**Research Dossier of**

**Douglas Edward Barre**

### Statement of Research Philosophy

I believe that type 2 diabetes is serious problem as it threatens lives, the economy and healthcare systems. On this basis, I also believe that if type 2 diabetes incidence and prevalence are not dramatically reduced the ability of human kind to further improve will be seriously hindered. This has led to the development of my values that there must be multi-faceted approach to dealing with the pre- and post-onset management of type 2 diabetes. More specifically, my values are that scientists must collaboratively contribute to the control of healthcare system costs by reducing costly polypharmacy (use of multiple drugs), investigate the atomic/molecular cause(s) and biochemical interrelationships of type 2 diabetes, periodically write literature reviews in these areas so as to assist other scientists in a cooperative effort to meet these values, participate in research that aims to improve dietary and exercise patterns, disseminate knowledge to scientists and clinicians and the general public so that all may progress in the fight against type 2 diabetes, and lastly to train undergraduate students and graduate students in all these values so that the fight against type 2 diabetes may continue on. My objectives are to improve pre- and post-onset management of type 2 diabetes, reduce the incidence and prevalence of type 2 diabetes, and educate professionals and the general public about type 2 diabetes and how my research is directed at my beliefs and values so they too will become invigorated/re-invigorated in the fight against this disease.

To uphold my beliefs, values and my objectives, I collaboratively:

1) investigate, in those with or at risk of type 2 diabetes, nutraceutical/dietary interventions (including genomically dictated personalised therapy) which are hypothesised to improve two or more of the **seven major features** that most type 2 diabetics face- **obesity (large waist circumference), hypertension (elevated blood pressure), elevated blood glucose, blood fat levels, inflammation, low density lipoprotein oxidation, and platelet reactivity,** including looking at and writing about literature where these individual features have been investigated for management regardless of type 2 diabetic status

2) as the result of 1), reduce polypharmacy (use of multiple drugs) to manage type 2 diabetes

3) investigate the molecular/atomic cause(s) of pre- and post-onset type 2 diabetes

4) investigate molecular mechanisms including therapeutic mechanisms that may be involved in pre- and post-onset type 2 diabetes

5) participate in research to have populations eat better and exercise more via various field techniques

6) write papers and present data at conferences, lectures and seminars with students and colleagues, and disseminate knowledge to the general public so that all parties may participate in and understand the fight against type 2 diabetes

7) periodically write review papers ( including book chapter format) to distill evidence in the literature regarding points 1, 2), 3) and 4) thus contributing to faster investigation and hence facilitation of disease management

8) train undergraduate and graduate students in field and laboratory techniques and paper writing and co-supervise graduate and undergraduate students theses in any area where my expertise and/or research interests are relevant to the task at hand and

9) obtain grants for equipment and other operational needs

I believe my values and objectives are important because type 2 diabetes is epidemic world-wide resulting in personal medical for the patient, severe fiscal challenges to health systems around the world, and economic burdens on both patients and society in terms of reduced productivity and hence tax base contributions and the ensuing sequelae of such. Reduced polypharmacy results in lower healthcare costs and better patient compliance with reduced risk of side effects and drug interactions and hence better patient outcomes. Related to polypharmacy reduction is related to the discovery of the molecular/atomic cause(s) of type 2 diabetes and once a cause is determined it can be blocked pharmacologically with a single or reduced number of agents (though populations around the world have been encouraged strongly to engage in more physical activity and to eat well, these attempts have thus far been a resounding failure as evidenced by the skyrocketing incidence and prevalence of type 2 diabetes world-wide)(however the CARE/SAINES project with which I am currently involved may well change that failure into success).

**Success in attracting funds in support of research**

**Sole Applicant**

### Internal

April 2015-$8000 awarded by Cape Breton-University-RAP grant “ Further blood plasma individual free fatty acids (PIFFA) identification and quantitation-method development”-$8000, Cape Breton-University-RAP grant, April 2015-March 2016

April 2014-$8000 -“Blood plasma apolipoprotein B concentrations in type 2 diabetics consuming flaxseed lignan complex”

April 2013-$8000 awarded by Cape Breton-University-RAP grant-“Blood plasma total peroxyl radical trapping capacity (TRAP) in type 2 diabetics consuming flaxseed lignan complex”

May 2012 - $8000 awarded by Cape Breton-University-RAP grant-“Conjugated dienes in low density lipoproteins in type 2 diabetics plasma consuming flaxseed lignan complex”

May 2011- $750-SSRA grant-Determination of blood plasma enterolactone levels and their correlation with changes seen in glucose management and platelet reactivity in human type 2 diabetics consuming flaxseed lignan complex”.

April 2011-$1600 - awarded by Cape Breton Health Research Centre “The effect of bolus consumption and continuous sipping of a glucose solution with and without vitamin C consumption on markers of oxidation in men and women”.

April 2011-$7000- awarded by Cape Breton-University-RAP grant-“Blood plasma enterolactone assay for the flaxseed lignan complex trial in human type 2 diabetics”

May 2010- $492-SSRA grant-“Development of method for measuring metabolites of flaxseed lignan complex in human blood plasma of type 2 diabetics”.

May 2010-$5529 - awarded by Cape Breton Health Research Centre -“Interleukin-6 and Tumour Necrosis Factor-alpha assays and measures of drug compliance in human type 2 diabetics consuming flaxseed lignan complex”

April 2010**-**$6997- awarded by Cape Breton-University-RAP grant-“Flaxseed lignan complex impact on interleukin-6 and tissue necrosis factor-alpha concentrations (plus refrigerator purchase)”

June 2009- $1000- for developing research skills-awarded by Nova Scotia Health Research Foundation under their Capacity Building-Special Consideration Award Programme-allowed for the purchase of DNA dedicated pipets

May 2009-$293.80- awarded by Cape Breton-University-SSRA grant-“Nutrigenetics of cholesterol responsiveness to flaxseed lignan complex in type 2 diabetics”

April 2009- $8000- awarded by Cape Breton Health Research Centre -“Flaxseed lignan complex administration in human type 2 diabetics”

March 2009-$6999.14- awarded by Cape Breton-University-RAP grant-“Nutrigenetics of cholesterol responsiveness to flaxseed lignan complex in type 2 diabetics and purchase of a tube rotator”

May 2008 -$303.03- awarded by Cape Breton-University-RAP grant-“Development of a novel high performance liquid chromatographic (HPLC) method for quantification of all individual serum fatty acids including trans-fatty acids in type 2 diabetics”

May 2008-4996.57- awarded by Cape Breton-University-RAP grant-“HPLC method development for total blood serum fatty acids including trans fatty acids in type 2 diabetics, pH meter purchase, and summer student help”

May 2007-$603.02 -awarded by Cape Breton-University-SSRA grant-“Apolipoprotein E genotyping in Type 2 Diabetics”

May 2007-$4998.56 -awarded by Cape Breton-University-RAP grant-“Apolipoprotein E genotyping in Type 2 Diabetics”

May 2006-$701.75 -awarded by Cape Breton University-SSRA grant-“Development of an HPLC Method to Determine the Blood Plasma Individual Free Fatty Acids Composition in Human Type 2 Diabetics”

May 2006-$4778.00-for research-awarded by Cape Breton University-RAP grant- “Power Pack and Transilluminator Purchase”

November 2005-$4862.00 for research-awarded by Cape Breton University-RAP grant- “Eppendorf Tube Rotor for the High Speed Centrifuge”

May 2005 -$672.98-for research- awarded by Cape Breton University-SSRA grant-“Development of an HPLC method to measure glycosylated hemoglobin”

May 2005- $4976.00 awarded by Cape Breton University-RAP grant- “Funding for improving the efficiency of the nutraceutical laboratory”

June 2004-$596-for research- awarded by the Cape Breton University-SSRA grant-“Additional funding to expand the number of parameters for the current flax oil trial in type 2 diabetes”

May 2004- $4678-for research-awarded by the Cape Breton University-RAP grant-“Additional funding to expand the number of parameters for the current flax oil trial in type 2 diabetes”

July 2003-$892 for a student technician (September 2003-March 2004)-awarded by CBU Registrar-special fund for student employment

June 2002-$800 for a student technician (September 2002-March 2003)-awarded by CBU Registrar-special fund for student employment

June 2002-$1015 for a summer research assistant (student)-awarded by Human Resources Development Canada

May 2002-$15088 for research –awarded by the Cape Breton University- funds derived from Canadian Institutes for Health Research (CIHR) institutional grant to CBU- “Flax oil trial in type 2 diabetes”

May 2001- $1500 for research-awarded by the University of Saskatchewan-Interaction of Lp(a) with the human platelet fibrinogen receptor

**Grants-Dean, School of Professional Studies**

**Travel**

2009($1500, International Diabetes Federation Biannual Meeting in Montreal)

2010($1800, Canadian Diabetes Association Professional Meeting in Edmonton)

2011($1500, Canadian Diabetes Association Professional meeting in Toronto)

2012($1800, Canadian Diabetes Association Professional meeting in Vancouver)

2013($1424, American Oil Chemists Society annual meeting in Montreal)

2013($ 800, Canadian Diabetes Association Professional meeting in Montreal)

2014($ 2266.47, Canadian Diabetes Association Professional meeting in Winnipeg)

2015($ 1800, World Diabetes Congress in Vancouver, British Columbia)

2016($1400, Canadian Diabetes Association Professional meeting in Ottawa)

### External

**Sole applicant**

September 2008-$35000 ($15000 year 1, $15000 year 2 and $5000 year 3)- awarded by the Agricultural Bioproducts Innovation Programme (Agriculture Canada) “ Clinical trial using flaxseed lignan complex in type 2 diabetics”-this grant was awarded and later withdrawn due to the programme being “oversubscribed” in the words of Agriculture Canada

July 2007-$10000 awarded by Nova Scotia Health Research Foundation- Developmental/Innovation grant- for a pilot study “Impact of Flaxseed Lignan Complex in Type 2 Diabetics”

July 2007-$56574-awarded by CFI-Infrastructure operating funds grant in support of June 2002 CFI grant

May 2007-$1317 for developing research skills-awarded by Nova Scotia Health Research Foundation under their Capacity Building Programme-allowed for the purchase of a digital camera and microwave oven

March 2006-$1951 for developing research skills-awarded by Nova Scotia Health Research Foundation under their Capacity Building Programme-this allowed for the purchase of an orbital shaker.

February 2005- $1875 for developing research skills-awarded by Nova Scotia Health Research Foundation under their Capacity Building Programme-this allowed for the purchase of a digital logging scale.

June 2002-$188,578 for equipment to perform nutraceutical experiments in type 2 diabetes-awarded by the Canadian Foundation for Innovation- partner contributions brought the total for this grant to $471,446

### External

**Co-applicant**

Harris SB (Principal Investigator at Western University), Barre DE et al March. Transformation of Indigenous Primary Healthcare Delivery (FORGE AHEAD): Enhancement and Adaptation of Community driven Innovations and Scale-up Toolkits $869,480, CIHR (Canadian Institutes of Health Research, Astra Zeneca, JDRF, First Nations and Inuit Health Branch - Atlantic Region), Program: Team Grant: Pathways Implementation Research Team - Component 2 (2016) 1 July 2017 to 30 June 2020. Barre’s share to be determined.

Tranchant C., **Barre, DE** (co-primary applicant) et al. March 2016. Creation of a Comprehensive Health Profile of Children in New Brunswick and Prince Edward Island and Development of Intra-Provincial Population-Based Birth Cohorts, CIHR and New Brunswick Health Research Foundation each awarded $83,125 for a total of $166,250 (Barre’s share, $10,000)

Wolever, TMS (Principal Investigator), **Barre DE** et al (at the University of Toronto and some of its affilitated hospitals) July 2011. "The effect of a low glycemic index (GI) diet on maternal glycemic control and maternal and neonatal markers of postpartum diabetes risk in women with gestational hyperglycemia".awarded by CIHR-a total of $444,989 starting on 1 October 2011 and going until 30 September**, 2014 (Barre’s share-35,000).**

Bierenstiel M, MacQuarrie, Sand **Barre E.** November 2010-$95064-awarded by CFI-Infrastructure operating funds grant in support of **November 2010** CFI grant (Barre’s share 31,688)

Bierenstiel M, MacQuarrie, Sand **Barre E.** November 2010-UPLC-MS-MS/PAD: Liquid Chromatography Mass Spectrometry Instrumentation for Multidisciplinary Applications in Chemistry Research and Nutrition Science-CFI contribution of $315,000-partner contributions brought **the total for this grant to $792,200** **(Barre’s share 264,000)**

Harris, S.B. (Principal Investigator at the University of Western Ontario), **Barre, DE**. et al(from other universities across Canada) planning grant from CIHR **(total of 36,000 dollars)** awarded October 2011 “First Nations Community-based Chronic Disease System Improvement Strategy”. **(Barre’s share $1,000)**

Harris SB(Principal Investigator at Western University)**, Barre DE et al** April 2013. "Transformation of Indigenous Primary Healthcare Delivery (FORGE AHEAD): Community -driven Innovations and Strategic Scale-up Toolkits" awarded by CIHR **a total of 2,500,000** ”. **(Barre’s share-minimum of $3,000)** - 1 July 2013 to 30 June 2018. **First nations student cosupervised:** Keah Googoo- September 2013-May 2014- survey data entry and analysis, report writing

Miedema, B**., Barre, DE** (co-primary applicant) et al. Creating Healthy Transitions in Maritime Families: The CARE/SAINES Program. Letter Intent accepted by Public Health Agency of Canada (May 2014)- this allowed us to now write the full grant proposal as per immediately below.

Miedema, B., **Barre, DE**(co-primary applicant) et al. Creating Healthy Transitions in Maritime Families: The CARE/SAINES Program. Letter Intent accepted by Public Health Agency of Canada- submitted 27 August 2014. **Amount asked (3 million dollars (1.5 million from PHAC and 1.5 million dollars matching funds from other source(s))(Barre’s share to be determined)**

#### Grants continued

**Collaborator**

Wolever, TMS (Principal Investigator), **Barre DE** et al (at the University of Toronto and other universities across Canada) planning grant from CIHR **(total of 14,000 dollars)** “Meeting to develop an RCT on the Role of Cereal Fibre in the Prevention of Type 2 Diabetes” awarded October 2011. **(Barre’s share $1000).**

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

**Presentations at scholarly or professional conferences, seminars, workshops, etc.**

Conferences-Presentations and Seminars

**October 2018. Diabetes Canada-Professional Conference- Halifax, Nova Scotia, Poster Presentation. Barre DE. Flaxseed Lignan Complex Consumption Causes Increased Plasma Enterolactone and Decreased HbA1c and Plasma C-reactive Protein in Older Type 2 Diabetes Patients.**

**September 2018.** **International Population Data Linkage Network Conference, Banff, AB: Oral Presentation by Dr. Tranchant.** Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Sénéchal M, Bouchard DR, Sparks S, Malinski P, Jose C, Dalpé L**, Barre DE**, Rossiter M, Bryanton J, Holland M, McDonald JT, et al. (Quick Strike II Research Team) Harnessing the Power of Administrative Data to a Create Provincial-Level Child Health Profile and Birth Cohort in New Brunswick (NB) and Prince Edward Island (PEI).

**September 2018.** **International Population Data Linkage Network Conference, Banff, AB: Oral Presentation by Ms. Sparks.** Sparks, S, Malinski P, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. Challenges and Facilitating Factors in Accessing Administrative Data for Research: Insights from the Children's Health Profile and Trajectory Initiative in NB and PEI.

**June 2018. Dietitians of Canada National Conference. Vancouver, B.C.-electronic poster presentation by Dr. Grant.** Seider M, Grant S, **Barre, DE**, Kitts D, Wolever T, O'Connor, D, Darling, Josse R, Thorpe K, Feig D,Lowe J, Luthra M, Zawawi H, Thompson A and Ramdath D. Low glycaemic index diet for reduction of oxidative stress in women with gestational diabetes.

**June 2018.** **Primary Health Care Research Day, Dartmouth, NS. Poster Presentation by Barre, DE.** Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Sénéchal M, Bouchard DR, Sparks, S,Malinski, P, **Barre DE,** Jose C, Dalpé L, Rossiter M, Bryanton J, Holland M, McDonald T. Select Administrative Datasets in New Brunswick & Prince Edward Island are Rich Resources for Establishing Intra-Provincial Child Health Profiles and Birth Cohorts.

**May 2018.** **Canadian Association for Health Services and Policy Conference. Montreal, QC.**  **Poster Presentation by Dr. Tranchant.** Tranchant CC, Malinski P, Sparks S, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. Select Administrative Datasets in New Brunswick & Prince Edward Island are Rich Resources for Establishing Intra-Provincial Child Health Profiles and Birth Cohorts**.**

**May 2018.** **Canadian Association for Health Services and Policy Conference, Montreal, QC. Poster Presentation by Ms. Malinski.** Malinski P, Sparks S, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2018.** Challenges and Facilitators in Accessing Administrative Data for Research: Insights from the Child Health Profiles & Trajectory Initiative in NB and PEI.

**March 2018.** **Journee de recherche interdisciplinaire en sante, Moncton, NB. 23 March 2018.** **Poster presentations by Dr. Tranchant.** Malinski P, Sparks S, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2018**. French: Mettre à profit des données administratives pour créer une cohorte de naissances au NB et à l’ÎPE : défis et atouts. English: Challenges and Facilitating Factors in Accessing Administrative Data for Research: Insights from the Children’s Health Profile and Trajectory Initiative in NB and PEI.

**November 2017. New Brunswick Health Research Foundation Annual Meeting. Poster presentation by Dr. Tranchant**.Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Malinski P, Sparks S, Jose C, Dalpé L, **Barre DE**, Bryanton J, Holland M, McDonald JT, et al. Quick Strike II Research Team Select administrative datasets in New Brunswick and Prince Edward Island are rich resources for establishing intra-provincial child health profiles and birth cohorts.

**March 2017**. **gave a seminar at the College of Pharmacy and Nutrition at the University of Saskatchewan-** Are We on the Road to Polypharmacy Reduction in Type 2 Diabetes? A Look into Flaxseed Lignan Complex.

## October 2016. Canadian Diabetes Association-Professional Conference-Ottawa, Ontario. Poster Presentation. No Impact of Flaxseed Lignan Complex Consumption on Plasma LDL Apolipoprotein B Concentration-Adjusted Antioxidant Potential and -Adjusted LDL Oxidation Levels in Older Type 2 Diabetes Patients.

**October 2016. SPS school meeting seminar series. Cape Breton University. “**Flaxseed lignan complex consumption fails to improve plasma lipid, lipoprotein and apolipoprotein B profiles in older type 2 diabetes patients**”**

**December 2015. World Diabetes Congress, Barre, D.E.** Relationship of alpha-linolenic acid consumption to serum fatty acid levels and insulin resistance in type 2 diabetes.

**December 2015. World Diabetes Congress,**,**Barre, D.E.** Flaxseed lignan complex consumption fails to improve plasma lipid and apo B profiles in older type 2 diabetes patients.

**November 2015. New Brunswick Health Research Foundation Annual Meeting.** Miedema, B., **Poster presentation by Dr. Carole Tranchant.** .Tranchant, C., Mathieu Bélanger, M., Taylor, J., **Barre, D.E**., Montelpare, W. Creating healthy transitions in Maritime families/Créer des transitions saines chez les familles des Maritimes.The *CARE/SAINES* Project.

**October 2014- Canadian Diabetes Association-Professional Conference-Winnipeg, Manitoba. Oral Presentation Flaxseed Lignan Complex Consumption Thus Far Fails to Change Plasma Total Peroxyl Radical-Trapping Potential and Two LDL Oxidation Measures in Older Patients with Type 2 Diabetes-More Study Required.**

**March 2014** -**Cape Breton Health Research Symposium 2014-**Sydney, Nova Scotia. The Impact of Flaxseed Lignan Complex on Waist Circumference-Associated Clinically Significant Cluster of some Anthopometric, Endocrinological and Plasma Variables in Older Human Type 2 Diabetics

**October 2013 Canadian Diabetes Association-Professional Conference – Montreal, Quebec .**-**Poster Presentation** Poster Presentation. ““The Impact of Flaxseed Lignan Complex Consumption on Waist to Height and Hip Ratios, Body Weight, BMI,  Insulin Resistance, Percent Pancreatic Beta Cell Function, Free Fatty Acids, HDL2- HDL3- and non- HDL-cholesterol and Lp(a) in Older Human Type 2 Diabetics”

**May 2013-Cape Breton Health Research Symposium 2013**-Sydney, Nova Scotia Plasma Individual Free Fatty Acids. Are We Finally Inching Toward Finding the (a) Cause of Type 2 Diabetes?

**May 2013-American Oil Chemists Society Meeting**- “The relation of alpha-linolenic acid consumption via flaxseed oil supplementation to insulin resistance in type 2 diabetics-the delivery throws an curve ball and so now what?” Montreal, Quebec

**October 2012-**prepared a talk to the **Research Connector meeting**, sponsored by Springboard Atlantic Incorporated, in Truro, Nova Scotia about my research to further expand research connections with other researchers working in the nutraceutical field-talk was given by Kyle Jackson from Springboard Atlantic Incorporated(I was presenting at the Canadian Diabetes Association meeting in Vancouver and could not attend Truro).

**October 2012-Canadian Diabetes Association-**Waist Circumference Gain and Prothrombotic State Combination Management in Older Human Type 2 Diabetics: A New Agent on the Horizon? Canadian Diabetes AssociationProfessional Conference. Vancouver, British Columbia.

**January 2012**-gave a talk to the **Research Connector meeting at CBU** about my research to further expand research connections with other health researchers including those at the Cape Breton Health District Authority and Cape Breton University

**November 2011**-gave a talk to the **Research Connector meeting at CBU** about my research to further expand research connections with industry

**October 2011-Canadian Diabetes Association-**Canadian Diabetes Association. Impact of Flaxseed Oil Consumption on Correlations of Individual Plasma Free Fatty Acids with Insulin Resistance and Beta Cell FunctionProfessional Conference. Toronto, Ontario.

**May 2011- Cape Breton Health Research Symposium**-**Sydney, Nova Scotia**-“Does flaxseed lignan complex (FLC) put us on the road to polypharmacy reduction in type 2 diabetes”

**February 2010** -**Sabbatical year seminar at CBU**- “Personalised Medicine in Type 2 Diabetes:  Flax, just the flax and the pursuit of polypharmacy reduction dictated by the human genome and gender”.

**January 2010 -Genuine Progress Index Survey-**Glace Bay, Nova Scotia gave a seminar in -“Diets and Health Indicators in Glace Bay and Kings County-Differences, Impacts and Explanations”

**October 2010- Canadian Diabetes Association-Professional Conference – Edmonton, Alberta.**-**Oral Presentation –** “Flaxseed Lignan Complex Significantly Decreases Inflammation and Plasma Glucose Concentration and Increases Bleeding Time in Older Human Type 2 Diabetics”

**April 2008-Cape Breton Health Research Symposium (**“Chronic Illness Prevention and Management: A Personal and Public Concern”) gave a talk entitled **“**The flax and nothing but the flax or any part thereof- investigating the potential role of flaxseed in eliminating polypharmacy in type 2 diabetes”

**January 2008**-**Cape Breton Health Research Centre Brown Bag Lunch Lecture-** gave a talk entitled **“**The flax and nothing but the flax or any part thereof- investigating the potential role of flaxseed in eliminating polypharmacy in type 2 diabetes”

**May 2006** **-Cape Breton Health Research Symposium(“Broadening the Definition of Health:Making Healthier Choices Together”)** at Cape Breton University, Sydney, Nova Scotia at which I presented a lecture entitled “Flaxseed oil trial in type 2 diabetics”.

**January 2006 -Guest Speaker Series on Health at Cape Breton University**-gave at talk entitled “Nutrition and Diabetes in Humans”

**November 2004**-**Japan Oil Chemists Society annual meeting in Osaka, Japan** (invited lecture**-“**Human Lipoprotein(a) is an Endogenous Regulator of Agonist-Stimulated Platelet Binding of Fibrinogen and Platelet c-AMP Concentrations Resulting in Reduced Platelet Aggregation”

**March 2004-Seminar at the Cape Breton University in Sydney, Nova Scotia-**gave a talk on “Nutraceutical Interventions in Type 2 diabetes” to the Integrative Science Lecture series

**June 2003-Cape Breton Health Research Symposium**(“Broadening the Definition of Health : Building Research Through Partnerships”) at the Cape Breton University, Sydney, Nova Scotia at which I presented a lecture entitled “Nutraceutical Interventions in Type 2 Diabetes”.

# September 1999-The Eighth Baxter Science and Technology Symposium in Chicago, Illinois at which I presented my work entitled “The impact of various peritoneal dialysis solutions on advanced glycosylation endproduct (AGE) formation”.

**March 1999-Annual meeting of the International Peritoneal Dialysis Society** in Charlotte, NC at which I presented my co-authored abstract entitled “ Decrease *in vitro* formation of AGEs with ExtranealTM solution compared to dextrose-containing PD solutions”

**November 1998 -Annual meeting of the American Heart Association** in Dallas, Texas at which I presented my co-authored abstract entitled “Lp(a) lowers platelet aggregation by antagonizing the fibrinogen (GP IIb/IIIa receptor)”

**September 1997-The Seventh Baxter Science and Technology Symposium** in Anaheim, California at which I presented a method to improve peritoneal dialysis.

**August 1994-Aspen Cholesterol Conference in Aspen, Colorado.** Presented a poster entitled “Human platelets have cholesterol ester hydrolytic activity towards cholesterol (1-14C) oleate resulting in the esterification of (1-14C) oleate to the individual phospholipids of platelets”

**April 1994-School of Allied Health Symposium, University of Texas Southwestern Medical Centre at Dallas, Texas.-**presented a poster entitled “Genetic analysis of a polymorphism in the human apolipoprotein A-I gene promoter in relation to environmental factors”

**November 1993-Annual meeting of the American Heart Association in Atlanta** at which my co-authored abstract entitled “Genetic analysis of a polymorphism in the ApoAI gene promoter” was presented.

**August 1993 Aspen Cholesterol Center in Aspen, Colorado.-**Presented a poster entitled “Assessment of a Polymorphism in the Human Apo A-I Gene Promoter on HDLc Levels

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

**Publication in conference proceedings**

**Abstracts**

1. Cohen, J.C., **Barre, E**., Verstraete, R., Davignon, J., Grundy, S.M. and Minnich, A. **1993.** Genetic analysis of a polymorphism in the ApoAI gene promoter. Circulation 88 (4 Pt. 3) I 368. Abstract number 1431.
2. **Barre, D.E.** **1994.** Platelet cholesteryl ester hydrolytic activity provides oleate for esterification to individual phospholipids of human platelets. Aspen 1994 Conference.
3. **Barre, D.E.,** Usher, D., Rader, D., and Moberly, J.B. **1998.** Lp(a) inhibits platelet aggregation by antagonizing the fibrinogen (GPIIb/IIIa) receptor. Circulation. 98(17):Suppl. I: 525. Abstract number 2754.
4. **Barre, D.E**., Chen, C., Cooker, L.C. and Moberly, J.B. **1999**. Decreased  *in vitro* formation of AGEs with ExtranealTM solution compared to dextrose-containing solutions. Peritoneal Dial. Int. 19 Suppl. 1:S76.
5. **Barre, D.E.** **2004.** The arginyl-glycyl-aspartyl epitope of human apolipoprotein(a) inhibits platelet aggregation by antagonizing the IIb subunit of the fibrinogen (GPIIb/IIIa) receptor. Circulation 110(17) Suppl: III-329. Abstract number 13366 (presentation number 1578).
6. **Barre, D.E**. **2004.** Human lipoprotein (a) is an endogenous regulator of agonist-stimulated platelet binding of fibrinogen and platelet c-AMP concentrations resulting in reduced platelet aggregation. Proceedings of the 43rd annual meeting of the Japan Oil Chemists’ Society meeting page 69. Abstract number 2F-06.
7. **Barre, D.E.** **2010.** Canadian Diabetes Association “Flaxseed Lignan Complex Significantly Decreases Inflammation and Plasma Glucose Concentration and Increases Bleeding Time in Older Human Type 2 Diabetics”. Professional Conference. Edmonton Alberta. Canadian Journal of Diabetes (Supplement to 34(3):page 248)**.** Abstract number 10.
8. **Barre, D.E. 2011**. Canadian Diabetes Association. Impact of Flaxseed Oil Consumption on Correlations of Individual Plasma Free Fatty Acids with Insulin Resistance and Beta Cell FunctionProfessional Conference. Toronto, Ontario. Canadian Journal of Diabetes (Supplement to 35(4):page 419)**.** Abstract number 191.
9. **Barre, D.E. 2012**. Canadian Diabetes Association. Waist Circumference Gain and Prothrombotic State Combination Management in Older Human Type 2 Diabetics: A New Agent on the Horizon?Professional Conference. Vancouver, British Columbia. Canadian Journal of Diabetes (Supplement to 36: s66-s57) Abstract number 229.
10. **Barre, D.E 2013**. The relation of alpha-linolenic acid consumption via flaxseed oil supplementation to insulin resistance in type 2 diabetics-the delivery throws a curve ball and so now what? American Oil Chemists Society, Annual Meeting, Montreal, Quebec- published in the online conference proceedings <https://secure.aocs.org/am2013/abstracts/getpdf.cfm?pdf=hn\H%26N_5.pdf>

Use the password 2013amlist and then go to Health and Nutrition 5

1. **Barre, D.E 2013.** The Impact of Flaxseed Lignan Complex Consumption on Waist to Height and Hip Ratios, Body Weight, BMI,  Insulin Resistance, Percent Pancreatic Beta Cell Function, Free Fatty Acids, HDL2- HDL3- and non- HDL-cholesterol and Lp(a) in Older Human Type 2 Diabetics. Canadian Diabetes Association. Professional Conference. Montreal, Quebec. Canadian Journal of Diabetes (Supplement to Vol. 37, S71) Abstract number 207**.**
2. D'Cunha, G.B, M.C. MacDonald, M.C. Arivalagan, P, **Barre, D.E**. and MacInnis J.A.  **2014.** Rhodotorula glutinis phenylalanine/tyrosine ammonia lyase enzyme catalyzed synthesis of the methyl ester of para-hydroxy cinnamic acid 97th Canadian Chemistry Conference, Canadian Society of Chemistry, Vancouver, British Columbia. **Oral Presentation by Dr. D’Cunha.**
3. Grant, SM, Robert Josse, R**, Barre, DE,** Thomas Wolever, TMS. **2014.** The effect of continuous sipping of a glucose solution on markers of oxidation in men and women. Canadian Nutrition Society Conference, St. John’s, Newfoundland and Labrador. **Oral Presentation by Ms. Grant.** Appl. Physiol. Nutr. Metab. 39:622.
4. **Barre, D.E. 2014. Flaxseed Lignan Complex Consumption Thus Far Fails to Change Plasma Total Peroxyl Radical-Trapping Potential and Two LDL Oxidation Measures in Older Patients with Type 2 Diabetes-More Study Required.** Canadian Diabetes Association. Professional Conference. Winnipeg, Manitoba. Canadian Journal of Diabetes. 38, Issue 5, S19. Abstract number 48**.**
5. Miedema, B., Tranchant, C., Mathieu Bélanger, M., Taylor, J., **Barre, D.E**., Montelpare, W. **2015.** Creating healthy transitions in Maritime families/Créer des transitions saines chez les familles des Maritimes.The *CARE/SAINES* Project. New Brunswick Health Research Foundation Annual Meeting, Fredericton, New Brunswick, 3-4 November 2015. **Poster presentation by Dr. Carole Tranchant (not published).**

16. **Barre, D. E. 2015.** Relationship of alpha-linolenic acid consumption to serum fatty acid levels and insulin resistance in type 2 diabetes. World Diabetes Congress, Vancouver, B.C. 30 November - 4 December 2015 abstract number, VA-1726, Poster number 0279-P.Poster Presentation, <http://www.idf.org/files/abstracts/data/HtmlApp/main.html>

1. **Barre, D. E. 2015.** Flaxseed lignan complex consumption fails to improve plasma lipid and apo B profiles in older type 2 diabetes patients. World Diabetes Congress, Vancouver, B.C. 30 November - 4 December 2015, abstract number VA-1725. Poster number 0417-P. Poster Presentation. <http://www.idf.org/files/abstracts/data/HtmlApp/main.html>

## Barre, D. E. 2016. No Impact of Flaxseed Lignan Complex Consumption on Plasma LDL Apolipoprotein B Concentration-Adjusted Antioxidant Potential and -Adjusted LDL Oxidation Levels in Older Type 2 Diabetes Patients. Canadian Diabetes Association Professional Conference, Ottawa, Ontario. Poster. Canadian Diabetes Association. Canadian Journal of Diabetes 40: S62.

1. Malinski P, Sparks S, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L**, Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2017.** Select Administrative Datasets in New Brunswick & Prince Edward Island are Rich Resources for Establishing Intra-Provincial Child Health Profiles and Birth Cohorts Accepted Conference: New Brunswick Health Research Foundation. 1-2 November 2017, Moncton, NB. **Poster Presentation by Ms. Malinski.**
2. Malinski P, Sparks S, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2018**. French: Mettre à profit des données administratives pour créer une cohorte de naissances au NB et à l’ÎPE : défis et atouts. English: Challenges and Facilitating Factors in Accessing Administrative Data for Research: Insights from the Children’s Health Profile and Trajectory Initiative in NB and PEI. Journee de recherche interdisciplinaire en sante, Moncton, NB. 23 March 2018. **Poster presentations by Dr. Tranchant.**
3. Tranchant CC, Malinski P, Sparks S, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2018.** Select Administrative Datasets in New Brunswick & Prince Edward Island are Rich Resources for Establishing Intra-Provincial Child Health Profiles and Birth Cohorts, Canadian Association for Health Services and Policy Conference. Montreal, QC, 29 May 2018. **Poster Presentation by Dr. Tranchant.**
4. Malinski P, Sparks S, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2018.** Challenges and Facilitators in Accessing Administrative Data for Research: Insights from the Child Health Profiles & Trajectory Initiative in NB and PEI Conference: Canadian Association for Health Services and Policy Conference, Montreal, QC. 29 May 2018. **Poster Presentation by Ms. Malinski.**

23. Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Sénéchal M, Bouchard DR, Sparks, S, Malinski, P, **Barre DE,** Jose C, Dalpé L, Rossiter M, Bryanton J, Holland M, McDonald T. **2018.** Select Administrative Datasets in New Brunswick & Prince Edward Island are Rich Resources for Establishing Intra-Provincial Child Health Profiles and Birth Cohorts. Primary Health Care Research Da., Dartmouth, NS. 4 June 2018. Poster Presentation by **Barre, DE.**

1. Seider M, Grant S, **Barre, DE**, Kitts D, Wolever T, O'Connor, D, Darling, Josse R, Thorpe K, Feig D,Lowe J, Luthra M, Zawawi H, Thompson A and Ramdath D. **2018.** Low glycaemic index diet for reduction of oxidative stress in women with gestational diabetes. Dietitians of Canada National Conference, 6-9 June 2018. Vancouver, B.C.-electronic poster presentation by Dr. Grant.
2. Sparks, S, Malinski P, Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Bouchard DR, Sénéchal M, Jose C, Dalpé L, **Barre DE,** Rossiter M, Bryanton J, Holland M, McDonald T. **2018.** Challenges and Facilitating Factors in Accessing Administrative Data for Research: Insights from the Children's Health Profile and Trajectory Initiative in NB and PEI.International Population Data Linkage Network Conference, Banff, AB: September 11-14, 2018. **Oral presentation by Ms. Sparks.**

26. Tranchant CC, Montelpare WJ, Bélanger M, Miedema B, Sénéchal M, Bouchard DR, Sparks S, Malinski P, Jose C, Dalpé L**, Barre DE**, Rossiter M, Bryanton J, Holland M, McDonald JT, et al. (Quick Strike II Research Team) **2018**. Harnessing the Power of Administrative Data to a Create Provincial-Level Child Health Profile and Birth Cohort in New Brunswick (NB) and Prince Edward Island (PEI). International Population Data Linkage Network Conference, Banff, AB: September 11-14, 2018. **Oral Presentation by Dr. Tranchant.**

27. **Barre D.E. 2018. Flaxseed Lignan Complex Consumption Causes Increased Plasma Enterolactone and Decreased HbA1c and Plasma C-reactive Protein in Older Type 2 Diabetes Patients. Diabetes Canada Professional Meeting, Halifax, Nova Scotia. October 10-13, 2018. Poster Presentation.**

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

**Publication in refereed journals (includes for, purposes of information, papers being written and ongoing lab work that will result in papers being published in refereed journals)**

Articles

1. **Barre, D.E.** and Holub, B.J**. 1992.** The effect of borage oil consumption on the composition of individual phospholipids in human platelets. Lipids 27: 315-320.
2. **Barre, D.E**. and Holub, B.J. **1992.** The effect of borage oil consumption on human plasma lipid levels, and the phospatidylcholine and cholesteryl ester composition of high density lipoprotein. Nutrit. Res. 12: 1181-1194.
3. **Barre, D.E.** and Holub, B.J. and Chapkin R.S. **1993.** The effect of borage oil supplementation on human platelet aggregation, thromboxane B2, prostaglandin E1 and E2 formation. Nutrit. Res. 13: 739-751.
4. **Barre, D.E.,** Guerra, R., Verstrate, R., Wang. Z., Grundy, S.M. and Cohen J.C. **1994**. Genetic analysis of a polymorphism in the human apolipoprotein A-I gene promoter: effect on plasma HDL-cholesterol levels. J. Lipid Res. 35: 1292-96.
5. **Barre, D.E. 1995.** Human platelets have cholesterol ester hydrolytic activity resulting in 1-(14C) oleate esterification to the individual phospholipids of platelets. Biochim. Biophys. Acta 1254:180-186.
6. **Barre, D.E. 1995.** Human platelets have cholesteryl ester hydrolytic activity toward plasma high density lipoproteins. Platelets 6:126-30.
7. **Barre, D.E. 1998**. Lipoprotein (a) reduces platelet aggregation via apo(a)-mediated decreases in thromboxane A2 production. Platelets. 9(2):93-96.
8. **Barre, D.E.,** Chen, C., Cooker, L., and Moberly, J.B. **1999.** Decreased *in vitro* formation of AGEs with ExtranealTM solution compared to dextrose-containing PD solutions.Adv. Perit. Dialys. 15 : 12-16.
9. **Barre, D.E. 2001**. Potential of evening primrose, borage, blackcurrant, and fungal oils in human health**. A review.** Annals of Nutrition and Metabolism. 45(2): 47-57.
10. **Barre, E. 2003.** A more detailed fatty acid composition of human lipoprotein (a)-a comparison with low density lipoprotein. Chemistry and Physics of Lipids. 123: 99 - 105

11. **Barre, D.E. 2003.** Fatty acid composition of human lipoprotein (a)’s lysphosphatidylcholine, phosphatidylserine, and phosphatidylinositol. J. Oleo Sci. 52: 621-5.

12. **Barre, D.E. 2003.** Human lipoprotein(a)-induced reduction of platelet aggregation is not mediated by apolipoprotein(a)’s lysine binding regions. Frontiers in BioScience. 8: s1226-s1228.

1. **Barre, D.E. 2003**. Apolipoprotein (a) mediates the lipoprotein(a)-induced biphasic shift in human platelet cyclic AMP. Thrombosis Research 112: 321-4.
2. **Barre, D.E. 2004**. Apoprotein (a) antagonises the GPIIB/IIIA receptor on collagen- and ADP-stimulated human platelets. Frontiers in BioScience 9: 404-10.
3. **Barre, D.E. 2004.** Human lipoprotein (a) is an antagonist of fibrinogen that binds to the GPIIb (CD41) protein on agonist-stimulated human platelets. J.Oleo Sci. 53:305-8.
4. **Barre, DE,** Griscti,O, Mizier-Barre, KA, and Hafez, K**. 2005.** Flaxseed oil and lipoprotein (a) significantly increase bleeding time in type 2 diabetes patients in Cape Breton, Nova Scotia, Canada. J. Oleo. Sci. 54:347-54.
5. **Barre, DE,** Griscti,O, Mizier-Barre, KA, and Hafez, K. **2005.** The mechanism by which flaxseed oil consumption increases bleeding time in patients with type 2 diabetes in Cape Breton, Nova Scotia, Canada is independent of lipoprotein (a) concentration. J. Oleo Sci. 54:617-25.
6. NaczkM, GrantS, .ZadernowskiR. and **Barre D.E. 2006.** Protein precipitating capacity of phenolics of wild blueberry leaves and fruits. J Agricultural and Food Chem. 96:640-47.
7. **Barre, DE. 2007.** Arginyl-glycyl-aspartyl (RGD) epitope of human apolipoprotein (a) inhibits platelet aggregation by antagonizing the IIb subunit of the fibrinogen (GP IIb/IIIa) receptor. Thrombosis Research 119:601-607.
8. **Barre, D.E. 2007.** The role of consumption of alpha-linolenic, eicosapentaenoic and docosahexaenoic acids in human metabolic syndrome and type 2 diabetes**- A mini-review.** J. Oleo Science. 56: 319-325.

21**. Barre, D.E. 2007. Invited Review.** The molecular nature and consequences of lipoprotein (a)’s association with platelets. Protein and Peptide Letters.14 : 839-842.

22. **Barre, DE,** Mizier-Barre, KA, Griscti,O , and Hafez, K. **2007.** Gender, does it have a role in glycaemic control in Caucasians with well controlled type 2 diabetes? International Journal of Diabetes and Metabolism. 15:76-80.

1. **Barre, DE,** Mizier-Barre, KA, Griscti,O , and Hafez, K. **2008**.High dose flaxseed oil supplementation may affect fasting blood serum glucose management in human type 2 diabetics. J. Oleo Science 57: 269-273.

24. **Barre, DE,** Mizier-Barre, KA, Griscti,O , and Hafez, K. **2008**. Gender: does it have a role in bleeding time in Caucasians with well controlled type 2 diabetes? International Journal of Diabetes and Metabolism 16: 113-116.

1. **Barre, DE**, Mizier-Barre, KA, Griscti,O , and Hafez, K. **2009.** Gender: does it have a role in blood pressure in Caucasians with well controlled type 2 diabetes? International Journal of Diabetes and Metabolism 17**:**41-44.
2. **Barre, DE,** Mizier-Barre, KA, Griscti,O , and Hafez, K. **2009.** No gender associated differences in LDL oxidation in response to a CuSO4 challenge in a population of Caucasians with well-controlled type 2 diabetes. International Journal of Diabetes and Metabolism 17:81-85.
3. **Barre, DE,** Mizier-Barre, KA, Griscti,O , and Hafez, K. **2010.** The roles of apo E genotype, gender and adipokines in blood plasma lipids in Caucasians with well-controlled type 2 diabetes. International Journal of Diabetes and Metabolism 18:49-54.
4. **Barre, DE,** Mizier-Barre, KA, Griscti,O, and Hafez, K. **2010.** Gender differential in apo E genotypes’ correlative tendency to dyslipidaemia responsiveness upon flaxseed oil administration in adult type 2 diabetic patients not meeting 2008 Canadian Practice Guidelines. International Journal of Diabetes and Metabolism .18 : 99-113.
5. **Barre, DE,** Mizier-Barre, KA, Griscti,O , and Hafez, K. **2011.**Gender associated differences in diet and anthropometric measures in Cape Breton Caucasians with well-controlled type 2 diabetes. International Journal of Diabetes and Metabolism. International Journal of Diabetes & Metabolism 19: 101-105**.**
6. **Barre, DE,** Mizier-Barre, E, and MacIntyre, P. **2011.** Socio-economic factors and their relation to eating habits in two communities in Nova Scotia, Canada**.** Journal of Hunger and Environmental Nutrition 6: 497-505.
7. **Barre, DE,** Mizier-Barre, KA, Stelmach, E, Hobson, J, Griscti,O, Rudiuk A, and Muthuthevar D. **2012.** Flaxseed lignan complex administration in older human type 2 diabetics manages central obesity and prothrombosis - an invitation to further investigation into polypharmacy reduction. Journal of Nutrition and Metabolism.2012;2012:585170. doi:10.1155/2012/585170. Epub 2012Oct4.
8. Rice, K, Te Hiwi, B, Zwarenstein, M., Lavallee, B, **Barre,** **DE**., Harris, SB\*, **2016**. Practices for Prevention and Management of Diabetes and Obesity- Related Chronic Disease among Indigenous Peoples in Canada: A Review. Canadian Journal of Diabetes40: 216-25.

 \*On behalf of the FORGE AHEAD Program Team

1. **Barre, DE.** **2016.** Obesity, Metabolically Healthy or Otherwise- A Word of Caution **A reply to**: De-Signing Fat: Re-Constructing the Global Obesity Epidemic, Robert Scott Stewart, Ph.D. and Sue A. Korol, Ph.D. International Journal of Applied Philosophy. 30:175-85.
2. **MacDonald, MbC**, Pugazhendhi Arivalagan, P, **Barre, DE**, MacInnis, JA and D’Cunha, GB\*. **2016**. Rhodotorula glutinis phenylalanine/tyrosine ammonia lyase enzyme catalyzed synthesis of the methyl ester of para-hydroxycinnamic acid. Frontiers in Microbiology 7: Article 281. <http://dx.doi.org/10.3389/fmicb.2016.00281>

1. **Barre, DE,** Mizier-Barre, KA, Griscti,O, and Hafez, K. **2016**. Correlations of individual plasma free fatty acids with HOMA-IR and HOMA-%  in type 2 diabetics. **Endocrine Regulations 50:** 183–193.
2. Tompkins, JW, Mequanint S, **Barre DE,** Bhattacharyya O., Fournie M, Green MF., Hanley A,, Zwarenstein M, Harris SB\* and On behalf of the FORGE AHEAD Program Team National Survey of Indigenous Primary Healthcare Capacity and Delivery Models: the FORGE AHEAD Community Profile Survey**, accepted pending satisfactory revision-currently awaiting outcome of peer review.**
3. **Barre, DE**, The potential of consumption of secoisolariciresinol diglucoside (and other lignans), in pre- and post-onset management of type 2 diabetes. **submitted. accepted pending satisfactory revision-currently awaiting outcome of peer review.**
4. Malinksi, Sparks, Tranchant, Montelpare, Bélanger, Miedema, Sénéchal, Bouchard, Jose, **Barre,** Holland, McDonald (the Quick Strike II team) Quick Strike II Project - Researchers’ Experiences Related to the Challenges of Establishing a Population-based Birth Cohort in New Brunswick and Prince Edward Island using Administrative Data**. in preparation**
5. **Grant SM**, **Barre, DE**, Mizier-Barre, KA, and Wolever TMS. The impact of low glycaemic index on LDL oxidation, conjugated diene formation and novel microplate method determination of total peroxyl radical-trapping antioxidant potential (TRAP) in overweight and obese females. **in preparation.**
6. **Barre, DE**, Mizier-Barre, KA. Potential of evening primrose, borage, blackcurrant, and fungal oils in human metabolic syndrome and type 2 diabetes. **in preparation.**
7. **Barre, DE\*,** Mizier-Barre, KA, **Stelmach, E**, Hobson, J, Griscti,O, **Rudiuk A**, and Muthuthevar D**.** Flaxseed lignan complex administration in older human type 2 diabetics- a secondary analysis. **in preparation.**
8. **Barre, DE\*,** Mizier-Barre, KA, Griscti,O, and Hafez, K. Correlations of individual total plasma fatty acids with HOMA-IR and HOMA-%  in type 2 diabetics. **in preparation.**
9. Te Hiwi, B, Zwarenstein, M., Lavallee, B, **Barre,** **DE**., Harris, SB.\* Impact of colonisation on First Nations Health care, policy and system/models. **in preparation.**

 \*On behalf of the FORGE AHEAD Program Team

1. **Barre, DE\*,** Mizier-Barre, KA, Griscti,O, and Hafez, K. Comparisons of correlations of individual total and free plasma fatty acids with HOMA-IR, and HOMA-%  in type 2 diabetics. **in preparation.**

### 44.Barre, DE. Validation of a microplate technique for measuring for total peroxyl radical-trapping antioxidant potential in human plasma. Lab work ongoing.

### 45.Barre, DE. Validation of a microplate technique for measuring conjugated diene formation in heparin citrate precipitated low density lipoprotein in human plasma. Lab work ongoing.

### 46.Barre, DE. Validation of a microplate technique for measuring protein content in heparin citrate precipitated low density lipoprotein in human plasma. Lab work ongoing.

### 47. Barre, DE. Plasma branched chain amino acid concentrations over a range of waist circumferences in relation to insulin sensitivity and pancreatic beta cell function. Lab work ongoing.

### 48. Barre, DE. Plasma free fatty acid concentrations over a range of waist circumferences in relation to insulin sensitivity and pancreatic beta cell function. Lab work ongoing.

### 49. Barre, DE. Detailed plasma free fatty acid concentrations in type 2 diabetes patients in relation to insulin sensitivity and pancreatic beta cell function. Lab work ongoing.

### 50. Barre, DE. The connection between elevated plasma branched chain and odd numbered carbon free fatty acid concentrations over a range of waist circumferences in relation to insulin sensitivity and pancreatic beta cell function. Lab work ongoing.

### 51. Barre, DE. Plasma odd numbered carbon free fatty acid concentrations in type 2 diabetes patients. Lab work ongoing.

### 52. Barre, DE. Plasma individual free fatty acid concentrations in relation to the onset of type 2 diabetes patients. in preparation.

### 53. Barre, DE. Relationship between omega 3 fatty acid consumption and the metabolic syndrome and type 2 diabetes. in preparation.

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

**Independent (not self) publication of monographs, book chapters, books, annotated bibliographies, concordances, case studies, created software and software documentation**

**Chapter in Book (invited)**

**Barre, D.E**. Borage Oil and other Gamma Linolenic Acid Rich Oils (Evening Primrose, Blackcurrant and Fungal) in “Gourmet and Health-Promoting Oils” AOCS Press**.** Urbana, Illinois, USAChapter 7 pp 237-66.

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

**Papers in which I was cited in the acknowledgements:**

**Myron F. Weiner****,Gloria Vega, Richard C. Risser, Lawrence S. Honig, C. Munro Cullum, David Crumpacker and Roger N. Rosenberg.** 1999.Apolipoprotein Eε4, other risk factors, and course of Alzheimer’s disease. Biological Psychiatry 45:633-638

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

###### Publications- Non peer-reviewed

1. **Barre, D.E.** 2009. Type 2 diabetes — sowing the seeds for a solution-article posted on the Cape Breton University Faculty Association (CBUFA) website

2. **Barre, D.E.** 2010**.** Omega 3, Metabolic Syndrome and Type 2 Diabetes. Comment by the winner of the 2009 Journal of Oleo Science Impact Award. Oleo Science 10: 293. Please note that this is a peer-reviewed journal but the comment was not peer-reviewed

**Dissemination of the results of research activities pursuant to Article 31 (Research) through:**

**Invited lectures at other universities and institutes**

**November 2017-**St. Francis Xavier University**-** Department of Human Nutrition “Potential for reducing the number of drugs used in type 2 diabetes: the evidence for a flaxseed extract”

**October 2009** **-**St. Francis Xavier University**-** Department of Human Nutrition “The impact of flaxseed oil on anthropometric measures, dyslipidaemia, glucose management, blood pressure, inflammation and platelet reactivity in human type 2 diabetics”

**October 2009-**Acadia University-Genuine Progress Index-“Diets and Health Indicators in Glace Bay and Kings County-Differences, Impacts and Explanations”

**June 2006**-Department of Biochemistry at Memorial University in St. John’s, Newfoundland "Mechanisms by which human lipoprotein (a) is an endogenous regulator of agonist-stimulated platelet fibrinogen binding and aggregation"

**February 2005**-School of Nutrition and Dietetics, Acadia University. Wolfville, Nova Scotia. **“**Gender impacts platelet aggregation and dyslipidemia and their responsiveness to dietary flaxseed oil supplementation in type 2 diabetics in the Cape Breton Regional Municipality”.

**November 2004 -**University of Osaka, Japan **“**Human Lipoprotein(a) is an Endogenous Regulator of Agonist-Stimulated Platelet Binding of Fibrinogen and Platelet c-AMP Concentrations Resulting in Reduced Platelet Aggregation”

### April 2002-Department of Human Nutrition, St. Francis Xavier University, Antigonish, Nova Scotia “The Effect of Borage Oil Consumption and Other Nutraceuticals on Risk Factors in Atherosclerosis”.

### March 2002-Department of Health Sciences, Brock University, St. Catharines, Ontario “The Effect of Borage Oil Consumption on Human Plasma Lipids and Platelet Reactivity and Platelet Phospholipid Compositions”.

### Nov 2001-Department of Human Nutrition, St. Francis Xavier University, Antigonish, Nova Scotia “The Effect of Borage Oil Consumption on Human Plasma Lipids and Platelet Reactivity and Platelet Phospholipid Compositions”.

### March 2001- Nutrition and Pharmacy, University of Saskatchewan, Saskatoon, Saskatchewan. Presented a paper on the influence of genetic polymorphisms on impact of the dietary polyunsaturated to saturated fatty acid ratio on plasma low density lipoprotein levels

### December 2000 -University of Saskatchewan, Saskatoon, Saskatchewan. Gave a seminar entitled “Human Lipoprotein (a) mediated platelet aggregation”.

**August 1994**-Efamol Research Institute in Kentville, Nova Scotia.Presented a seminar entitled “Borage Oil and Atherosclerosis”.

**April 1992-**Center for Human Nutrition at the University of Texas Southwestern Medical Center at Dallas. Gave a seminar entitled “The Effect of Borage Oil Consumption on Human Plasma Lipids and Platelet Reactivity and Platelet Phospholipid Compositions”

**Awards or other recognition for research or creative activity, e.g., research awards**

Baxter Renal Award-$100 awarded for an idea to significantly improve peritoneal dialysis by Baxter Healthcare, Renal Division, McGaw Park, Illinois, USA in January 1999.

Nominated (not awarded) for an outstanding contribution award in the renal technical community. Nomination by another individual in the Renal Division of Baxter Healthcare, McGaw Park, Illinois, USA, Nominated in July 1999.

Japan Oil Chemists Society-award for best foreign paper in Journal of Oleo Science in 2004- presented at the annual meeting of the Japanese Oil Chemists Society in Osaka, Japan for my paper, Barre, D.E. 2003. Fatty acid composition of human lipoprotein (a)’s lysphosphatidylcholine, phosphatidylserine, and phosphatidylinositol. Journal of Oleo Science 52: 621-5.

Journal of Oleo Science (Japanese Oil Chemists Society) Impact Award for 2009 – 50,000 yen (600 dollars Canadian) - awarded in September 2010 by the Japanese Oil Chemists Society for most citations in 2009 in different journals for my article - Barre, D.E. 2007. The role of consumption of alpha-linolenic, eicosapentaenoic and docosahexaenoic acids in human metabolic syndrome and type 2 diabetes- A mini-review. Journal of Oleo Science. 56: 319-325.

President’s Award for Excellence in Research- Cape Breton University-awarded- May 2017.

**Selected to evaluate the work of other academics and professionals by, for example, by:**

**Serving on grant selection committees**

**July 2018-** Reviewed a grant application for MITACS Accelerate Research Programme funding

**February 2018-** Re-reviewed a grant application for MITACS Accelerate Research Programme funding that I initially reviewed in December 2017

**December 2017-** Reviewed a grant application for MITACS Accelerate Research Programme funding

**April 2017-** Reviewed a grant application for MITACS Accelerate Research Programme funding

**August 2015-** Reviewed a grant application for MITACS Converge Project funding

**May 2015-**Reviewed a grant application for the Nova Scotia Health Research Foundation

**March 2015 -**Reviewed a grant application for MITACS funding

**April 2011-** Member of the **CIHR Emerging Team Grant: Rare Diseases Committee** (reviewed grant applications to that committee in advance of and during and after a meeting held in Ottawa 6-8 April 2011)-**co-reviewed 6 grant applications**

**August 2009** -Reviewed a grant application for a competitive Wellcome Trust funded post-doctoral position

**May 2008**-Reviewed a grant application to the Poultry Industry Council of Canada

**February 1991-**Co-reviewed a grant submission to the Medical Research Council of Canada

**Selected to evaluate the work of other academics and professionals by, for example, by:**

**Reviewing articles for publication**

**February 2018-**reviewed a paper forthe *British Journal of Nutrition*

**January 2018-**re-reviewed a paper for the journal *Metabolism* that I had initially reviewed in September 2017

**December 2017-** re-reviewed a paper forthe journal *Hormones* that I had initially reviewed in October 2017

**December 2017-** re-reviewed a paper forthe *Journal of Diabetes and it Complications* that I had initially reviewed in August 2017

**November 2017 -** reviewed a paper forthe *International Journal of Vitamin and Nutrition Research*

**October 2017-** reviewed a paper for the journal *PLOS ONE*

**October 2017-**reviewed a paper for the journal *Hormones*

**September 2017-**reviewed a paper for the journal *Metabolism*

**September 2017-**reviewed a paper for the *European Journal of Clinical Nutrition*

**August 2017-** reviewed a paper for the *Journal of Diabetes and its Complications*

**July 2017-**reviewed a paper for the *Journal of Diabetes and its Complications*

**November 2016 -** Re-reviewed a paper forthe journal *Metabolism* that I had originally reviewed in October 2016

**October 2016 -** Reviewed a paper forthe journal *Metabolism*

**September 2016 -** Re-reviewed a paper forthe journal *Metabolism* that I had initially reviewed in May 2016

**September 2016-** Re-reviewed a paper for *Nutrition Research* that I had originally reviewed in May 2016 and then re-reviewed in August 2016

**August 2016-** Re-reviewed a paper for *Nutrition Research* that I had originally reviewed in May 2016

**July 2016 -** Re-reviewed a paper forthe *Journal of Diabetes and its Complications* that I had originally reviewed in May 2016

**July 2016 -** Re-reviewed a paper forthe journal *Appetite* that I had originally reviewed in January and re-reviewed in May 2016

**June 2016-** Re-reviewed a paper forthe *International Journal of Vitamin and Nutrition Research* that I had initially reviewed in May 2016

**May 2016 -** Reviewed a paper forthe journal *Nutrition Research*

**May 2016 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**May 2016 -** Reviewed a paper forthe journal *Metabolism*

**May 2016 –** Re-reviewed a paper forthe journal *Appetite* that I had originally reviewed in January 2016

**May 2016 -** Reviewed a paper forthe *International Journal of Vitamin and Nutrition Research*

**April 2016 -** Reviewed a paper forthe journal *Metabolism*

**March 2016 -** Re-reviewed a paper forthe journal the *Journal of Diabetes and its Complications* that I had originally reviewed in January 2016 and then re-reviewed earlier in March 2016

**March 2016 -** Re-reviewed a paper forthe journal the *Journal of Diabetes and its Complications* that I had originally reviewed in January 2016

**March 2016 -** Re-reviewed a paper forthe journal *Appetite* that I had originally reviewed in December 2015

**February 2016 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**January 2016 -** Reviewed a paper forthe journal *Metabolism*

**January 2016 -** Reviewed a paper forthe journal *Appetite*

**January 2016 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**December 2015 -** Reviewed a paper forthe journal *Appetite*

**December 2015 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**November 2015-** Reviewed a paper forthe journal *Metabolism*

**November 2015 -** Reviewed a paper (revised first paper in November 2015) forthe *Journal of Diabetes and its Complications*

**November 2015 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**October 2015 -** Reviewed a second paper (different from the first paper in October 2015) forthe *Journal of Diabetes and its Complications*

**October 2015 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**September 2015-** Reviewed a second (different from the first paper in September 2015) forthe journal *Metabolism*

**September 2015-** Reviewed a paper forthe journal *Metabolism*

**August 2015 -** Reviewed a paper forthe journal *Lipid Insights*

**August 2015 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**July 2015 -** Reviewed a paper forthe *Journal of Diabetes and its Complications*

**June 2015-**Reviewed a paper forthe journal *Metabolism*

**May 2015**-Reviewed a paper forthe *Journal of Diabetes and its Complications*

**May 2015­-**Reviewed a paper forthe journal *Metabolism*

**March 2015-**Reviewed a paper forthe *International Journal of Health Sciences*

**March 2015-**Reviewed a paper forthe *Journal of Diabetes and its Complications*

**March 2015-**Reviewed two papers forthe journal *Metabolism*

**January 2015-** Reviewed a paper forthe journal *Lipid Insights*

**December 2014-**Reviewed a paper for the journal *Molecular Nutrition and Food Research*

**October 2014-**Reviewed a paper forthe *Journal of Diabetes and its Complications*

**October 2014-**Reviewed a paper forthe journal *Metabolism*

**August 2014-**Reviewed a paper forthe journal *Appetite*

**August 2014-**Reviewed a paper forthe journal *Metabolism*

**June 2014** -Reviewed a paper for the *Journal of Food Chemistry and Nutrition*

**June 2014-**Re-reviewed a paper forthe *European Journal of Clinical Nutrition* that I had initially reviewed in May 2014

**June 2014-**Re-reviewed a paper (third re-review) forthe journal *Metabolism* I had initially reviewed in January 2014 and then re- reviewed in April 2014 and again in May 2014

**May 2014-**Re-reviewed a paper forthe journal *Metabolism* that I had initially reviewed in March 2014

**May 2014-**Reviewed a paper for the*Journal of**Diabetes and its Complications*

**May 2014 -**Re-reviewed a paper forthe journal *Metabolism* I had initially reviewed in January 2014 and then re- reviewed in April 2014

**May 2014-**Reviewed a paper forthe *European Journal of Clinical Nutrition*

**April 2014**-Reviewed a paper forthe journal *Hormone and Metabolic Research*

**April 2014-**Re-reviewed a paper forthe journal *Metabolism* I had initially reviewed in January 2014

**March 2014 -**Reviewed a paper forthe journal *Metabolism*

**February 2014-**Re-reviewed a paper forthe *Journal of**Diabetes and its Complications* I had initially reviewed in December 2013 and then re-reviewed in January 2014

**February 2014-**Reviewed a paper forthe journal *Lipid Insights*

**January 2014 -**Reviewed a paper forthe journal *Metabolism*

**January 2014-**Re-reviewed a paper forthe *Journal of**Diabetes and its Complications* I had initially reviewed in December 2013

**December 2013-**Reviewed a paper for the*Journal of**Diabetes and its Complications*

**November 2013-**Reviewed a paper for the *Journal of Public Health and Epidemiology*

**October 2013-**Reviewed a paper for the *Journal of the American College of Nutrition*

**September 2013** Re-reviewed a paper for the journal *Hormone and Metabolic Research* I had initially reviewed in May 2013

**September 2013-**Re-reviewed again a paper for the journal *Metabolism* I had initially reviewed in May 2013

**September 2013-**Re-reviewed a paper for the *Journal of* *Diabetes and its Complications* I had initially reviewed in June 2013

**September 2013-**Reviewed a paper for thejournal *Metabolism*

**August 2013-**Re-reviewed a paper for the journal *Metabolism* I had initially reviewed in May 2013

**July 2013-**Reviewed a paperfor the *International Journal of Food Sciences and Nutrition*

**June 2013-**Reviewed a paper for the*Journal of**Diabetes and its Complications*

**May 2013-**Reviewed a paper for the journal *Metabolism*

**May 2013-**Reviewed a paper for the journal *Hormone and Metabolic Research*

**March 2013-**Re-reviewed a paper *European Journal of Clinical Nutrition* I had initially reviewed in February 2013

**March 2013-**Reviewed a paper for the journal *Lipids Insights*

**February 2013-**Reviewed a paper for thejournal *Metabolism*

**February 2013-**Reviewed a paper for the*European Journal of Clinical Nutrition*

**February 2013-**Reviewed a paper for the*Journal of**Diabetes and its Complications*

**January 2013-**Reviewed a paper for the journal *Hormone and Metabolic Research*

**December 2012-**Re-reviewed a paper for the journal *Metabolism* that I had initially reviewed in October 2012

**December 2012-**Reviewed a paper for the journal *Metabolism*

**November 2012-**Reviewed a paper for the journal *Nutrition Research*

**November 2012-**Re-reviewed a paper for the journal *Metabolism* that I had initially reviewed in July 2012

**November 2012 -**Reviewed a paper for the journal *Hormone and Metabolic Research*

**October 2012-**Re-reviewed a paper for the *Journal of**Diabetes and its Complications* that I had initially reviewed in August 2012

**October 2012-**Reviewed a paper for the journal *Metabolism*

**August 2012-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**July 2012-**Reviewed a paper for the journal *Metabolism*

**July 2012-**Reviewed a pre-submission provisional patent application regarding breast cancer detection for a colleague

**July 2012-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**May 2012-**Re-reviewed a paper for the *Journal of**Diabetes and its Complications* first submitted in April 2012

**April 2012-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**March 2012-**Re**-** reviewed a paper for the journal*European Journal of Clinical Nutrition* that I initially reviewed in December 2011

**February 2012-**Re-reviewed (third re-review) a paper initially reviewed by me in October 2011 for the journal*Metabolism-*this was the fourth time I had examined this paper including the initial review by me in October 2011

**February 2012-**Re-reviewed (second re-review) a paper initially reviewed by me in October 2011 for the journal*Metabolism-*this was the third time I had examined this paper including the initial review by me in October 2011

**February 2012 -**Re-reviewed a paper initially reviewed in December 2011 for the journal*Metabolism*

**January 2012-**Reviewed a paper for the journal*European Journal of Clinical Nutrition*

**December 2011-**Reviewed a paper for the journal*Metabolism*

**December 2011-**Re-reviewed a paper for the journal *Metabolism* after revisions (originally reviewed by me in October 2011)

**December 2011-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**November 2011-**Re-reviewed a paper for the journal *Hormone and Metabolic Research* after revisions (originally reviewed by me in October 2011)

**October 2011-**Reviewed a paper for the journal*Metabolism*

**October 2011-**Reviewed a paper for the journal*Hormone and Metabolic Research*

**October 2011-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**August 2011-**Re-reviewed a paper resubmitted to the *Journal of**Diabetes and its Complications*

after revisions (originally reviewed by me for the *Journal of**Diabetes and its Complications* in February 2011)

**July 2011-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**July 2011-**Reviewed a paper for the *African Journal of Agricultural Research*

**May 2011-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**February 2011-**Reviewed a paper for the *Journal of Diabetes and its Complications*

**November 2010-**Reviewed a paper for the *Journal of**Diabetes and its Complications*

**August 2010-**Reviewed a paper for the journal*Metabolism*

**May 2010-**Reviewed a paper for the journal*Metabolism*

**March 2010-**Reviewed two papers submitted to the journal *International Journal of Diabetes in Developing Countries*

**February 2010-**Reviewed a paper submitted to the journal *Metabolism*

**January 2010-**Reviewed a paper submitted to *Nutrition Journal*

**September 2009**-Reviewed a paper submitted to the journal *Lipid Insights*

**August 2009**-Reviewed a research grant proposal submitted to the Cape Breton Health Research Centre

**April 2009-** Reviewed a paper submitted to the *International Journal of Food Sciences and Nutrition*

**January 2009 -**Reviewed a paper submitted to the *Journal of the American College of Nutrition*

**December 2008-**Reviewed a paper submitted to the journal *International Journal of Diabetes in Developing Countries*

**August 2008-**Reviewed a paper submitted to the journal *Lipid Insights*

**June 2008-**Reviewed a paper submitted to the journal *Annals of Nutrition and Metabolism*

**February 2008**-Reviewed a paper submitted to the journal *Drug Target Insights*

**February 2008** -Reviewed an article submitted to the journal *Clinical Medicine: Endocrinology and Diabetes*

**January 2008-**Reviewed a paper submitted to the *British Journal of Nutrition*

**January 2008**-Reviewed a paper submitted to the *Annals of Nutrition and Metabolism*

**October 2007-**Reviewed a paper submitted to the *Applied Physiology, Nutrition and Biochemistry*

**October 2005-**Reviewed an article submitted to the *British Journal of Haematology*

**July 2005**-Reviewed 2 articles submitted to the *British Journal of Haematology*

**August 2002**-Reviewed an article submitted to the *FASEB Journal.*

**April 2000-**Co-reviewed an article re-submitted to *Peritoneal Dialysis International*

**January 2000 -**Co-reviewed an article submitted to *Peritoneal Dialysis International*.

**December 1996-**Reviewed an article submitted to *Peritoneal Dialysis International.*

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**March 1995-**Reviewed an article submitted to *Lipids.*

**February 1994-**Co-reviewed an article submitted to the *Journal of Lipid Research*

**December 1993-**Co-reviewed an article submitted to the *Journal of Lipid Research.*

**March 1992-**Co-reviewed an article submitted to the *American Journal of Clinical Nutrition.*

**December 1990-**Co-reviewed an article submitted to the *American Journal of Clinical Nutrition*.

**External thesis examiner**

**July 2005** -Acted as an external examiner for an M.Sc. thesis in the Department of Biochemistry at Memorial University in Newfoundland

**March 2017,** Acted as an external examiner for a Ph.D. thesis in the College of Pharmacy and Nutrition (Department of Pharmacy) at the University of Saskatchewan

**Selected to evaluate the work of other academics and professionals by, for example, by:**

**Selected due to expertise for professional consultation to external groups/organizations**

**September 2017-** provided feedback to a Mount Saint Vincent University M.Sc. student (Human Nutrition) on his development of a survey

**March 2010 -**provided my expertise to the Nova Scotia government in developing their “Food and Nutrition Support Policy for Regulated Child Care Settings” -my comments were primarily directed to better nutrition in CBRM daycares but were also applicable to early childhood nutrition across the province

**September 2009-** provided guidance on clinical trial design to a Sydney, Nova Scotia neurologist regarding vitamin D intervention in multiple sclerosis

**March 2009-** a medical doctor’s consultation with me regarding a patient’s evaluation relative to work I had published

**February 2004-February 2005-** unpaid consultant to local dessert manufacturing company (Classic Cheesecakes) interested in the fat content of their products

**Development of a new interdisciplinary program to improve the health and well-being of society and dissemination of the same**

CARE/SAINES-full grant application to Canadian Institutes of Health Research **currently under review**-this includes M.D.s, nurses, sociologists, kinesiologists, dietitians, and nutrition researchers working together to improve dietary and exercise patterns to better manage pre- and post-onset obesity driven diseases

**Appendix 1 -** 8 representative papers

**Appendix 2**- unsolicited emails regarding research accomplishments