trials with new medications. The research focus remains on the new biologic agents which target specific molecules that lead to inflammation. While a drug affects hundreds of different molecules in the body, a biologic agent often targets a single molecule. If that molecule is key to the disease process, targeting it can stop the disease.

Some of the molecules currently targeted in trials at ARC include TNF alpha, a white blood cell receptor called CD20, and a small signaling molecule that turns inflammation on and off called interleukin-6. Most of these molecules are given as an injection so it is good to see some new biologic agents being tested at ARC that are pills, such as JAK-3 and laquinimod.

There is continued research interest in lupus. This is exciting as a number of new agents thought to improve the condition have failed to show benefit when rigorously tested. A new agent, belimumab, is the first in 50 years to be approved to treat lupus. ARC Clinical Trialists are involved in studies with three new agents: laquinimod, which targets many of the abnormalities in lupus, sifalimumab which targets interferon alpha and epratuzumab which targets a specific white blood cell.

Another new pill that is being studied is apremilast. It targets a variety of molecules that are key players in causing inflammation and joint damage. ARC trialists will be studying it in people with psoriatic arthritis.

There is much interest in using anti-IL-17 to treat a variety of forms of arthritis. ARC will be participating in a study using it in ankylosing spondylitis.

AWARDS/DISTINCTIONS

Charlie Goldsmith PhD, the inaugural Maureen and Milan Ilich/Merck Chair in Statistics at ARC/Simon Fraser University (see below), was just awarded the "2010 Contribution to the School Award" from the School of Rehabilitation Science at McMaster University. This award is given to facilities, clinicians or faculty who provide consistent, significant and longstanding contributions to the School of Rehabilitation in the form of research, administration or education.

The Consumer Advisory Board (CAB) of the Arthritis Research Centre of Canada has created an award recognizing the meaningful contribution of an individual who has significantly promoted and helped develop the

role of consumers in arthritis research. The 2010 award recognized the contribution of **John Esdaile** as a visionary, advocate, and leader in fostering meaningful involvement of consumers in arthritis research. His leadership and support for inclusion of consumers in the development, evaluation and dissemination of research has made Canada a world leader in the field of consumer participation.

Linda Li and **Catherine Backman** were awarded the 2010 Award for Excellence in Interprofessional Education Teaching by the College of Health Disciplines at the University of British Columbia. This award honours an outstanding individual or team that demonstrates effective teaching of interprofessional competencies to students from different health care professions to support excellence in the delivery of patient-centred care. The Interprofessional Rheumatology Teaching Team includes: Gerry Oleman (First Nations speaker), Logan Graham (young adult with arthritis), Pam Sherwin (Logan's mother), and the BC Children's Hospital Juvenile Arthritis Team which includes Heather Best (occupational therapist), Iris Davidson (physiotherapist), Danielle Eccles (social worker), Jenny Tekano (nurse), and Dr. Lori Tucker (rheumatologist).

The first ARC Champion, **Ron Emerson**, was awarded a British Columbia Community Achievement Award. The British Columbia Achievement Foundation is an independent organization established by the Province of British Columbia to celebrate excellence in the arts, humanities, enterprise and community service. A quote from the British Columbia Achievement Foundation website notes: "Ron Emerson has volunteered hundreds of hours to the Arthritis Society, BC & Yukon Division. Past chair of the board, Ron has contributed his leadership abilities, his fundraising skills and his business acumen for the benefit of the 600,000 British Columbians living with arthritis. Ron is an exemplary role model, serving the Society with integrity and commitment."

The Honorable Pat Carney PC, CM has been awarded the Order of Canada. While best known to many Canadians as Canada's tough International Minister of Trade who negotiated the Canada-U.S. free-trade agreement, she is known to many of us for the more than two decades she has devoted to the support of the arthritis cause. Senator Carney was a long-time board member of TAS, a founding board member of ARC, and the first Consumer Advisory Board Chair. Along with Senator Nancy Greene-Raine she created ARC's tag line "Practical research for everyday living".

Cyril Frank, **Deborah Marshall**, Peter Faris and Christopher Smith were awarded a Canadian Institutes of Health/Canadian Medical Association Journal Top Achievements in Health Research award for their ongoing work researching the issue of quality of care and access to care for people needing total joint replacements.

MAUREEN AND MILAN ILICH/MERCK CHAIR IN STATISTICS FOR ARTHRITIS AND MUSCULOSKELETAL DISEASES

Charlie Goldsmith, PhD was inducted as the new Maureen and Milan Ilich/Merck Chair in Statistics for Arthritis and Musculoskeletal Diseases at a ceremony at Simon Fraser University (SFU) on October 18, 2010. The ceremony was led by the new President of SFU, Dr. Andrew Petter. This chair is a first of its kind with this focus in North America and perhaps the world. Dr. Goldsmith is Professor Emeritus of Biostatistics in the Department of Clinical Epidemiology and Biostatistics at McMaster University. He has published more than 270 papers in the field of clinical epidemiology and is internationally recognized for his leadership in the development of evidence-based decision-making in medical practice. He will foster the growth and academic success of junior faculty in biostatistics at SFU and build links between SFU's Faculty of Health Sciences and ARC.

ARC CALGARY

On Dec 1, 2010, **John Esdaile** took up the Arthur JE Child Chair in Rheumatology Research at the University of Calgary. The Arthritis Research Centre of Canada now includes faculty at the University of Calgary.

As with the Vancouver Division of ARC a decade ago, the Calgary division has started small. But, the two divisions are already collaborating. **Deborah Marshall, PhD** a noted Health Services and Health Systems Scientist at the McCaig Centre and the University of Calgary visited Vancouver on October 15, 2010 and under the leadership of **Linda Li** wrote a grant. Dr. Cy Frank, an orthopaedic surgeon and McCaig scientist, was also involved.

Cheryl Barnabe, MD was the first ARC post-doctoral student in Calgary. Cheryl's research interests include the evaluation of rheumatoid arthritis with computed tomography and health services research in aboriginal peoples.

Claire Barber, MD will be ARC's second post-doctoral student in Calgary.

ARC's first Board member from Calgary has been appointed. **Marilyn McCaig**, Chair of the Community Partners at the McCaig Institute for Bone and Joint Health in Calgary, agreed to join the ARC Board this past fall. She chairs the Board of Governors of Strathcona Tweedsmuir School, is a member of the Canadian Educational Standards Institute, the Canada Olympic Park Board, and served on the 1988 Calgary Olympic Committee, along with many other commitments. As an educator, she taught in both Calgary and Vancouver.

SOCIAL MEDIA

Nicole Prestley is leading ARC's social media strategy. She has created and manages ARC's Facebook page for the Consumer Advisory Board. The Facebook page showcases research projects, events, and requests for research participants. Nicole is currently expanding ARC's social media footprint by creating an ARC YouTube Channel, ARC Twitter Account, and both an ARC Group and ARC Company Profile on LinkedIn. As of August 25, ARC had 106 members on Facebook, and 198 followers on Twitter from all over North America.

MISCELLANEOUS

Catherine Backman was promoted to Full Professor in the Department of Occupational Science and Occupational Therapy at the University of British Columbia. This is a major milestone for every faculty member.

The RheumTube video, funded by a research grant from the Canadian Institutes of Health Research, is now on the ARC website, as well as the Arthritis Health Professions Association website. This short video co-starred **Jolanda Cibere** discussing knee osteoarthritis with Leslie Nielsen. This video is a guide for family physicians and shows how to interview and examine a person with knee pain, and how to treat it. All of this is done in a 10-minute clinic visit. Early diagnosis of knee osteoarthritis can prevent disability and pain. The RheumTube video is dedicated to the late actor, Leslie Nielsen.

UPDATE ON STAFF

Allison Heath was hired as full-time Research Assistant for **Jolanda Cibere**. Allison comes to us with a large background and interest in arthritis. She has a BA in Human Kinetics with a major in Kinesiology and Health Sciences from UBC.

James Rankin returned to ARC as a part-time Research Coordinator for **Antonio Aviña-Zubieta** and **Hyon Choi**. James worked for ARC for two years before leaving last September to spend a year living in Masset in Northern BC. During his time away, he worked with the First Nations communities on several different projects.

Sennait Yohannes was hired as a full-time Research Coordinator for **Allen Lehman**. She came to us from Montreal, where she was doing her Master's of Science at McGill. She worked on a health promotion project on Baffin Island.

Liz Verhoeve was hired as a Communications Manager to work on the IMPAKT-Hip grant. She is working with **Linda Li**. It is great for ARC to have someone with this new skill set on site.

Jenny Leese was hired as a Research Assistant to work with **Anne Townsend, Linda Li** and **Antonio Aviña**. Jenny is originally from Liverpool, England and has a Joint Honours BA in English Literature & Art History and a MA in Art History from the University of Leeds, U.K. Jenny is working on multiple projects including the internet ANSWER project to help people with rheumatoid arthritis determine the best treatment for them.

Jacque Simatovic was hired as a full-time Research Coordinator for **Jacek Kopec**. She is coordinating the IMPAKT-Hip Prevalence and Case-Control projects. Jacquie completed a Master's degree in Kinesiology (Health Psychology/Health Promotion) at The University of Western Ontario.

Richard Liu was hired to work as a full-time Research Coordinator for **Jacek Kopec**. He is working on the BCOAR Registry and the STAR Study (Simulation Technology for Applied Research). Richard has a Master's of Science and was previously working on a project at the BC Cancer Research Centre.

Saeideh Dahaghin is doing a one year post-doctoral fellowship with **Jacek Kopec**. She is using the Population Health Model (POHEM) platform to investigate three questions: 1) what is the impact of changing the frequency of drug use among people with osteoarthritis on average health status? 2) what is the total number of joint replacement surgeries over the next 20 years needed to maintain the current level of service among persons with osteoarthritis? and, 3) what is the life time risk of joint replacement surgery for a Canadian?

Ryan Maltais (co-supervisors: **Carlo Marra, Diane Lacaille**) began a Masters of Sciences, Pharmaceutical Sciences, UBC, in January 2011. His project involves evaluating the effectiveness of academic detailing to family physicians at improving care for rheumatoid arthritis, specifically its impact on the use of DMARDs, considered essential in the treatment of rheumatoid arthritis.

NOTE FROM THE SCIENTIFIC DIRECTOR

Every year has proved more exciting than the previous. 2011-2012 is already proving that ARC's strength is manifold – great scientists and staff, a unique Consumer Advisory Board and a Board of Directors that are totally committed to ARC – and its strengths will make it prosper. ARC is making the lives of people with arthritis better toady. That makes ARC tick and makes it a fun place to be.

Signed:



John M. Esdaile, MD, MPH
Scientific Director, Arthritis Research Centre of Canada

Appendix I
FUNDING

SCIENTIST FUNDING				
Funding Source	Project Title	Funding Period	PI	Co-Is
NIH	Genetics of gout	2008-2012	H. Choi	
CIHR	An evaluation of long-term medical outcomes following discontinuation of methadone maintenance treatment	2008-2010	A. Anis	B. Fischer, YC. Macnab, B. Nosyk, D. Marsh, M. Schechter
CIHR	Assessing the quality of care for rheumatoid arthritis at a population level	2008-2013	D. Lacaille	M. Abrahamowicz, J. Esdaile, A. Anis, P. Tugwell
CIHR	Vancouver longitudinal study of early knee osteoarthritis	2008-2011	J. Cibere	J. Esdaile, J. Kopec, J. Singer, A. Thorne, H. Wong, S. Nicolaou
CIHR	CIHR Team in microsimulation modeling of the impact of health interventions and policies	2008-2013	J. Kopec	M. Abrahamowicz, D. Buckeridge, P. Fines; W. Flanagan, S. Harper, J. Lynch, D. Manuel, J. Oderkirk, M. Wolfson
CIHR	CIHR Team in microsimulation modeling: simulation technology for applied research	2008-2014	J. Kopec	M. Abrahamowicz, D. Buckeridge, P. Fines, W. Flanagan, S. Harper, J. Lynch, D. Manuel, M. Wolfson, C. Nadeau
CIHR	Improving healthcare consumer effectiveness: an Animated, Self-serve, Web-based Research (ANSWER) tool for people with early rheumatoid arthritis	2009-2011	L. Li/P. Adam	A. Townsend, C. Backman, S.Cox, D. Lacaille, K. Ho, J. McGowan, D. Stacey, P. Tugwell, G. Sinclair
CIHR	The feasibility of using community pharmacists in focused surveillance for drug safety and effectiveness: a case study of anti-hypertensives in pregnancy	2010-2011	C. Marra/L Lynd	E. Ferreira, L. Magee, P. Von Dadelszen
CAN	Burden and comorbidity of systemic autoimmune rheumatic diseases	2010-2012	A. Avina-Zubieta	S. Bernatsky, D. Lacaille, J. Esdaile, M. Abrahamowicz, C. Marra, J. Kopec

Appendix I continued
FUNDING

Funding Source	Project Title	Funding Period	PI	Co-Is
CAN-NCE/CIORA	Falling through the cracks; using a multidisciplinary strategy to improve DMARD use in rheumatoid arthritis	2010-2012	C. Marra	L. Li, D. Lacaille, WJ. Mail, K. Grindrod
CIHR	Narrowing the gap in the treatment and study of lupus worldwide	2010-2011	J. Esdaile	P. Fortin
CIHR	Think tank on translational research in rehabilitation management of chronic diseases in the aging population	2010-2011	LC Li, L Boyd, T Liu-Ambrose, M Hunt, K Campbell, J Rozanova	J.J. Eng, W. Miller, T. Jarus, J. Bottorff, S. Forwell, S.J. Garland, C. Backman
CIHR	Confidence in using a wheelchair as a determinant of participation among older adults: a pilot study	2010-2011	C. Backman, W. Miller, F. Routhier	
CAN	Development and pilot testing of a culturally sensitive and family-based self-management program for Aboriginal Peoples with arthritis	2010-2012	D. Lacaille, A. Lehman	J. Esdaile, P. McGowan, D. DeCosta, L. Li, C. Backman, A. Avina
CIHR	CIHR team in IMPAKT-HIP – investigations of mobility, physical activity, and knowledge translation in hip pain	2010-2015	J. Esdaile	M. Abrahamowicz, A. Anis, J. Cibere, B. Forster, D. Garbuz, K. Gilbert, J. Kopec, L. Li, C. Marra, D. Wilson
NCE	Biomarkers and knee osteoarthritis: associations with joint load and effects of exercise	2010-2011	M. Hunt	J. Cibere
CIORA	From prediction to proof: using linked data to observe reductions in RA costs following expansions of biologic therapies	2010-2011	A. Anis	D. Lacaille, N. Bansback
Vancouver Foundation	Development and pilot testing of a culturally relevant and family-based self-management program for First Nations People with arthritis	2011-2013	A. Lehman	D. Lacaille, L. Li, C. Backman, J. Esdaile
CIORA	Supporting "effective consumers": Using a decision aid to improve patients decisions about methotrexate use for rheumatoid arthritis	2011-2012	L. Li	A. Jones, D. Lacaille, S. Lineker, E. Yacyshyn

Appendix I continued
FUNDING

Funding Source	Project Title	Funding Period	PI	Co-Is
CIORA	Detecting inflammatory arthritis in a First Nations community	2011-2012	C. Barnabe	M. Fritzler, H. El-Gabalawy, S. Mintsoulis, S. LeClercq, D. Mosher
TRAINEE FUNDING				
Funding Source	Project Title	Funding Period	PI	Supervisors
CIHR	Doctoral Research Award - Measuring and valuing work productivity losses due to illness	2008-2011	W Zhang	A. Anis
AHPA	Research Grant	2009-2010	R. Roots	L. Li
CAN	Graduate Student Award - Understanding Rehabilitation Practice in Rural and Remote British Columbia	2009-2010	R. Roots	L. Li
PFC	Research Grant	2009-2010	R. Roots	L. Li
UBC	Graduate Entrance Award	2009-2010	H. Chhina	D. Lacaille
CAN	Graduate Student Award - Impact of osteoarthritis on developing co- morbid conditions and mortality in British Columbia, Canada	2009-2012	M. Rahman	J. Kopec
CAN	Graduate Student Award - Social support and help-seeking in people with early rheumatoid arthritis	2010-2011	C. MacDonald	L. Li
CAN	Postdoctoral Fellowship Award - Incorporating patients' values into preference sensitive healthcare decisions	2010-2012	N. Bansback	L. Li, S. Bryan
CIHR-Skin Research Training Centre	Cardiovascular and mortality impact of depression among individuals with psoriasis and psoriatic arthritis: A population -based study	2010-2012	L. Wall	J. Dutz, H. Choi

Appendix I continued
FUNDING

Funding Source	Project Title	Funding Period	PI	Supervisors
CAN	Network Scholar - Epidemiology of systemic autoimmune rheumatic diseases	2010-2012	A. Avina	J. Esdaile
MSFHR	Postdoctoral Fellowship - Imaging early micro-structural bone changes in the rheumatoid hand: A high resolution-peripheral computed tomography (HR-pQCT) study in people with newly diagnosed RA	2010-2012	L. Feehan	L. Li, H. McKay
CAN	Graduate Student Award	2010-2013	B. Sharif	J. Kopec, A. Anis
UBC (Faculty of Medicine Graduate Award)	Social support and help-seeking in people with early rheumatoid arthritis	2011	C. MacDonald	L. Li
UCB-CRA-TAS Research Fellowship	Analysis of preventable infections in patients with systemic autoimmune rheumatic disease (SARD)	2011-2013	C. Barber	D. Marshall, J. Esdaile
AIHS	Post-doctoral Fellowship Award - Analysis of preventable infections in patients with systemic autoimmune rheumatic disease (SARD)	2011-2013	C. Barber	D. Marshall, J. Esdaile
CIHR	Frederick Banting and Charles Best Canada Graduate Scholarships - Doctoral Award - Impact of osteoarthritis on developing co- morbid conditions and mortality in British Columbia, Canada	2011-2014	M. Rahman	J. Kopec

NIH – National Institutes of Health, Bethesda, MD; CIHR – Canadian Institutes of Health Research, CAN – Canadian Arthritis Network, NCE – Networks of Centres of Excellence, CIORA - Canadian Initiative for Outcomes in Rheumatoid Arthritis, UCB-CRA-TAS – UCB-Canadian Rheumatology Association-The Arthritis Society; AIHS - Alberta Innovates Health Solutions; AHPA - Arthritis Health Professions Association; PFC - Physiotherapy Foundation of Canada; UBC – University of British Columbia; MSFHR – Michael Smith Foundation for Health Research

APPENDIX II:

CLINICAL TRIALS
July 2010 – June 2011

Principal Investigator	Co-Investigator(s)	Study Title	Duration	Sponsor	Status
Dr. A. Chalmers	Dr. A. Klinkhoff Dr. K. Blocka	Radiographic, Clinical and Patient Outcomes in a Multicenter, Open Label Phase IV Randomized Trial of Earlier Adalimumab Introduction Therapy Versus Later Introduction as per Standard of Care After Initial Methotrexate Failure in Early Rheumatoid Arthritis patients (RADAR)	2011-2013	Abbott	Enrolment open
Dr. A. Klinkhoff	Dr. A. Chalmers Dr. K. Blocka Dr. J. Dutz	A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Efficacy and Safety Study of Two Doses of Apremilast (CC-10004) in Subjects with Active Psoriatic Arthritis and a Qualifying Psoriasis Lesion (CC-10004-PSA-004)	2011-2014	Celgene	Enrolment open
Dr. A. Klinkhoff	Dr. A. Chalmers Dr. K. Blocka Dr. J. Dutz	A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Efficacy and Safety Study of Two Doses of Apremilast (CC-10004) in Subjects with Active Psoriatic Arthritis Who Have Not Been Previously Treated with Disease Modifying Anti-rheumatic Drugs (CC-1004-PSA-005)	2011-2014	Celgene	Enrolment open
Dr. A. Chalmers	Dr. A. Klinkhoff Dr. K. Blocka Dr. J Reynolds	A Phase IIa, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Safety, Tolerability and Clinical Effect of Laquinimod in Systemic Lupus Erythematosus Patients with Active Lupus Arthritis.	2011-2013	Teva	Enrolment open
Dr. A. Klinkhoff	K. Blocka A. Chalmers	A Phase III Randomized, Double-Blind, Active Comparator, Placebo-Controlled Study of the Efficacy and Safety of 2 doses of CP-690,550 in Patients with Active Rheumatoid Arthritis on Background Methotrexate (A3921064)	2009 - 2010	Pfizer	Study completed –patients enrolled in long-term extension
Dr. A. Klinkhoff	K. Blocka A. Chalmers	A Long-Term, Open-label, Follow-up Study of Tasocitinib (CP-690,550) for Treatment of Rheumatoid Arthritis (A3921024)	2010-2015	Pfizer	Patients enrolled from (A3921064) Study ongoing
Dr. A. Klinkhoff	K. Blocka A. Chalmers K. Shojania J. Esdaile	A Randomized, Double-blind, Parallel group, International study to Evaluate the Safety and Efficacy of Ocrelizumab Compared to Placebo in Patients with Active Rheumatoid Arthritis Continuing Methotrexate Treatment (WA20494)	2008- 2010 plus safety extension	Hoffmann-La Roche	Study stopped by Sponsor
Dr. K. Blocka	A. Chalmers A. Klinkhoff K. Shojania	A Randomized, Double-blind, Parallel group, International Study to Evaluate the Safety and Efficacy of Ocrelizumab Compared to Placebo in Patients with Active Rheumatoid Arthritis who have an Inadequate Response to at Least One Anti-TNF Therapy (WA20495)	2008- 2010 Safety Extension	Hoffmann-La Roche	Study stopped by Sponsor
Dr. A. Klinkhoff	K. Blocka A. Chalmers	An Open Label Study of the Efficacy and Safety of Re-treatments of Rituximab (MabThera/Rituxan) in Patients with Active RA. (WA16855)	2003-	Hoffmann-La Roche	Enrollment closed Study ending in Dec 2011
Dr. A. Klinkhoff	K. Blocka A. Chalmers	A Randomized, Double-blind, Parallel Group Study of the Safety and Effect on Clinical Outcome of Tocilizumab SC versus Tocilizumab IV in Combination with Traditional Disease Modifying Anti-rheumatic Drugs (DMARDs) in Patients with Moderate to Severe Active Rheumatoid Arthritis (WA22762)	2011-2014	Hoffmann-La Roche	Enrollment closed Study ongoing
Dr. A. Klinkhoff	A. Chalmers	Continuation study of D2E7 in RA Multi-centre Continuation of the Human Anti-TNF Antibody D2E7 Administered as a Subcutaneous Injection in Patients with Rheumatoid arthritis (DE020)	2001- 2011	Abbott	Study completed in 2011
Dr. A. Chalmers	Dr. A. Klinkhoff Dr. K. Blocka	A Randomized Double-Blind Placebo controlled Dose Ranging Study to Evaluate the Efficacy and Safety of SAR 153191 in Patients with Ankylosing Spondylitis (AS) (DRI11073)	2010-2011	Sanofi-Aventis	Study completed-patients moved into long-term extension
Dr. A. Chalmers	Dr. A. Klinkhoff Dr. K. Blocka	A Multicentre Uncontrolled Extension Study Evaluating the Long-term Safety and Efficacy of SAR153191 in Patients with Ankylosing Spondylitis (LTS11298)	2010- Sept 2011	Sanofi-Aventis	Study stopped by Sponsor

APPENDIX II cont'd:**CLINICAL TRIALS**
July 2010 – June 2011

Dr. K. Blocka	A. Klinkhoff K. Shojania	Multi-national Open-label Study to Evaluate the Safety, Tolerability and Efficacy of Tocilizumab in Patients with Active Rheumatoid Arthritis on Background Non-biologic Disease-modifying Anti-rheumatic Drugs who have An Inadequate Response to Current Non-biologic Disease-modifying Anti-rheumatic Drug or Anti-tumor Necrosis Factor Therapy (MA21573)	2008-	Hoffmann-La Roche	Study completed 2010
Dr. A. Klinkhoff	K. Blocka J. Dutz K. Shojania	A Multicentre, Randomized, Double-blind, Placebo-controlled Study of Golimumab, a Fully Human Anti-TNF Monoclonal Antibody, Administered Subcutaneously in Subjects with Active Psoriatic Arthritis. (T08)	2006-	Centocor	Enrollment closed Study ending end of 2011
Dr. A. Chalmers	Dr. A. Klinkhoff Dr. K. Blocka	A Randomized, Head-to-Head, Single-Blind Study to Compare the Efficacy and Safety of Subcutaneous Abatacept versus Subcutaneous Adalimumab, both with Background Methotrexate, in Biologic-Naïve Subjects with Rheumatoid Arthritis (IM101-235)	2011-2012	Bristol-Myers-Squibb	Enrolment closed Study ongoing

Appendix III

PUBLICATIONS

1. Anaby DR, **Backman CL**, Jarus T. Measuring occupational balance: a theoretical exploration of two approaches. *Can J Occup Ther* 2010;77(5):280-8.
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