



# McMaster Midwifery Research Centre

Annual  
Report 2019



# McMaster University Midwifery Research Centre (MMRC)

Annual Report 2019

Submitted by

Prof. Eileen K. Hutton, Inaugural Scientific Director  
Dr. Beth Murray-Davis, Incoming Scientific Director

McMaster University Midwifery Research Centre

Follow us on Twitter	<a href="https://twitter.com/macmidwifery">https://twitter.com/macmidwifery</a>
Facebook	<a href="https://www.facebook.com/MacMidwifery/">https://www.facebook.com/MacMidwifery/</a>
Website	<a href="https://mmrc.mcmaster.ca/">https://mmrc.mcmaster.ca/</a>
Email	<a href="mailto:mmrc@mcmaster.ca">mmrc@mcmaster.ca</a>

# Table of Contents

<b>MESSAGE FROM THE INAUGURAL SCIENTIFIC DIRECTOR</b>	<b>5</b>
<b>WELCOME FROM THE SCIENTIFIC DIRECTOR</b>	<b>6</b>
<b>ABOUT THE MCMASTER MIDWIFERY RESEARCH CENTRE</b>	<b>7</b>
<b>MISSION AND VISION</b>	<b>8</b>
<b>RESEARCH AREAS</b>	<b>9</b>
<b>MEMBERSHIP</b>	<b>10</b>
Centre scientists	11
Adjunct scientists	13
Fellows	19
Research staff	23
Organizational	24
Scientific advisory committee	25
<b>GOVERNANCE &amp; OPERATIONS</b>	<b>27</b>
Research operations meetings	28
Standard operating procedures	28
<b>EDUCATION &amp; TRAINING</b>	<b>29</b>
Trainees 2018 to current	30
Events	34
<b>HONOURS &amp; AWARDS</b>	<b>36</b>
<b>COMMUNITY SERVICES</b>	<b>37</b>

# Table of Contents

## FINANCIAL STATUS

38

New research grants awarded  
July 2018 to December 2019 39

Existing/active and new grants  
July 2018 to December 2019 40

Annualised operating revenue  
and expenses 2019 46

## RESEARCH PRODUCTIVITY

47

Centre scientist peer reviewed publications  
July 2018 to December 2019 48

Peer reviewed oral and  
poster presentations at meetings 53

Adjunct and fellow publications 2019 55

McMaster e-book foundry textbooks 59



Midwifery  
Research Centre

# Message from the Inaugural Scientific Director



Prof. Eileen K. Hutton, Inaugural MMRC Scientific Director (2018-2019), McMaster Midwifery Research Centre, Professor Emeritus, Department of Obstetrics and Gynecology

The McMaster Midwifery Research Centre (MMRC) is very proud to be the first formally recognised midwifery research centre in Canada. Since midwifery became a regulated profession in Canada in 1994, McMaster midwifery researchers have established their presence in the research world. Approval for the MMRC came in July 2018 from the McMaster University Senate; McMaster Midwifery researchers now have an easily identifiable home for their research activity.

2018-19 was the formative year for the MMRC. With the help of Midwifery Manager, Saadia Israr, and dedication of our research assistants and coordinators we were able to build the infrastructure that will provide a solid platform for the activities of the MMRC going forward. In addition, our research scientists have been productive in publishing and presenting research relevant to the midwifery community in Ontario, in Canada and internationally. Although I have provided leadership for this entity for the inaugural year, I believe that my major contribution has been in the years leading up to the formation of our research centre. I am very pleased that Dr. Beth Murray-Davis has moved into the leadership role and I am confident that the MMRC will flourish under her capable and inspired direction. Along with Beth, I am proud to present our report of our first year as an official research centre. Going forward, I fully anticipate that the MMRC will become a focal point for research in maternal newborn health for midwives and for the families that they serve both locally and internationally.

# Welcome from the Scientific Director



Dr. Beth Murray-Davis, Scientific Director, McMaster Midwifery Research Centre, Associate Professor, Department of Obstetrics and Gynecology

It has been exciting to watch the MMRC grow in both size and contributions to scholarly work over the last year. Our membership has grown to include 3 scientists, 7 full-time research staff, 15 research fellows, 12 adjunct scientists in health economics, midwifery, pediatrics, health policy, education and library science, and numerous learners at the undergraduate, masters, doctoral, and postgraduate levels working on a variety of research projects. Since our opening 17 months ago, the MMRC has published nearly 40 peer-reviewed journal articles on topics including: family planning, transfer of care, nutrition and exercise, gestational diabetes, obesity, caring for uninsured clients, health care experiences of polyamorous families, the infant gut microbiome, home birth outcomes, factors influencing childbirth satisfaction, sterile water injections for labour pain, and evaluation of Ontario's birth centres. We have also held skill-building workshops, research rounds, and a full day symposium. Beyond the numbers, we are excited to be Canada's first midwifery research centre, and hope to build research capacity within midwifery by engaging students, faculty, and clinicians in innovative and meaningful ways to promote excellence in research and to build relationships with midwifery scientists across the country and internationally. We have a strong foundation and history of rigorous midwifery research that has existed at McMaster and we are at the beginning of an exciting venture to continue to solidify and formalize our place as leaders in the field. It is a privilege to be able to provide leadership to the research centre to create a strong infrastructure that is sustainable for years to come.

# About the Midwifery Research Centre


The McMaster University Senate formerly approved the creation of the McMaster Midwifery Research Centre (MMRC) in July 2018. The MMRC is of critical importance for the growth of the midwifery profession in Canada and internationally. In the years leading up to the formation of the centre, midwifery research at McMaster was burgeoning, but lacked a home. We are really pleased to have this centre to house the work being done. We are proud of the increasing research capacity within the profession and the growing number of trainees and researchers who are making contributions to the knowledge and evidence of midwifery. The MMRC offers a hub where these efforts can be formalized, coordinated, and supported, thereby facilitating greater collaboration, productivity and broader impact and dissemination of research.

The functions of MMRC are to:

- 1 Facilitate research and research collaborations.
- 2 Act as the point of contact for provincial midwifery, well woman and newborn research.
- 3 Disseminate research results through scholarly papers, conferences, meetings, and other activities. This may include knowledge translation activities such as continuing education opportunities for midwifery clinicians.
- 4 Support and strengthen midwifery undergraduate education and interdisciplinary graduate students by providing research mentorship, training opportunities, and access to facilities.
- 5 Seek external research funds to ensure the sustainability of the Centre.
- 6 Oversee MMRC discretionary funds in consultation with the advisory committee.




# MISSION



“We are dedicated to excellence in midwifery research that informs policy, practice and education.”



# VISION



“To be an internationally recognized centre that promotes excellence in maternal child health and healthcare through the generation of evidence to optimize midwifery care.”

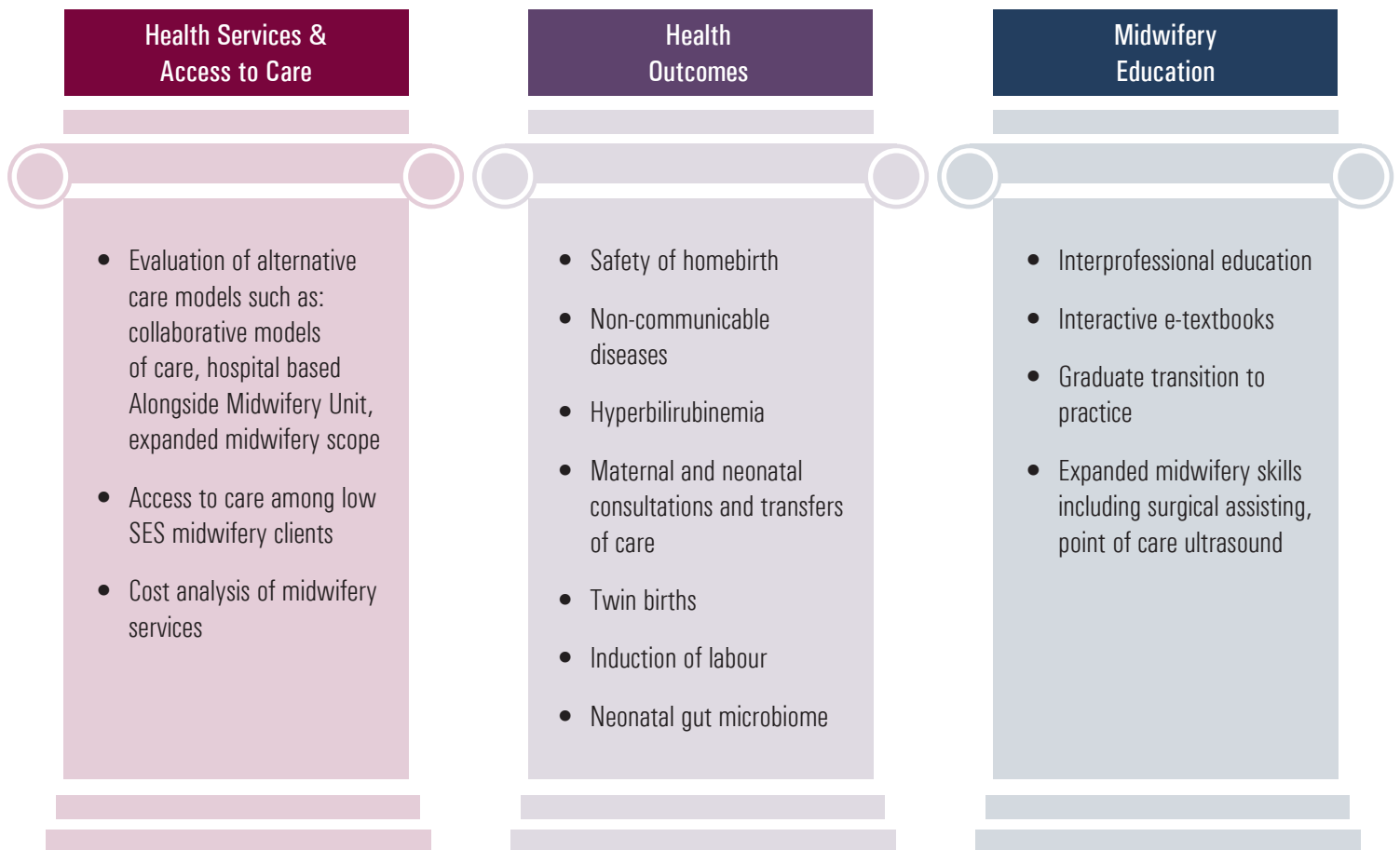


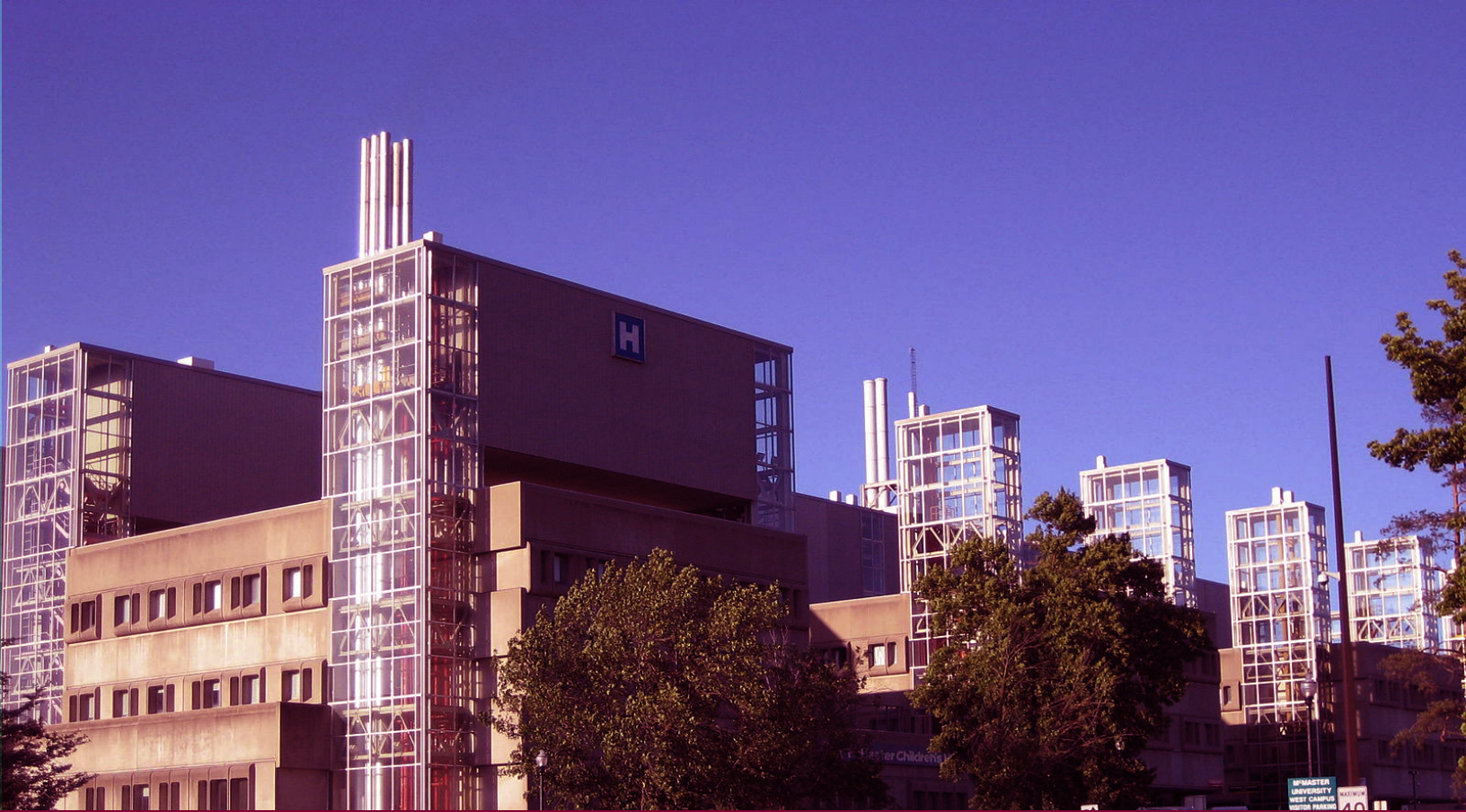
# Research Areas

Our research focuses on clinical and educational topics in the field of midwifery and maternal/child health.

Our research includes a variety of approaches, methods, and disciplines, including: clinical epidemiology, randomised controlled trials, cohort studies, large database studies (Better Outcomes Registry Network (BORN) Ontario, Institute of Clinical Evaluative Sciences (ICES)), knowledge translation, quality improvement, qualitative and quantitative methods, mixed methods, health policy, and health economics.

Our research is organized into three broad areas, or pillars, with examples of studies under each pillar, as illustrated below:





There are four levels of membership within the centre: **Scientist, Adjunct, Fellow, and Organizational members**. In the past year, formal **Terms of Reference** were established for Scientists, Adjunct Scientists and Fellows, and faculty and students were invited to apply. The following list describes our membership Centre Scientists, Adjunct Scientists, and Fellows, their research areas and affiliations.

The **benefits** of membership for all categories includes:

- Access to collaboration with Centre Scientists in related areas of inquiry
- Access to the shared resources of the Centre, and support including administrative assistance with grant preparation and submission
- Access to media and communication support
- Regular information regarding funding and dissemination opportunities, and on-campus activities and seminars.

## Contents

Centre Scientists	11
Adjunct Scientists	13
Fellows	19
Research Staff	23
Organizational	24
Scientific Advisory Committee	25

# Membership



## Prof. Eileen K. Hutton

BScN, MSN, PhD, FCAHS, RM

Prof. Eileen K. Hutton is Professor Emeritus, Department of Obstetrics and Gynecology, McMaster University, Associate Dean Emeritus, Faculty of Health Sciences, and Director Emeritus, Midwifery Education Program, Department of Education. She served as the Assistant Dean for the McMaster Midwifery Education Program from 2007 to 2018, and established the McMaster Midwifery Research Centre in July 2018.

Prof. Hutton held a part time endowed chair position from 2010-15 as Professor of Midwifery Science at Vrije University in Amsterdam, the Netherlands. Her undergraduate degree is from Queen's University, School of Nursing (BNSc) and she holds graduate degrees from the University of Toronto, School of Nursing (MScN) and the Institute of Medical Science - Clinical Epidemiology (PhD). In 2006, Prof. Hutton was recognised by the Society of Obstetricians and Gynaecologists of Canada with a National Award of Excellence for leadership by fostering interprofessional collaboration in support of women's health, and dedication to the advancement of midwifery practice and maternal health in Canada and abroad. She received the inaugural Lifetime Achievement Award by the Association of Ontario Midwives in recognition of her role in education, research and contributions to the profession. In 2016, Prof. Hutton received an Honorary Doctorate from Queen's University recognising her contribution to the development of Canadian Midwifery. In 2017, Prof. Hutton became the first Canadian midwife to be inducted as a Fellow of the Canadian Academy of Health Sciences.

She has published many peer-reviewed papers on a variety of topics relevant to midwifery and obstetrics including twin birth, external cephalic version, late and early clamping of the umbilical cord in term neonates, vaginal birth after caesarean section, sterile water injections for labour pain relief and home birth. Her current work focuses on the intersection of birth and early life exposures and the development of infant gut microbiome.

# Centre Scientists



## Dr. Beth Murray-Davis

BA, BHSc, MA, PhD, RM

Dr. Beth Murray-Davis is an Associate Professor in the Midwifery Education Program and Department of Obstetrics and Gynecology. Her qualifications include a BA in Sociology (Guelph), a BHSc in Midwifery (McMaster), a MA in Health Profession Education (University of Toronto), and a PhD in Primary Health Care (University of Sheffield). She is a co-PI for a CIHR Clinician Investigator Team Grant examining Non-Communicable Diseases in Obstetrics.

Her current research interests include pregnant peoples' experiences of healthy nutrition and exercise during pregnancy and postpartum, fetal movement awareness, midwifery experiences of caring for complicated pregnancies, client and health care provider experiences of alternative models of practice for midwives, and client decision making about place of birth. Dr. Murray-Davis has worked as a midwife in Hamilton since 2003.



## Dr. Elizabeth K. Darling

BArtsSc, BHSc, MSc, PhD

Dr. Liz Darling is a Registered Midwife, Assistant Dean and Director of the Midwifery Education Program, and Associate Professor in the Department of Obstetrics and Gynecology at McMaster University. She is a three-time McMaster alumni (with degrees in Arts & Science, Midwifery, and Health Research Methodology), and has a PhD in Population Health from the University of Ottawa. Liz began her career as a midwife in North York, and then practiced midwifery in Ottawa and was a part-time faculty member with the Midwifery Education Program at Laurentian University prior to joining McMaster full-time in 2017. She is also an Adjunct Scientist at the Institute for Clinical Evaluative Sciences, and holds an Associate appointment in the Department of Health Research Methods, Evidence, and Impact at McMaster University.

She is the principal investigator on a CIHR Early Career Operating Grant in Maternal, Reproductive, Child, and Youth Health. Her current research interests include: the organization of midwifery services, health disparities, access to care, health policy, and perinatal health surveillance. She conducts mixed methods research and has particular expertise in the midwifery data collected in Ontario's perinatal registry (BORN-Ontario).

# Adjunct Scientists



**Laura Banfield**

BSc, MHSc, MLIS

Laura Banfield is an Assistant Clinical Professor in Nursing, Librarian in the Health Sciences Library at McMaster University, and doctoral candidate in the Department of Geography. She works closely with the Midwifery Education Program through teaching library orientation to incoming students and course specific database and research sessions., developing library tools and resources to support learning, and providing one-on-one support. She is an active collaborator and advisor in both student and faculty led research.



**Dr. Ginny Brunton**

RN, RGN, RM, PhD

Dr. Ginny Brunton is an Associate Professor in Nursing at OntarioTech University. Her research focuses on mixed method evidence syntheses and knowledge translation examining policy issues in maternal health. She has particular interests in community engagement, and public health, with particular interests in low risk birth, and in how best to involve communities and other stakeholders in knowledge translation of birth research, evidence-informed maternal health care, mixed methods research synthesis, health policy, health promotion, wellbeing and salutogenesis, the epidemiology of spontaneous birth, interdisciplinary and transdisciplinary working, knowledge translation, and methods of community engagement in health research.

# Adjunct Scientists



## Remi Ejiwunmi

MA, RM

Remi Ejiwunmi is a practicing midwife in Mississauga, Ontario, and Head of the Division of Midwifery at Trillium Health Partners. Remi's research interests include quality improvement, patient-centred care, and system thinking. She worked to create Quality and Practice Councils and participates on the Provincial Obstetrical Quality Improvement and Patient Safety committee and with the Provincial Council for Maternal Child Health's Low Risk Obstetrical Expert Panel.

Remi has served as Past President at the Association of Ontario Midwives (AOM) and currently sits on the AOM's Quality Insurance and Risk Management Committee. She is a member of the Board of Directors at the Health Insurance Reciprocal of Canada (HIROC).



## Prof. Amiram Gafni

DSc

Prof. Amiram Gafni is a Professor in the Department of Health Research Methods, Evidence, and Impact (HEI) and a member of the Centre for Health Economics and Policy Analysis (CHEPA). In 2011, the World Bank ranked Prof. Gafni as 35th health economics researcher in the world (1st in Canada) based on the volume and impact of his publications. His research interests are in the area of economic evaluation of health care programs (both methods development and empirical applications), modeling of consumers' healthcare behaviour, models of patient-physician decision-making (e.g., shared decision-making), policy analysis and risk and decision analysis in health. He has co-authored several papers with other members of the MMRC.



## Dr. Anne Malott

BScN, MSN, PhD, RM

Dr. Anne Malott is an Associate Professor in the Department of Family Medicine with the Midwifery Education Program at McMaster University and a Registered Midwife. Her research interests include models of maternity care, midwifery and interprofessional education, and wellbeing and weight gain in pregnancy.



## Dr. Cristina A. Mattison

PhD

Dr. Cristina A. Mattison is an Assistant Professor, Department of Health Research Methods, Evidence, and Impact. Cristina obtained her PhD in Health Policy and MSc in Global Health from McMaster University. In her former role as a Scientific Lead, Stakeholder Engagement and Systems Analysis at the McMaster Health Forum, Cristina oversaw the scientific aspects of and leading the execution of evidence syntheses and the Health Systems Learning training program for policymakers and health-system managers. Currently, Cristina is a fellow at the MMRC focusing her work on understanding the integration of midwifery into health systems in Canada. In addition, Cristina is working with the Canadian Association of Midwives (CAM) to develop two conceptual frameworks related to healthcare skills transfer and civil society strengthening to inform the monitoring and evaluation of CAM's global programs.



# Adjunct Scientists

---



**Helen McDonald**

MHSc, RM

Helen McDonald is an Associate Professor in the Department of Family Medicine with the Midwifery Education Program (MEP) at McMaster University since 1993 before midwifery was regulated in Canada. She has practiced as a registered midwife in Hamilton, and has participated in numerous research studies with the MEP and MMRC. Her research interests include knowledge translation, midwifery and interprofessional education, gestational weight gain, place of birth, intrapartum antibiotics during the intrapartum period, the infant microbiome and models of midwifery care.



**Dr. Patricia McNiven**

MSc, PhD, RM

Dr. Patricia McNiven is an Associate Professor in the Department of Family Medicine with the Midwifery Education Program (MEP) at McMaster University since 1993, and is a Registered Midwife in Hamilton. Her research interests include midwifery curriculum design and content analysis, faculty development, assessment of clinical competence and distance problem-based learning, early labour, optimality measurement scale validation in a Canadian context, care provider attitudes, midwifery and interprofessional education, fear of childbirth prior to pregnancy, and place of birth. She is the Editor-in-Chief of the Canadian Journal of Midwifery Research and Practice (CJMRP), Canada's national, peer-reviewed midwifery journal and the official journal of the Canadian Association of Midwives (CAM).



# Adjunct Scientists



**Dr. Katherine Morrison**

MD, FRCPC

Dr. Katherine Morrison is an Associate Professor in the Department of Pediatrics, co-director of MAC-Obesity (Metabolism and Childhood Obesity Research Program), and the co-Director of Centre for Metabolism, Obesity and Diabetes Research at McMaster University. Her research program has three main areas of focus: epidemiological research to examine the population, family and individual level determinants that influence adiposity and cardiovascular risk factors across the childhood lifespan, clinical studies to improve the care of children with health consequences related to obesity, and knowledge translation work through the development and dissemination of clinical practice guidelines for the prevention and management of obesity in youth.



**Angela Reitsma**

BSc, BHSc, MSc, RM

Angela Reitsma is an Assistant Clinical Professor with the Department of Family Medicine in the Midwifery Education Program at McMaster University, Head of Midwifery Service at St. Joseph's Healthcare, and Registered Midwifery practicing in Hamilton. She completed her Master's in Clinical Epidemiology with the Health Research Methodology program at McMaster. Her research interests are in quality improvement, place of birth, midwifery models of care, and research methods.



# Adjunct Scientists

---



## Christine Sandor

BSc, BHSc, MSc, RM

Christine Sandor is a Registered Midwife in Hamilton and an Assistant Clinical Professor with the Department of Family Medicine in the Midwifery Education Program. Christine holds three degrees from McMaster: a BSc in Biology, BHSc in Midwifery, and a Masters in Health Science Education. Her research interests include transition to clinical practice, mentorship, and midwifery education.



## Kathi Wilson

BA, BHSc, MSc, RM

Kathi Wilson is an Assistant Professor with the Midwifery Education Program. Her research interests include: impact of electronic health records on the provision of midwifery care (especially in the intrapartum period), on client experience of midwifery care, and on student learning experiences.



## Mona Abdel-Fattah

BHSc, RM

Mona Abdel-Fattah is a Registered Midwife with the Community Midwives of Hamilton and is working on the expanded scope project at Crown Point. She is also a student in the Master of Science Global Health Program at McMaster University. Mona is exploring social and cultural barriers to accessing midwifery care in Morocco and has been working under the mentorship of Dr. Patricia McNiven and Dr. Anne Niec. Mona's research interests are focused on international midwifery.



## Erika Arseneau

HBSc, MSc

Erika Arseneau is a senior student in the McMaster Midwifery Education Program, currently placed with the Burlington & Area Midwives. Prior to coming into midwifery, Erika completed a MSc in Health Research Methodology at McMaster (2014). She is a co-recipient of the AOM Early Career Research grant with Samantha Landry and has worked under the mentorship of Dr. Elizabeth Darling to complete a study on polyamorous individuals' experience with pregnancy and birth. Erika's research interests include population and public health, marginalized populations and health services.



# Fellows

---



## Kirsty Bourret

RM

Kirsty Bourret is pursuing her doctorate at the School of Rural and Northern Health at Laurentian University, is a lecturer at the Midwifery Education Program at Laurentian University, and is a Registered Midwife. She received a Mitacs Accelerate doctoral fellowship to co-conduct a large multi-country (Canada, Haiti, South Sudan, Democratic Republic of Congo, and Tanzania) mixed methods study focused on measuring the impact of the Canadian Association of Midwives' global projects. Her doctoral research addresses how midwives integrate abortion care into their scope of practice in the Democratic Republic of Congo.



## Kate Demers

BSc, BHSc, MMid

Kate Demers is an Assistant Professor at McMaster University in the Midwifery Education Program, and a Registered Midwife practicing in Hamilton since 2009. She is the lead midwife at Crown Point Midwifery, which is providing expanded midwifery care model options in the east end of Hamilton. Current research projects include exploring outcomes related to expanded scope in midwifery practice and spread and scale of a midwifery-led alongside birthing unit in the city of Hamilton.



## Erica Elderhorst

BSc, BHSc, RM

Erica Elderhorst is a Registered Midwife working in Hamilton, and a Master's student in the Health Research Methodology program at McMaster University. Erica was awarded the AOM Career Midwifery Research Grant for a randomized controlled feasibility trial of sodium bicarbonate for the prevention of labour dystocia.



## Meagan Furnivall

BA, BHSc, RM

Meagan Furnivall is a Registered Midwife working in London, and is completing her Master's in Health Science Education at McMaster University. She has active ongoing research studies at London Health Sciences Centre collegially with other obstetricians and anesthesiologists. Some of her research interests include skin-to-skin contact in caesarean section, interprofessional collaboration, and exploring how to teach obstetrical residents and midwifery students how best to engage in decision-making with clients.



## Jenny Knoll

BA BHSc, RM

Jenny Knoll is a graduate of the Midwifery Education Program at McMaster University, and a Registered Midwife working in Hamilton. Jenny has worked in obstetrical research at Mount Sinai Hospital, and sat on the Canadian Association of Midwives' Cannabis Working Group. Her current research interests include alcohol use in pregnancy and expanded scope midwifery practice.



# Fellows

---



## Samantha Krueger

BSc, BHSc, RM

Samantha Krueger graduated from the Midwifery Education Program at McMaster University in 2018, and is a Registered Midwife with Midwifery Services of Durham, with privileges at Markham Stouffville Hospital and the Alongside Midwifery Unit (MSH-AMU). In 2016, Sam received the Canadian Institutes of Health Research Health Professional Student Research Award, and published her summer work on labour outcomes after successful external cephalic version compared with spontaneous cephalic version in the Journal of Obstetrics and Gynaecology Canada (JOGC). Her research interests include maternal and perinatal outcomes, and she looks forward to being involved in research at the MSH-AMU.



## Emma Seager

BASc, BHSc, RM

Emma Seager has been a practicing midwife at Access Midwives in Stoney Creek since October 2016, and is a graduate student in Health Science Education at McMaster University. Her research interests include midwifery services, quality improvement, and health science education. Emma's current research project is funded by an AOM Mentored Midwifery research grant that is examining the relationship between cervical dilation on hospital admission and subsequent outcomes, and evaluating the effects of an early labour home assessment.

# Research Staff

**Rashid Ahmed**

Research Manager

BScH, MSc

**Lindsay Grenier**

Research Coordinator

BScH, MA

**Jenifer Li**

Research Coordinator

HBSc, MSc

**Olivia Marquez**

Research Assistant

BScH, MSc

**Julia Simioni**

Research Coordinator

BScH, MSc

**Maisah Syed**

Research Coordinator

HBSc, MPH

**Tracy Woodford**

Research Coordinator

BAH, MPH

## Spotlight

### Gestational Diabetes Mellitus (GDM) Screening and Counselling Practices of Antenatal Health Care Providers in Ontario: A Mixed Methods Approach

This CIHR funded study is one of several studies being conducted by the Diabetes Obesity and Hypertension in Pregnancy Research Network (DOH-Net). Led by Dr. Beth Murray-Davis, we aim to better understand how individual and regional variances in GDM screening and counselling practices among healthcare providers may impact the management of GDM and the prevention of large for gestational age (LGA) babies. Qualitative interviews with new mothers, midwives, family physicians, and obstetricians in Hamilton, Ottawa and Sudbury are currently underway. Findings of this study will help us to improve GDM screening and counselling practices of health care providers and improve health outcomes for mothers and babies.

“I wish I had like a little booklet I could hand out to (clients) that goes beyond ‘don’t eat pizza...’ Here’s some tips for healthy living...”

Something that would educate people a little further. The do’s instead of the don’ts.

# Organizational

---



## Association of Ontario Midwives (AOM)

The Association of Ontario Midwives is dedicated to advancing the clinical and professional practice of Indigenous/Aboriginal and Registered Midwives in Ontario.



## Canadian Association of Midwives (CAM)

The CAM is the national organization representing midwives and the profession of midwifery in Canada. The mission of CAM is to provide leadership and advocacy for midwifery throughout Canada as an autonomous, self-regulated, publicly funded and vital part of primary maternal and newborn care. CAM promotes the development of the profession in the public interest and contributes the midwifery perspective to the national health policy agenda.



# Scientific Advisory Committee



**Prof. Mary Renfrew**

BSc, PhD, University of Dundee, Dundee, Scotland

Professor of Mother and Infant Health  
School of Nursing and Health Sciences



**Prof. Karyn Kaufman**

RN, CNM, DrP, McMaster University, Hamilton, Canada

Professor Emeritus, Department of Family Medicine  
Director Emeritus, Midwifery Education Program



**Dr. Michael McGillion**

BScN, PhD, McMaster University, Hamilton, Canada

Associate Professor, School of Nursing  
Assistant Dean, Research, School of Nursing  
McMaster University Heart and Stroke Foundation/Michael G. DeGrootte Endowed Chair  
of Cardiovascular Nursing Research



# Scientific Advisory Committee

---



## **Dr. Lawrence Grierson**

PhD, McMaster University, Hamilton, Canada

Associate Professor, Department of Family Medicine  
Assistant Dean, Health Sciences Education Graduate Program  
Scientist, McMaster FHS Program for Education Research,  
Innovation & Theory (MERIT)



## **Prof. Deborah M. Sloboda**

PhD, McMaster University, Hamilton, Canada

Professor, Associate Chair Research  
Canada Research Chair in Perinatal Programming  
Farncombe Family Digestive Health Research Institute  
Department of Biochemistry and Biomedical Sciences

# Governance & Operations

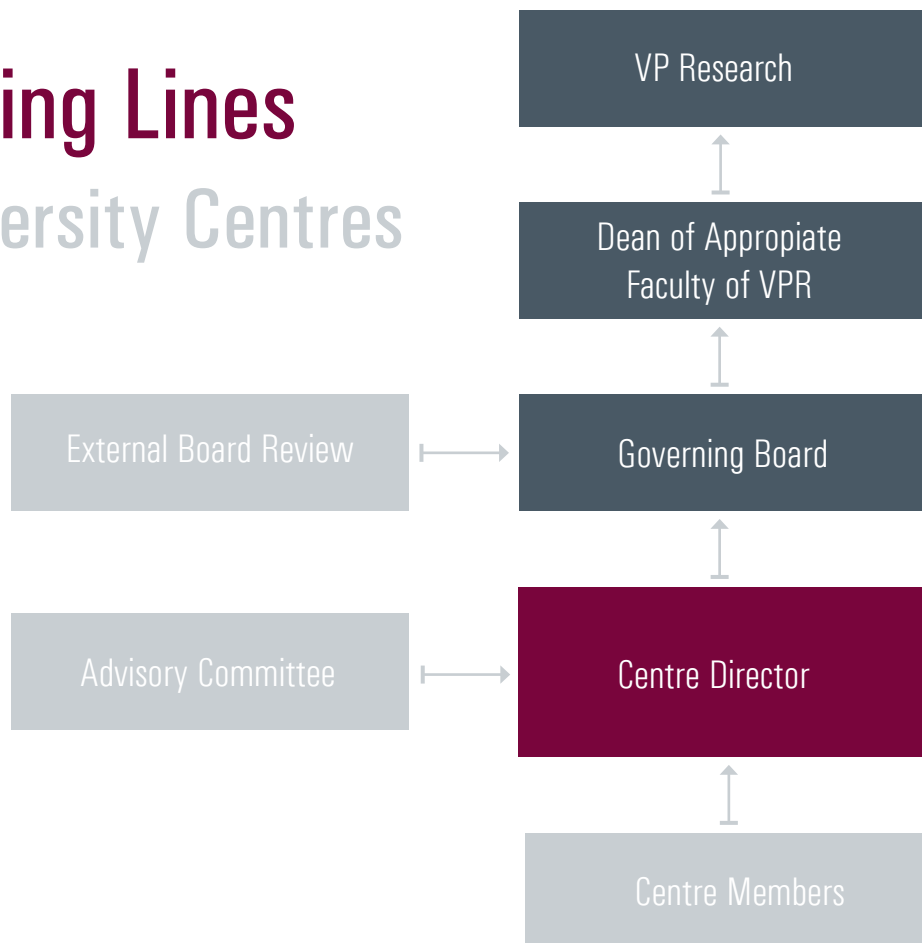
The McMaster University Senate appointed Dr. Beth Murray-Davis as Scientific Director of the McMaster Midwifery Research Centre, effective from July 1, 2019 to June 30, 2024.

Rashid Ahmed was appointed Research Manager of the MMRC in September 2019 and has worked as a research coordinator in midwifery at McMaster since 2009.

The Scientific Director and Research Manager are responsible for the day-to-day operations of and planning for the MMRC, including research and educational activities, centre outreach, and budgeting.

The Scientific Advisory Committee has been formed and will convene for the first time on December 11, 2019. This group consists of internationally recognized experts in fields related to the centre's three pillars. The committee provides advice to the Scientific Director regarding scientific and scholarly priorities.

## Reporting Lines for University Centres




## Research Operations Meetings

Monthly MMRC operations meeting are held on the second Tuesday of each month with faculty, MMRC members, research staff, graduate and undergraduate students, and volunteers to discuss current research project progress, planning for grants, and upcoming presentations, publications, and events.

## Standard Operating Procedures

MMRC faculty and staff developed and adopted standard operating procedures (SOPs) on the conduct of research activities at the Centre.

MMRC members are trained on Good Clinical Practice (GCP) and on the Tri-Council Policy Statement (TCPS2), a Canadian guideline for the ethical conduct of research involving humans and/or human biological materials. The MMRC also adopted McMaster University's Office of Health Research Service's "Standard Operating Procedures (SOPs) for Clinical Research" for clinical research conducted by investigators affiliated with McMaster University's Faculty of Health Sciences teaching hospitals that describe specific procedures performed during the conduct of a clinical research study involving human subjects. The SOPs are based on ICH: Good Clinical Practice guidelines, Health Canada Food and Drug regulations, and Tri-Council Policy Statement guidelines for the ethical conduct of research involving humans.



# Building an Academic CV Workshop

Liz Darling, Beth Murray-Davis, Eileen Hutton  
MMRC Research Symposium  
March 26, 2019



The University Club  
of McMaster

Training of highly qualified personnel is essential for increasing research capacity in midwifery. The MMRC is poised to be a central training environment for midwives and other trainees with an interest in maternity care research. In the next five years, we will work to recruit and retain trainees from Canada and abroad. As a training environment, the MMRC will offer research workshops, rounds, writing support, and opportunities to present research. Mentorship and leadership will be available to trainees, along with grants and awards to help build research careers.

In May 2019, Dr. Cristina Mattison joined supervisor Dr. Liz Darling as a post-doctoral fellow. Dr. Mattison is working on understanding the roles of midwives in health systems, including research with the Canadian Association of Midwives (CAM) to review and improve the organization's methods and tools for evaluating its global projects in the Democratic Republic of Congo, Haiti, South Sudan and Tanzania.

We continue to offer summer scholarships to undergraduate midwifery students interested in research to work on a project from May to August each year under the mentorship of a MMRC scientist.

## Contents

Trainees 2018 to Current	30
Events	34



# Education & Training

## Trainees 2018 to Current

The MMRC has a total of 27 undergraduate, graduate, and post-doctoral trainees supervised by, or affiliated (\*) with the grants held by, MMRC Scientists Prof. Eileen Hutton, Dr. Beth Murray-Davis, and Dr. Liz Darling.

Name	Academic Program	Project Title
Ava Corey	Bachelor of Arts & Sciences	Experiences and perceptions of Canadian midwives regarding homebirth: a scoping review
Naomi Halpern	Bachelor of Arts & Sciences	Public perceptions of midwifery in Canada
Claire Barclay	Bachelor of Health Sciences	Investigating attitudes of undergraduate students toward midwifery through an online questionnaire
Abdullah Haroon	Bachelor of Health Sciences	Creation and implementation of an e-book on family planning for midwives in Pakistan
Erika Arseneau	Bachelor of Health Sciences Midwifery	The polyamorous childbearing and birth experiences study
Hannah Jonker	Bachelor of Health Sciences Midwifery	Evaluation of the Crown Point Midwifery Project
Samantha Landry	Bachelor of Health Sciences Midwifery	The polyamorous childbearing and birth experiences study
Touka Shamkhi	Bachelor of Health Sciences Midwifery	Resilience in racialized midwifery students in the Ontario Midwifery Education Program
Candice Viveiros	Bachelor of Health Sciences Midwifery	Perceptions of barriers to accessing perinatal mental health care in midwifery, Barriers and facilitators of accessing perinatal mental health services: the perspectives of women receiving continuity of care midwifery

# Education & Training

Name	Academic Program	Project Title
Praniya Elangainesan	Bachelor of Health Sciences Midwifery	Client experiences of the Markham Stouffville alongside midwifery unit: pre and post survey of childbirth satisfaction
Aiman Shahid	Bachelor of Life Sciences	A literature review of interventions to address gestational weight gain
Sahar Zarifi	Bachelor of Life Sciences	Be healthy in pregnancy: understanding women's perceptions of nutrition, exercise and weight gain in pregnancy (BHIP)
Catherine Friedman	Undergraduate Medicine	Resident attitudes towards caesarean delivery in Canadian Obstetrics and Gynaecology residency programs
Giuliana Guarna	Undergraduate Medicine	Randomized controlled feasibility trial of sodium bicarbonate for the prevention of labour dystocia, and Birth outcomes for midwifery clients who begin post-dates induction of labour under midwifery care compared with those who are transferred to obstetrical care". If spacing is too awkward, then just put "Randomized controlled feasibility trial of sodium bicarbonate for the prevention of labour dystocia
Erica Elderhorst	Master in Health Research Methodology	Validation of midwifery-specific variables in the BORN Ontario database: a quality assurance study
Lisa Nussey	Master in Health Research Methodology	Inadequate prenatal care in Hamilton: an investigation into how to improve prenatal care access for marginalized populations
Abigail Corbin	Master of Health Administration	Leadership development among midwives in Ontario



# Education & Training

---

Name	Academic Program	Project Title
Meagan Furnivall	Master of Health Sciences Education	Midwifery students' and obstetrical residents' experiences of learning shared decision-making
Bronte Johnston	Master of Health Sciences Education	Evaluation of point of care ultrasound training for midwives
Emma Seager	Master of Health Sciences Education	Facilitating formative feedback in midwifery education
Luna El-dakiky*	Master of Medical Sciences	Impact of solid food introduction on microbial succession in the infant gut
Chiara Homan*	Master of Medical Sciences	Dietary intake and the gut microbiome in full-term infants at introduction of solid foods
Jessica Jones	Master of Public Health	A cross-sectional survey examining how midwifery clients in Ontario access information to support infant feeding decisions
Dr. Simon Deluce	Obstetrics & Gynecology Medical Resident	Non-Indicated transfers of care from midwives to physicians in Ontario
Efrah Yousuf*	Doctorate in Medical Sciences	Exploring the body composition and gut microbiota communities of preterm infants
Kirsty Bourret	Visiting Doctoral Intern	Evaluating skill transfer between Canadian and Global South Midwifery Associations
Dr. Cristina Mattison	Postdoctoral Fellow	The integration of midwifery in Canadian health systems



## Spotlight

### Resilience in Racialized Midwifery Students

Touka Shamkhi is currently a third year student in the McMaster Midwifery Education Program (MEP). She conducted a summer research project with the MMRC on resilience in racialized midwifery students in the Ontario Midwifery Education Program, in collaboration with midwife Claire Ramlogan-Salanga, under the supervision of Dr. Liz Darling. Touka was awarded the Association of Ontario Midwives (AOM) "Just Culture and Patient Safety Culture Award" in 2019, in recognition of her contributions as a MEP student towards creating a just culture. This award is supported by the Healthcare Insurance Reciprocal of Canada (HIROC), and aims to support teamwork and the delivery of safe care.



## Events

### Annual McMaster Midwifery Research Symposium

The fourth annual McMaster Midwifery Research Symposium was held at the University Club at McMaster University on Tuesday, March 26, 2019. A total of 68 undergraduate midwifery students from Laurentian University, Ryerson University, and McMaster University, and 12 community midwives and other attendees participated in the symposium. Laurentian students organized a bus trip from Sudbury to attend the symposium! Seven speakers from the MMRC and the Departments of Obstetrics and Gynecology, Pathology and Molecular Medicine, and Biochemistry & Biomedical Sciences presented. MMRC trainees showcased their research in a rapid-fire session, and a post-symposium workshop on how to build your curriculum vitae was facilitated by MMRC faculty.



### Midwifery Research Symposium

Tuesday, March 26, 2019

A forum for primary maternity care providers including midwives, physicians, nurses, and students where current and innovative research relevant to clinical practice is presented and discussed.

**SYMPOSIUM WORKSHOP:** Making your CV count. How to build a CV that you are doing and will help you to long-term career goals. This workshop is for students and midwives.

and light refreshments will be served.

Tuesday, March 26, 2019  
Symposium > 9 a.m. to 3 p.m.  
Workshop > 3:30-4:30 p.m.

The University Club of McMaster,  
Alumni Memorial Hall  
1280 Main St. West, Hamilton ON

#### AGENDA

- 9:00 Registration
- 9:45 Opening Remarks
- 10:00 Bruce Weinman, PhD  
*Virtual, augmented and real reality - what are they and when should they be used*
- 10:30 Sarah McDonald, MD  
*Best Practice for Prevention of Preterm Birth: What can a midwife do?*
- 11:00 Liz Darling, RM, PhD  
*Early hospital discharge of Ontario midwifery clients: Trends over time*
- 11:30 Kate Demers, RM  
*Enhanced Midwifery Care Model: Interprofessional collaboration to develop, implement and evaluate services for urban families*
- 12:00 Lunch
- 1:00 Rapid Fire Presentations
- 1:30 Debra Sloboda, PhD  
*Early life adversity: impacts on the mothers, fetus and placenta*
- 2:00 Beth Murray-Davis, RM, PhD  
*Experiences regarding nutrition and exercise during early postpartum: A qualitative grounded theory study*
- 2:30 **SYMPOSIUM WORKSHOP:** Making your CV count. How to build a CV that you are doing and will help you to long-term career goals. This workshop is for students and midwives.
- 3:00 **SYMPOSIUM WORKSHOP:** Making your CV count. How to build a CV that you are doing and will help you to long-term career goals. This workshop is for students and midwives.



## Research Seminars/Workshops

Four research seminars and workshops were held for midwifery and other undergraduate students to help develop research interest and skills in midwifery, including:

- Prof. Eileen Hutton, Dr. Beth Murray-Davis, Dr. Liz Darling:  
Introduction to the MMRC Lunch & Learn  
– Thursday, October 11, 2018
- Lindsay Grenier – How to do Qualitative Research Using NVivo  
– Thursday, July 23, 2019
- Dr. Cristina Mattison – How Research Informs Policies Related to Midwifery  
– Thursday, August 13, 2019
- Nicole Gervais - How to Redcap Workshop  
– Tuesday, November 19, 2019



## Strategic Planning Meeting

Sixteen members of the MMRC, including scientists, staff and adjuncts, attended a facilitated strategic vision and planning workshop on December 4, 2019. The agenda addressed what to preserve into the future, an environmental scan, a five-year vision for the future and strategic objectives and initiatives. A full report will be prepared by the facilitator and will assist us in implementing the MMRC's vision and strategy.

## Research Rounds

A series of research rounds will in early 2020, showcasing new midwifery research and ideas.

# Honours and Awards

## Mohide Lectureship Award

**Professor Eileen Hutton** was awarded the sixth annual Mohide Lectureship Award for her paper on “Urinary stress incontinence and other maternal outcomes 2 years after caesarean or vaginal birth for twin pregnancy: a multicentre randomised trial”. The goal of the lectureship, established by Dr. Patrick T. Mohide, is to recognise and share key research performed by members of the Department of Obstetrics and Gynecology at McMaster University.

## Pat Martens Memorial Student Prize

**Lisa Nussey** was awarded the Pat Martens Memorial Student Prize, at the Canadian Association for Health Services and Policy Research, presenting on the Access To Midwifery Care research project. This study is investigating the barriers and facilitators that people of low-SES experience in accessing midwifery care in Hamilton.

## Association of Ontario Midwives’ 2019 Excellence in Midwifery Research Award

**Dr. Liz Darling** with **Dr. Karen Marie Olsen Lawford**, **Dr. Kathi Wilson**, **Michelle Kryzanasuskas**, and **Dr. Ivy Lynn Bourgeault** were awarded the Association of Ontario Midwives’ 2019 Excellence in Midwifery Research Award for their publication “Distance from Home Birth to Emergency Obstetric Services and Neonatal Outcomes: A Cohort Study”.



# Community Service

With faculty and staff from both the McMaster Midwifery Education Program and the McMaster Midwifery Research Centre, Team “Call the Midwives!” raised the most funds of 11 teams for the Halton Hamilton United Way 6th Annual McMaster “Pull4Mac” bus pull fundraising event on October 8, 2019 - “We aim to deliver!”



## The Crown Point Midwifery Project Evaluation

### Spotlight

Crown Point Midwifery (CPM) is one of the Expanded Midwifery Care Models (EMCM) that received funding from the Ontario government in 2018. CPM is an innovative, inter-professional model that offers reproductive, sexual and well-woman care to Hamilton residents where gaps in care have been identified. The Crown Point Midwifery Project Evaluation (CPMP-Eval) examines outcomes related to midwives providing services for IUD counseling and insertion, cervical cancer screening, medical pregnancy termination, menopause counseling and perinatal mental health support.



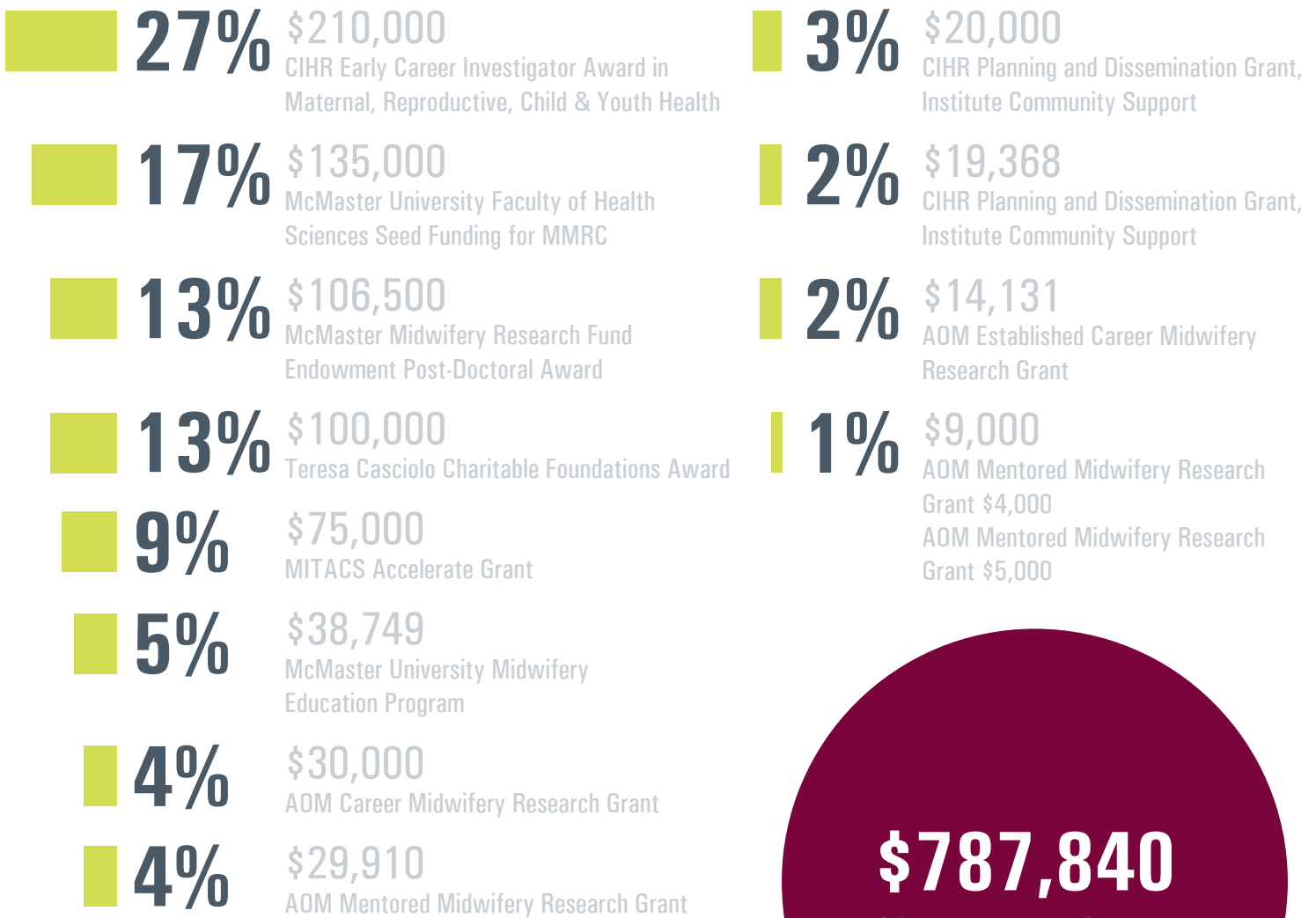
# Financial Status

## Contents

New Research Grants Awarded, July 2018 to December 2019	39
Existing/Active and New Grants, July 2018 to December 2019	40
Annualised Operating Revenue and Expenses 2019	46

# New Research Grants Awarded

July 2018 to December 2019

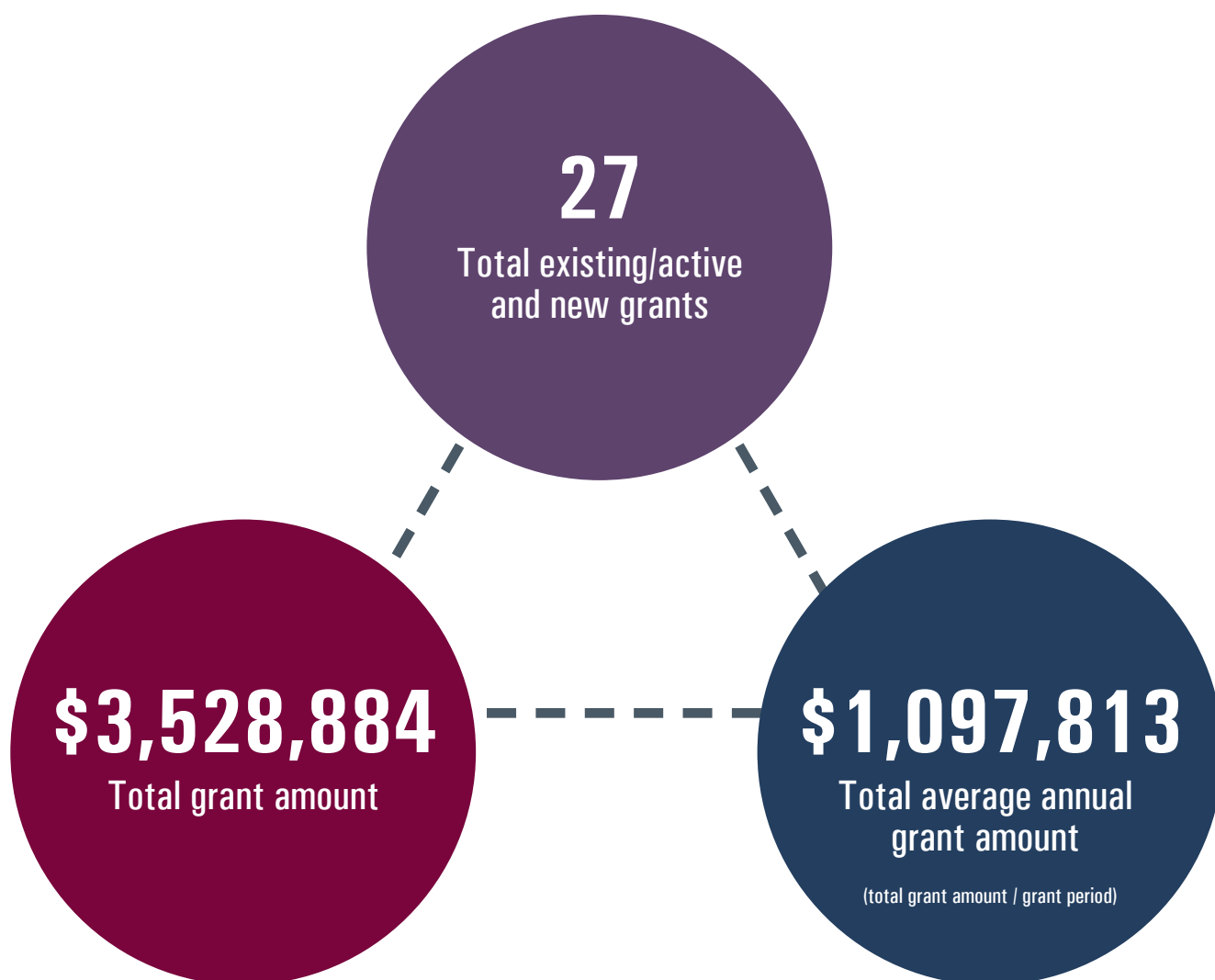


**\$787,840**  
13 new research grants



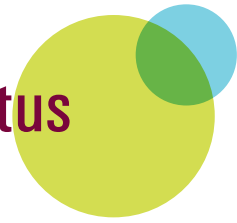
## Existing/Active and New Grants

July 2018 to December 2019





# Financial Status

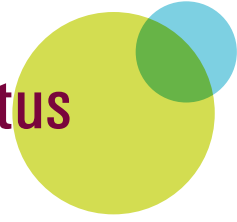


Principal Investigators	Study	Granting Agency	Award Date	Years	Total Amount
Kate Demers, Dr. Liz Darling	Outcomes of midwifery-led early loss clinic	Association of Ontario Midwives Mentored Midwifery Research Grant	Dec 2019	1.5	\$4,000
Dr. Liz Darling, Angela Reitsma	Outcomes associated with planned place of birth among women with low-risk pregnancies: 2012-18 update	Association of Ontario Midwives Career Midwifery Research Grant	Dec 2019	2	\$30,000
Dr. Beth Murray-Davis, Dr. Liz Darling, Dr. Eileen K. Hutton	Developing a Canadian strategy to identify and prioritize midwifery research capacity and knowledge translation	CIHR Planning and Dissemination Grant, Institute Community Support	Dec 2019	1	\$19,368
Dr. Liz Darling, Louise Aerts, Dr. Cristina Mattison	Planning to create partnerships and advance research to understand system-level opportunities to expand midwives' contributions to improve access to sexual and reproductive health care	CIHR Planning and Dissemination Grant, Institute Community Support	Dec 2019	1	\$20,000
Dr. Liz Darling	Value for money: a mixed methods study to investigate the impact of funding expanded midwifery care models in Canada	CIHR Early Career Investigator Award in Maternal, Reproductive, Child & Youth Health	Dec 2019	3	\$210,000
Dr. Beth Murray-Davis	Be Healthy In Pregnancy Knowledge Translation (BHIP-KT)	McMaster University Midwifery Education Program	Oct 2019	3	\$38,749
Dr. Liz Darling, Dr. Cristina Mattison	The integration of midwifery services in Canadian health systems	McMaster Midwifery Research Fund Endowment Post-Doctoral Award	Aug 2019	3	\$106,500

# Financial Status

Principal Investigators	Study	Granting Agency	Award Date	Years	Total Amount
Dr. Liz Darling, Dr. Cristina Mattison, Kirsty Bourret	Evaluating skill transfer between Canadian and global south midwifery associations	MITACS Accelerate Grant	Aug 2019	1	\$75,000
Dr. Beth Murray-Davis	Gestational diabetes screening practices among antenatal health care providers in Ontario	Teresa Cascioli Charitable Foundation Research Award in Women's Health, St. Joseph's Research Centre	Jul 2019	1	\$100,000
Dr. Liz Darling	Outcomes associated with planned place of birth in low-risk women attended by midwives in Ontario, Canada, 2009-2012	Association of Ontario Midwives Established Career Midwifery Research Grant	Apr 2019	2	\$14,313
Emma Seager, Dr. Liz Darling	Cervical dilation on hospital admission: supporting best practices to achieve a vaginal delivery	Association of Ontario Midwives Early Career Mentored Midwifery Research Grant	Apr 2019	1.5	\$5,000
Erica Elderhorst, Prof. Eileen Hutton, Dr. Liz Darling	A randomised controlled feasibility trial of sodium bicarbonate for the prevention of labour dystocia	Association of Ontario Midwives Established Career Midwifery Research Grant	Dec 2018	2	\$29,910
Dr. Beth Murray-Davis	Be Healthy In Pregnancy Knowledge Translation (BHIP-KT)	McMaster University Midwifery Education Program	Oct 2019	3	\$38,749
Dr. Beth Murray-Davis	Ontario Midwifery Research Initiative	McMaster University Faculty of Health Sciences Seed Funding for MMRC	Jul 2018	3	\$135,000
Prof. Eileen Hutton	Improving women's reproductive care outcomes with comprehensive family planning for midwives (e-book)	Grand Challenges Canada	Apr 2018	2	\$100,000

# Financial Status

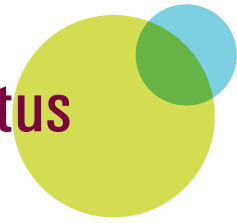


Principal Investigators	Study	Granting Agency	Award Date	Years	Total Amount
Dr. Beth Murray-Davis	Gestational diabetes, obesity and hypertension in the midwifery population – best practices	Association of Ontario Midwives Established Career Midwifery Research Grant	Apr 2018	2	\$30,528
Dr. Liz Darling	Exploring equitable access to midwifery care for people of low socio-economic status: facilitators and barriers	Association of Ontario Midwives, Established Career Midwifery Research Grant	Apr 2018	2	\$40,000
Prof. Eileen Hutton, Rashid Ahmed	Continuous glucose monitoring in pregnant women with type 1 diabetes (CONCEPTT): a multicentre international randomised controlled trial – Canadian Economic Analysis	Sunnybrook Research Institute/ Juvenile Diabetes Research Foundation	Feb 2018	2	\$80,000
Angela Reitsma, Prof. Eileen Hutton	Systematic review and meta-analyses of birth outcomes for women who intend at the onset of labour to give birth at home compared to women of low obstetrical risk who intend to give birth in hospital	Association of Ontario Midwives Early Career Mentored Midwifery Research Grant	Feb 2018	2	\$4,929
Dr. Liz Darling	Midwife to obstetrician consultation and transfer of care: Are we making optimal use of maternity care health human resources	Department of Obstetrics and Gynecology, McMaster University Research Start-Up Funding	Jul 2017	3	\$240,000
Dr. Beth Murray-Davis	Be Healthy In Pregnancy Knowledge Translation (BHIP-KT)	McMaster University Midwifery Education Program	Oct 2019	3	\$38,749
Dr. Liz Darling, Dr. Cristina Mattison	The integration of midwifery services in Canadian health systems	McMaster Midwifery Research Fund Endowment Post-Doctoral Award	Aug 2019	3	\$106,500

# Financial Status

Principal Investigators	Study	Granting Agency	Award Date	Years	Total Amount
Prof. Eileen Hutton, Dr. Beth Murray-Davis, Dr. Liz Darling	Evaluation of the Markham-Stouffville Alongside Midwifery Unit Program Evaluation	Ontario Midwifery Program (OMP), Ministry of Health and Long Term Care (MOHLTC) and Markham-Stouffville Hospital	May 2017	5	\$150,000
Erica Elderhorst, Prof. Eileen Hutton, Dr. Liz Darling	Birth outcomes for midwifery clients who begin post-dates induction of labour under midwifery care compared with those who are transferred to obstetrical care	Association of Ontario Midwives Early Career Mentored Midwifery Research Grant	Apr 2017	2	\$5,000
Dr. Liz Darling	Exploring equitable access to midwifery care for people of low socio-economic status: facilitators and barriers	Association of Ontario Midwives, Established Career Midwifery Research Grant	Apr 2017	2.5	\$39,473
Samantha Landry, Erika Arseneau, Dr. Liz Darling	Exploring polyamorous families' experiences with pregnancy and birth" (POLYBABES Study) - AOM Early Career Midwifery Research Grant	Association of Ontario Midwives Early Career Mentored Midwifery Research Grant	Apr 2017	2	\$5,000
Dr. Beth Murray-Davis	Improving quality of care and maternal-infant outcomes through an obstetrical research network	Canadian Institutes of Health Research, Institute of Human Development, Child and Youth Health, Team Grant: Clinician-Investigator Teams in Obstetrics & Maternal-Fetal Medicine	Apr 2016	5	\$500,000

# Financial Status

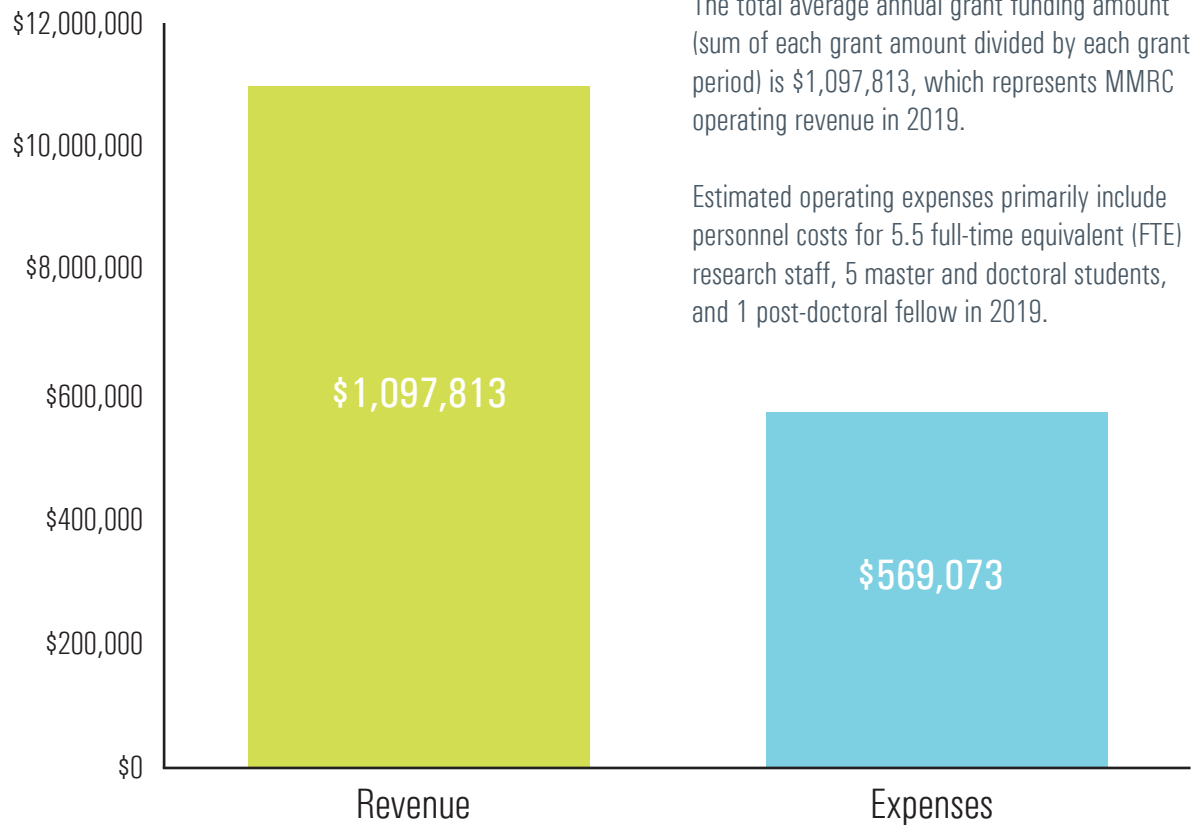


Principal Investigators	Study	Granting Agency	Award Date	Years	Total Amount
Prof. Eileen Hutton	From infancy to childhood: the intersection of gastrointestinal microbial communities, diet and health (GI-MDH)	Canadian Institutes of Health Research, Institute of Human Development, Child and Youth Health, Team Grant: Intestinal Microbiomics/ European Union Joint Programming Initiative – A Health Diet for a Healthy Life (JPI-HDHL)	Jan 2016	3	\$449,510
Dr. Beth Murray-Davis	Be Healthy In Pregnancy: Understanding women’s perceptions of nutrition, exercise and weight gain in pregnancy (BHIP)	Hamilton Health Sciences Early Career Award	Jan 2015	4.5	\$150,000
Prof. Eileen Hutton	The Baby & Microbiota of the Intestine Project (Baby & Mi)	Canadian Institutes of Health Research, Institute of Human Development, Child and Youth Health, Operating Grant	Oct 2014	7	\$946,604



## Annualised Operating Revenue and Expenses

2019



The total average annual grant funding amount (sum of each grant amount divided by each grant period) is \$1,097,813, which represents MMRC operating revenue in 2019.

Estimated operating expenses primarily include personnel costs for 5.5 full-time equivalent (FTE) research staff, 5 master and doctoral students, and 1 post-doctoral fellow in 2019.



## BHIP: Be Healthy in Pregnancy

### Experiences regarding nutrition & exercise during early postpartum: A qualitative grounded theory study

Beth Murray-Davis RM, PhD<sup>1</sup>, Lindsay Grenier BSc, MA<sup>1</sup>, Stephanie A. Atkinson PhD, DSc, FCAHS<sup>2</sup>, Michelle F. Mottola BSc, MSc, PhD, FACSM<sup>3</sup>, Olive Wahoush RN, RSCN, MSc, PhD<sup>4,5</sup>, Lehana Thabane PhD<sup>6,7</sup>, Feng Xie PhD<sup>8</sup>, Jennifer Vickers-Manzini<sup>9</sup>, Caroline Moore BSc<sup>2</sup>, Eileen K. Hutton BSc, MScN, PhD<sup>1</sup>

<sup>1</sup>McMaster Midwifery Research Center, Department of Obstetrics and Gynecology, McMaster University <sup>2</sup>Department of Pediatrics, McMaster University <sup>3</sup>R. Samuel McLaughlin Foundation - Exercise and Pregnancy Lab, School of Kinesiology, The University of Western Ontario <sup>4</sup>Global Health, McMaster University <sup>5</sup>School of Nursing, McMaster University <sup>6</sup>Department of Health Research Methods, Evidence and Impact, McMaster University <sup>7</sup>Biostatistics Unit, Father Sean O'Sullivan Research Center, St. Joseph's Healthcare Hamilton <sup>8</sup>Public Health Services, City of Hamilton

#### Background

**Postpartum weight retention:**

- A serious health concern that contributes to long-term obesity and its associated health risks (1-2)
- Can be reduced through modifiable behaviours such as diet and exercise (3)

**Postpartum weight management concerns:**

- Many people are unsuccessful in returning to pre-pregnancy weight despite existing dietary and exercise guidelines (4-5)
- Lack of studies addressing personal challenges with weight management post-birth

Understanding postnatal experiences of weight, exercise, and nutrition may be critical to increase success in weight loss postpartum and improve long-term health.

#### Methods

**Research Question:** What are people's experiences related to nutrition, exercise and weight gain during early postpartum?

**Study Design:** A nested qualitative study conducted as a component of two larger RCTs exploring the likelihood of attaining optimal gestational weight gain through a nutrition and exercise intervention.

**Participants:** People 4-6 months postpartum who were allocated through randomization to the control groups in each of the above-mentioned RCTs.

**Ethics Approval:** Obtained from Hamilton Integrated Research Ethics Board and Western University Health Sciences Research Ethics Board.

**Data Collection and Analysis:** In-depth, semi-structured focus group sessions, facilitated by trained qualitative researchers, digitally recorded and transcribed verbatim. Data was analyzed using a constructivist grounded theory approach to generate codes, categories and themes (6) (Figure 1)

#### Results

**Take Home Point:**  
**Postpartum experiences of exercise and healthy eating are unique and challenging. More resources and counselling during antenatal care are needed**

Four themes emerged from participants' responses that illustrate postnatal beliefs and behaviours regarding weight, exercise and nutrition. (Figure 2)

Accepting the postpartum body

Maintaining healthy habits

Questioning gestational weight gain guidelines

Experiences of Postpartum People

Learning through resources

**Figure 2. The major themes**

**1) Accepting the postpartum body**  
 People experienced a complex relationship with their postpartum body image, due to unrealistic expectations. Body image was not always related to weight. Participants often attempted to change their perception to focus on their body's accomplishments, rather than its physical appearance.

*"My body had a purpose, and it did something and it was nicer to think of it like that than kind of an image of how it is supposed to look"*

**2) Maintaining healthy habits**  
 Pre-existing habits influenced behaviours during pregnancy and postpartum.

*"I think being healthy prior to pregnancy is important...having good habits prior to pregnancy helps with your weight gain during and then also the weight loss after."*

Participants identified barriers and enablers to healthy habits during pregnancy and postpartum. (Figure 3)

Challenges	Enablers
• Fatigue	• Warm weather
• Lack of time, support, motivation	• Incorporating children
• Unrealistic expectations	• Low-cost food/exercise
• Family responsibilities	• Support
• Cold weather	• Accountability
• Pregnancy related complications	• Understanding the benefits of exercise
• Nutrition is not a priority	• Nutrition/exercise is a priority

**Figure 3. Factors that challenge or enable nutrition and exercise habits during the postpartum period.**

**3) Questioning GWG guidelines**  
 Many found the gestational weight gain guidelines unrealistic and unhelpful, particularly the BMI based guidelines; they wanted more personalized recommendations.

*"I think a lot of those goals are kind of bogus and ridiculous... I don't like to look at the numbers, to pay attention to when doctors are like, "You can only gain 10 pounds," well it's not realistic either"*

Counselling from healthcare providers was inconsistent, with little follow-up throughout pregnancy and postpartum. Few participants understood the health consequences of excessive GWG.

*"I don't think I had that conversation. There wasn't, like, if you go above the number these are the risks. I think I knew that from other places but not from my primary health care provider."*

**4) Learning through resources**  
 There was frustration over the lack of resources specifically targeting the postpartum period:

*"I think if they made it [information] more available for after. Like saying, here's postpartum what it looks like your body's doing, you need to give it time to let it recover, but you need to also be mindful of this and this and this."*

Preferred to receive information from their healthcare provider, rather than the internet because it was difficult to know whether sources were credible.

*"You get inundated with a lot of information but you really have to look at where it's coming from because there's a lot of chat rooms and people's personal experiences."*

#### Key Points

- Lower body satisfaction following childbirth, often due to unrealistic expectations of the postnatal body
- Establishing healthy exercise & nutritional habits prior to pregnancy promotes healthy GWG and postpartum weight loss
- Unique challenges of postpartum period are not addressed by practitioners or resources
- GWG & BMI-based guidelines are dismissed in favour of personal experiences and anecdotal evidence
- Need for increased information & support for weight management strategies and increased awareness for the natural bodily changes that occur after childbirth

#### Acknowledgments

We would like to thank the women who participated in this study. Dr. Murray-Davis was supported by a Hamilton Health Sciences Early Career Award



## Contents

Centre Scientist Peer Reviewed Publications July 2018 to December 2019	48
Peer Reviewed Oral and Poster Presentations at Meetings	53
Adjunct and Fellow Publications 2019	55
McMaster e-Book Foundry Textbooks	59

# Centre Scientist Peer Reviewed Publications

July 2018 to December 2019

40 publications by Prof. Eileen K. Hutton,  
Dr. Beth Murray-Davis, and Dr. Elizabeth K. Darling.

1. McKerracher L, Moffat T, Barker M, McConnell M, Atkinson SA, **Murray-Davis B**, McDonald SD, Sloboda DM. Knowledge about the Developmental Origins of Health and Disease is independently associated with variation in diet quality during pregnancy. *Matern Child Nutr.* 2019 Dec 12:e12891.
2. Friedman CL, Ahmed RJ, **Hutton EK**, **Darling EK**. Resident Attitudes Towards Caesarean Delivery in Canadian Obstetrics and Gynaecology Residency Programs. *Resident Attitudes Towards Caesarean Delivery in Canadian Obstetrics and Gynaecology Residency Programs. JOGC.* In press. Published online: November 28, 2019.
3. **Darling EK**, Grenier L, Nussey L, **Murray-Davis B**, **Hutton EK**, Vanstone M. Access to midwifery care for people of low socio-economic status: a qualitative descriptive study. *BMC Pregnancy Childbirth.* 2019 Nov 12;19(1):416.
4. Gerster K, **Murray-Davis B**, Dason ES, Costescu D. A Qualitative Exploration of Past Family Planning Counselling of Adolescent and Young Mothers. *Canadian Journal of Midwifery Research and Practice.* 2019; 18(2): 40-7.
5. Berger H, Melamed N, **Murray-Davis B**, Hasan H, Mawjee K, Barrett J, McDonald SD, Geary M, Ray JG; Diabetes, Obesity and Hypertension in Pregnancy Research Network (DOH-NET) and the Southern Ontario Obstetrical Network (SOON) Investigators. PREValence of Pre-Pregnancy Diabetes, Obesity, and Hypertension in Canada. *J Obstet Gynaecol Can.* 2019 Nov;41(11):1579-1588.e2.



6. Dzakpasu S, Deb-Rinker P, Arbour L, **Darling EK**, Kramer MS, Liu S, Luo W, Murphy PA, Nelson C, Ray JG, Scott H, VandenHof M, Joseph KS; Canadian Perinatal Surveillance System (Public Health Agency of Canada). Severe Maternal Morbidity in Canada: Temporal Trends and Regional Variations, 2003-2016. *J Obstet Gynaecol Can.* 2019 Nov;41(11):1589-1598.e16.
7. Mueller V, Ellis S, **Murray-Davis B**, Sonnadara R, Grierson LEM. A multiple-trainee, multiple-level, multiple-competency (multi-TLC) simulation-based approach to training obstetrical emergencies. *Perspect Med Educ.* 2019 Oct;8(5):309-313.
8. Magee LA, Rey E, Asztalos E, **Hutton EK**, Singer J, Helewa M, Lee T, Logan AG, Ganzevoort W, Welch R, Thornton JG, von Dadelszen P. Management of non-severe pregnancy hypertension - A summary of the CHIPS Trial (Control of Hypertension in Pregnancy Study) research publications. *Pregnancy Hypertens.* 2019 Oct 14;18:156-162.
9. Elderhorst E, Ahmed RJ, **Hutton EK**, **Darling EK**. Birth Outcomes for Midwifery Clients Who Begin Postdates Induction of Labour Under Midwifery Care Compared With Those Who Are Transferred to Obstetrical Care. *J Obstet Gynaecol Can.* 2019 Oct;41(10):1444-1452.
10. **Murray-Davis B**, Grenier L, Atkinson SA, Mottola MF, Wahoush O, Thabane L, Xie F, Vickers-Manzin J, Moore C, Hutton EK. Experiences regarding nutrition and exercise among women during early postpartum: a qualitative grounded theory study. *BMC Pregnancy Childbirth.* 2019 Oct 21;19(1):368.
11. **Darling EK**, Bennett N, Burton N, Marquez O. Outcomes of uninsured midwifery clients in Ontario, Canada: A retrospective cohort study. *Midwifery.* 2019 Oct;77:24-31.
12. Arseneau E, Landry S, **Darling EK**. The Polyamorous Childbearing and Birth Experiences Study (POLYBABES): a qualitative study of the health care experiences of polyamorous families during pregnancy and birth. *CMAJ.* 2019 Oct 15;191(41):E1120-E1127.
13. Li J, Dizzell SE, Jones SL, Kanji S, Lau JT, Mousseau A, Yousuf El, Holloway AC, Ratcliffe EM, Stearns JC, Morrison KM, **Hutton EK**. Early life exposures and the development of the infant gut microbiome: a review. *Canadian Journal of Midwifery Research and Practice.* 2019; 18 (2):8-24.
14. Dzakpasu S, Deb-Rinker P, Arbour L, **Darling EK**, Kramer MS, Liu S, Luo W, Murphy PA, Nelson C, Ray JG, Scott H, VandenHof M, Joseph KS. Severe maternal morbidity surveillance: Monitoring pregnant women at high risk for prolonged hospitalisation and death. *Paediatr Perinat Epidemiol.* 2019 Aug 12.



# Research Productivity

---

15. **Hutton EK**, Hannah ME, Willan A, Ross S, Armson A, Gafni A, Joseph KS, Mangoff K, Ohlsson A, Sanchez J, Asztalos E, Barrett J; Twin Birth Study Collaborative Group.. Authors' reply re: Urinary stress incontinence and other maternal outcomes 2 years after caesarean or vaginal birth for twin pregnancy: a multicentre randomised trial. *BJOG*. 2019 Mar;126(4):547.
16. Campbell K, Carson G, Azzam H, **Hutton E**. No. 372-Statement on Planned Homebirth. *J Obstet Gynaecol Can*. 2019 Feb;41(2):223-227.
17. Reszel J, Dunn SI, Sprague AE, Graham ID, Grimshaw JM, Peterson WE, Ockenden H, Wilding J, Quosdorf A, **Darling EK**, Fell DB, Harrold J, Lanes A, Smith GN, Taljaard M, Weiss D, Walker MC. Use of a maternal newborn audit and feedback system in Ontario: a collective case study. *BMJ Qual Saf*. 2019 Aug;28(8):635-644.
18. **Hutton EK**, Reitsma A, Simioni J, Brunton G, Kaufman K. Perinatal or neonatal mortality among women who intend at the onset of labour to give birth at home compared to women of low obstetrical risk who intend to give birth in hospital: a systematic review and meta-analyses. *EClinicalMedicine*. 2019 Jul 25;14:59-70.
19. **Murray-Davis B**, Berger H, Melamed N, Hasan H, Mawjee K, Syed M, Ray JG, Geary M, Barrett J, McDonald SD; Diabetes, Obesity and Hypertension in Pregnancy Research Network and Southern Ontario Obstetrical Network investigators. Weight gain during pregnancy: Does the antenatal care provider make a difference? A retrospective cohort study. *CMAJ Open*. 2019 Apr 23;7(2):E283-E293. Print 2019 Apr-Jun.
20. Ram M, Berger H, Lipworth H, Geary M, McDonald SD, **Murray-Davis B**, Riddell C, Hasan H, Barrett J, Melamed N; DOH-Net (Diabetes, Obesity and Hypertension in Pregnancy Research Network) and SOON (Southern Ontario Obstetrical Network) Investigators. The relationship between maternal body mass index and pregnancy outcomes in twin compared with singleton pregnancies. *Int J Obes (Lond)*. 2019 Apr 16.
21. Viveiros CJ, **Darling EK**. Perceptions of barriers to accessing perinatal mental health care in midwifery: A scoping review. *Midwifery*. 2019 Mar;70:106-118.
22. **Darling EK**, Lawford KMO, Wilson K, Kryzanasuskas M, Bourgeault IL. Distance from Home Birth to Emergency Obstetric Services and Neonatal Outcomes: A Cohort Study. *J Midwifery Womens Health*. 2019 Mar;64(2):170-178.
23. Dufour S, Bernard S, **Murray-Davis B**, Graham N. Establishing expert-based recommendations for the conservative management of pregnancy-related diastasis rectus abdominis: results of a Delphi consensus study. *Journal of Women's Health Physical Therapy*. 2019; 43(2): 73-81.

24. Hirsch L, Berger H, Okby R, Ray JG, Geary M, McDonald SD, **Murray-Davis B**, Riddell C, Halperin I, Hasan H, Barrett J, Melamed N; DOH-NET (Diabetes, Obesity and Hypertension in Pregnancy Research Network); SOON (Southern Ontario Obstetrical Network) Investigators. Gestational diabetes mellitus is associated with adverse outcomes in twin pregnancies. *Am J Obstet Gynecol*. 2019 Jan;220(1):102.e1-102.e8.
25. Berger H, Melamed N, **Murray-Davis B**, Hasan H, Mawjee K, Barrett J, McDonald S, Geary M, Ray JG. Impact of Diabetes, Obesity and Hypertension on Preterm Birth: Population-based Study. Manuscript accepted for publication in *PLoSone*, 2019.
26. Perreault M, Atkinson SA, Mottola MF, Phillips SM, Bracken K, **Hutton EK**, Xie F, Meyre D, Morassut RE, Papavessis H, Thabane L; BHIP Study team. Structured diet and exercise guidance in pregnancy to improve health in women and their offspring: study protocol for the Be Healthy in Pregnancy (BHIP) randomised controlled trial. *Trials*. 2018 Dec 19;19(1):691.
27. Viveiros CJ, **Darling EK**. Barriers and facilitators of accessing perinatal mental health services: The perspectives of women receiving continuity of care midwifery. *Midwifery*. 2018 Oct;65:8-15.
28. Magee LA, Synnes AR, von Dadelszen P, Hutfield AM, Chanoine JP, Côté AM, Devlin AM, Dorling J, Gafni A, Ganzevoort W, Helewa ME, **Hutton EK**, Koren G, Lee SK, McArthur D, Rey E, Robinson WP, Roseboom TJ, Singer J, Wilson S, Moutquin JM; CHIPS-Child Study Group. CHIPS-Child: Testing the developmental programming hypothesis in the offspring of the CHIPS trial. *Pregnancy Hypertens*. 2018 Oct;14:15-22.
29. Mårtensson LB, **Hutton EK**, Lee N, Kildea S, Gao Y, Bergh I. Sterile water injections for childbirth pain: An evidenced based guide to practice. *Women Birth*. 2018 Oct;31(5):380-385.
30. Mattison CA, Dion ML, Lavis JN, **Hutton EK**, Wilson MG. Midwifery and obstetrics: Factors influencing mothers' satisfaction with the birth experience. *Birth*. 2018 Sep;45(3):322-327.
31. Comeau A, **Hutton EK**, Simioni J, Anvari E, Bowen M, Kruegar S, **Darling EK**. Home birth integration into the health care systems of eleven international jurisdictions. *Birth*. 2018 Sep;45(3):311-321.
32. Sprague AE, Sidney D, **Darling EK**, Van Wagner V, Soderstrom B, Rogers J, Graves E, Coyle D, Sumner A, Holmberg V, Khan B, Walker MC. Outcomes for the First Year of Ontario's Birth Center Demonstration Project. *J Midwifery Womens Health*. 2018 Sep 10.
33. Ram M, Berger H, Geary M, McDonald SD, **Murray-Davis B**, Riddell C, Hasan H, Barrett J, Melamed N; Diabetes, Obesity and Hypertension in Pregnancy Research Network (DOH-NET) and the Southern Ontario Obstetrical Network (SOON) Investigators. Timing of Delivery in Women With Chronic Hypertension. *Obstet Gynecol*. 2018 Sep;132(3):669-677.



# Research Productivity

---

34. Reszel J, Sidney D, Peterson WE, **Darling EK**, Van Wagner V, Soderstrom B, Rogers J, Graves E, Khan B, Sprague AE. The Integration of Ontario Birth Centers into Existing Maternal-Newborn Services: Health Care Provider Experiences. *J Midwifery Womens Health*. 2018 Aug 8.
35. **Hutton EK**, Hannah ME, Willan AR, Ross S, Allen AC, Armson BA, Gafni A, Joseph KS, Mangoff K, Ohlsson A, Sanchez JJ, Asztalos EV, Barrett J; Twin Birth Study Collaborative Group. Urinary stress incontinence and other maternal outcomes 2 years after caesarean or vaginal birth for twin pregnancy: a multicentre randomised trial. *BJOG*. 2018 Dec;125(13):1682-1690.
36. **Darling EK**, Lawford KM, Wilson K, Kryzanasuskas M, Bourgeault I. Distance from home birth to emergency obstetrical services and neonatal outcomes: A cohort study. *Journal of Midwifery & Women's Health* 2018.
37. Sprague AE, Sidney D, **Darling EK**, Van Wagner V, Soderstrom B, Rogers J, Graves E, Coyle D, Sumner A, Holmberg V, Khan B, Walker M. Outcomes for The First Year of Ontario's Birth Centre Demonstration Project. *Journal of Midwifery and Women's Health* 2018; 65:8-15.
38. Reszel J, Sidney D, Peterson W, **Darling EK**, Van Wagner V, Soderstrom B, Rogers J, Graves E, Khan B, Sprague A. The integration of Ontario birth centres into existing maternal newborn services – care provider experiences. *Journal of Midwifery and Women's Health* 2018.
39. Nelson C, Lawford KM, Otterman V, **Darling EK**. Mental health indicators among pregnant Aboriginal women in Canada: Results from the Maternity Experiences Survey. *Health Promotion and Chronic Disease Prevention in Canada* 2018. 38(7/8):269-76.
40. Comeau A, Hutton EK, Simioni J, Anvari E, Bowen M, Kruegar S, **Darling EK**. Home birth integration within health care systems of eleven international jurisdictions. *Birth* 2018; Sep;45(3):311-321.

# Peer Reviewed Oral and Poster Presentations at Meetings

In 2018 & 2019, we presented our findings through peer reviewed oral and poster presentations at national and international conferences.

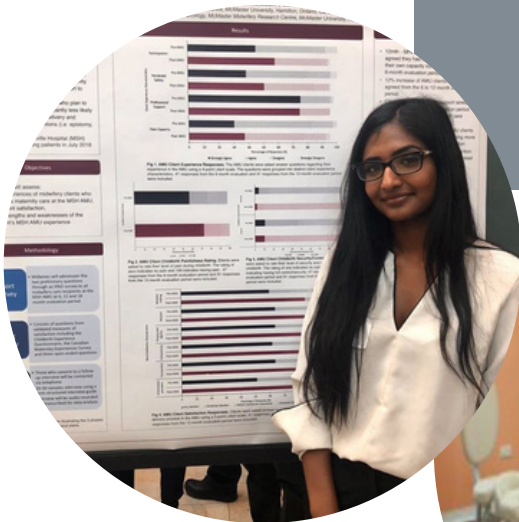
1. Canadian Association of Midwives Conference, Halifax, Nova Scotia, October 2019.
2. Society of Obstetricians and Gynecologists of Canada Annual Clinical and Scientific Conference, Halifax, Nova Scotia, June 2019.
3. Association of Ontario Midwives Conference, Markham, Ontario, May 2019.
4. Canadian Association of Health Services and Policy Research, Halifax, Nova Scotia, May 2019.
5. McMaster Medical Student Research Day, Hamilton, Ontario, April 2019.
6. Canadian National Perinatal Research Meeting, Mont-Tremblant, Quebec, February 2019.
7. Society of Obstetricians and Gynaecologists of Canada Ontario CME, Toronto, Ontario, December 2018.
8. Association of Ontario Midwives Research Symposium, Toronto, Ontario, November 2018.
9. Canadian Association of Midwives Conference, Gatineau, Quebec, October 2018.
10. American Society of Nephrology Kidney Week, San Diego, California, USA, October 2018.
11. Canadian Sex Research Forum, Toronto, Ontario, October 2018.
12. Society of Obstetricians and Gynecologists of Canada Annual Clinical and Scientific Conference, Victoria, British Columbia, June 2018
13. Society of Maternal Fetal Medicine, Dallas, Texas, USA, February 2018
14. Canadian National Perinatal Research Meeting, Banff, Alberta, February 2018

# Research Productivity

## Spotlight

### Evaluation of the Markham-Stouffville Alongside Midwifery Unit

The Markham Stouffville Hospital Alongside Midwifery Unit (MSH-AMU) is the first of its kind in Canada and opened in July 2018. The AMU is an innovative, midwife-led birthing unit that provides comprehensive midwifery care to low-risk pregnant women, located adjacent to the Obstetrical Unit. Led by the MMRC, the MSH-AMU evaluation examines client and healthcare provider satisfaction, maternal and neonatal outcomes, and lessons for replication and scalability.



## Adjunct and Fellow Publications

2019

1. Oreskovich SM, Ong FJ, Ahmed BA, Konyer NB, Blondin DP, Gunn E, Singh NP, Noseworthy MD, Haman F, Carpentier AC, Punthakee Z, Steinberg GR, **Morrison KM**. MRI Reveals Human Brown Adipose Tissue Is Rapidly Activated in Response to Cold. *J Endocr Soc*. 2019 Oct 14;3(12):2374-2384.
2. Koziarz A, Sne N, Kegel F, Nath S, Badhiwala JH, Nassiri F, Mansouri A, Yang K, Zhou Q, Rice T, Faidi S, Passos E, Healey A, **Banfield L**, Mensour M, Kirkpatrick AW, Nassar A, Fehlings MG, Hawryluk GWJ, Almenawer SA. Bedside Optic Nerve Ultrasonography for Diagnosing Increased Intracranial Pressure: A Systematic Review and Meta-analysis. *Ann Intern Med*. 2019 Nov 19.
3. Webbe JWH, Duffy JMN, Afonso E, Al-Muzaffar I, **Brunton G**, Greenough A, Hall NJ, Knight M, Latour JM, Lee-Davey C, Marlow N, Noakes L, Nycyk J, Richard-Landt A, Wills-Eve B, Modi N, Gale C. Core outcomes in neonatology: development of a core outcome set for neonatal research. *Arch Dis Child Fetal Neonatal Ed*. 2019 Nov 15. pii: fetalneonatal-2019-317501.
4. Bradbury KM, Turel O, **Morrison KM**. Electronic device use and beverage related sugar and caffeine intake in US adolescents. *PLoS One*. 2019 Oct 22;14(10):e0223912.
5. Van Lieshout RJ, Favotto L, Ferro M, Niccols A, Saigal S, **Morrison KM**, Schmidt LA. The children of preterm survivors: shyness, parenting, and parental stress. *J Dev Orig Health Dis*. 2019 Oct 17:1-5.
6. Balakumaran J, Birk T, Golemiec B, Helmeczi W, Inkaran J, Kao YY, Leigh J, Saliba S, Sharma R, Spatafora L, Wright K, Yao W, Hillis C, **Banfield L**, Thabane L, Athale U, Samaan MC. Evaluating the endometabolic and bone health effects of Tyrosine Kinase Inhibitors in Chronic Myeloid Leukaemia: a systematic review protocol. *BMJ Open*. 2019 Sep 11;9(9):e030092.
7. Catherine NLA, Lever R, Sheehan D, Zheng Y, Boyle MH, McCandless L, **Gafni A**, Gonzalez A, Jack SM, Tonmyr L, Varcoe C, MacMillan HL, Waddell C; British Columbia Healthy Connections Project Scientific Team.. The British Columbia Healthy Connections Project: findings on socioeconomic disadvantage in early pregnancy. *BMC Public Health*. 2019 Aug 22;19(1):1161.



# Research Productivity

---

8. Rudrapatna S, Bhatt M, Wang KW, Bierbrier R, Wang PW, **Banfield L**, Elsheikh W, Sims ED, Peterson D, Thabane L, Tarnopolsky MA, Steinberg GR, Samaan MC. Obesity and muscle-macrophage crosstalk in humans and mice: A systematic review. *Obes Rev*. 2019 Nov;20(11):1572-1596.
9. Teo KK, Rafiq T, Anand SS, Schulze KM, Yusuf S, McDonald SD, Wahi G, Abdalla N, Desai D, Atkinson SA, **Morrison KM**. Associations of cardiometabolic outcomes with indices of obesity in children aged 5 years and younger. *PLoS One*. 2019 Jul 5;14(7):e0218816.
10. Morton RW, Murphy KT, McKellar SR, Schoenfeld BJ, Henselmans M, Helms E, Aragon AA, Devries MC, **Banfield L**, Krieger JW, Phillips SM. Infographic. The effect of protein supplementation on resistance training-induced gains in muscle mass and strength. *Br J Sports Med*. 2019 Dec;53(24):1552.
11. Nath S, Shen C, Koziarz A, **Banfield L**, Fava MA, Hodge WG. Transepithelial versus epithelium-off corneal collagen cross-linking for corneal ectasia: protocol for a systematic review, meta-analysis and trial sequential analysis of randomised controlled trials. *BMJ Open*. 2019 May 27;9(5):e025728.
12. Chen SSJ, Nadarajah A, **Banfield L**, Fleming A, Thabane L, Portwine C, Samaan MC. Evaluating the prevalence of diabetes mellitus subtypes in childhood cancer survivors: a systematic review protocol. *Adolesc Health Med Ther*. 2019 Apr 26;10:59-65.
13. Griffith LE, Gruneir A, Fisher K, Panjwani D, **Gafni A**, Patterson C, Markle-Reid M, Ploeg J. Insights on multimorbidity and associated health service use and costs from three population-based studies of older adults in Ontario with diabetes, dementia and stroke. *BMC Health Serv Res*. 2019 May 16;19(1):313.
14. Webbe JWH, Ali S, Sakonidou S, Webbe T, Duffy JMN, **Brunton G**, Modi N, Gale C; COIN Project Steering Committee. Inconsistent outcome reporting in large neonatal trials: a systematic review. *Arch Dis Child Fetal Neonatal Ed*. 2019 May 13. pii: fetalneonatal-2019-316823.
15. Kosa SD, Monize J, Leenus A, Leenus S, Samra S, Szwiega S, Shi D, Valvasori S, **Gafni A**, Lok CE, Thabane L. Reporting quality of pilot clinical trials in chronic kidney disease patients on hemodialysis: a methodological survey. *Pilot Feasibility Stud*. 2019 Apr 6;5:53.
16. **Mattison CA**, Wilson MG, Wang RH, Waddell K. Enhancing Equitable Access to Assistive Technologies in Canada: Insights from Citizens and Stakeholders. *Can J Aging*. 2019 Apr 10:1-20.
17. Fowokan A, Punthakee Z, Waddell C, Rosin M, **Morrison KM**, Gupta M, Rangarajan S, Teo K, Lear S. Multifactorial correlates of blood pressure in South Asian children in Canada: a cross-sectional study. *BMJ Open*. 2019 Apr 8;9(4):e027844.



18. Hadjiyannakis S, Ibrahim Q, Li J, Ball GDC, Buchholz A, Hamilton JK, Zenlea I, Ho J, Legault L, Laberge AM, Thabane L, Tremblay M, **Morrison KM**. Obesity class versus the Edmonton Obesity Staging System for Pediatrics to define health risk in childhood obesity: results from the CANPWR cross-sectional study. *Lancet Child Adolesc Health*. 2019 Jun;3(6):398-407.
19. Nath S, Shen C, Koziarz A, **Banfield L**. Protocol for a systematic review, meta-analysis, and trial sequential analysis of clinical outcomes following accelerated versus conventional corneal collagen cross-linking for corneal ectasia. *Syst Rev*. 2019 Apr 4;8(1):85.
20. Cioana M, Peterson D, Missiuna P, El-Hawary R, Carey T, Potter MA, **Banfield L**, Thabane L, Samaan MC. The creation of a national coalition to target adolescent idiopathic scoliosis: a meeting report. *Adolesc Health Med Ther*. 2019 Feb 22;10:15-19.
21. Crawford R, Sims ED, Wang KW, Youssef M, Nadarajah A, Rivas A, **Banfield L**, Thabane L, Samaan MC. Traditional knowledge-based lifestyle interventions in the prevention of obesity and type 2 diabetes in Indigenous children in Canada: a systematic review protocol. *Syst Rev*. 2019 Mar 6;8(1):69.
22. Oczkowski SJW, Arnold E, Centofanti J, Durepos P, Sarti A, **Arseneau E**, Dhanani S, Cook DJ, Meade MO. A mixed-methods study of organ donation in the intensive care unit: 22 actionable practices to improve organ donation. *Can J Anaesth*. 2019 Jun;66(6):686-695.
23. Fowokan AO, Punthakee Z, Waddell C, Rosin M, **Morrison KM**, Gupta M, Teo K, Rangarajan S, Lear SA. Adiposity measures and their validity in estimating risk of hypertension in South Asian children: a cross-sectional study. *BMJ Open*. 2019 Feb 20;9(2):e024087.
24. Farnesi BC, Perez A, Holt NL, **Morrison KM**, Gokiart R, Legault L, Chanoine JP, Sharma AM, Ball GDC. Continued attendance for paediatric weight management: A multicentre, qualitative study of parents' reasons and facilitators. *Clin Obes*. 2019 Jun;9(3):e12304.
25. Lamy A, Lonn E, Tong W, Swaminathan B, Jung H, **Gafni A**, Bosch J, Yusuf S. The cost implication of primary prevention in the HOPE 3 trial. *Eur Heart J Qual Care Clin Outcomes*. 2019 Jul 1;5(3):266-271.
26. Savoy C, Mathewson KJ, Schmidt LA, **Morrison KM**, Saigal S, Boyle MH, Van Lieshout RJ. Exposure to antenatal corticosteroids and reduced respiratory sinus arrhythmia in adult survivors of extremely low birth weight. *Int J Neurosci*. 2019 Aug;129(8):776-783.



# Research Productivity

---

27. Clairman H, Dettmer E, Buchholz A, Cordeiro K, Ibrahim Q, Maximova K, Toulany A, Taylor VH, Katzman DK, **Morrison KM**, Hamilton J; CANPWR Investigators., Ball G, Chanoine JP, Ho J, Legault L, Mackie P, Thabane L, Zenlea I. Pathways to eating in children and adolescents with obesity. *Int J Obes (Lond)*. 2019 Jun;43(6):1193-1201.
28. Krucien N, Pelletier-Fleury N, **Gafni A**. Measuring Public Preferences for Health Outcomes and Expenditures in a Context of Healthcare Resource Re-Allocation. *Pharmacoeconomics*. 2019 Mar;37(3):407-417.
29. Hiemstra LA, Peterson D, Youssef M, Soliman J, **Banfield L**, Ayeni OR. Trochleoplasty provides good clinical outcomes and an acceptable complication profile in both short and long-term follow-up. *Knee Surg Sports Traumatol Arthrosc*. 2019 Sep;27(9):2967-2983.
30. Lee Y, Doumouras AG, Yu J, Brar K, **Banfield L**, Gmora S, Anvari M, Hong D. Complete Resolution of Nonalcoholic Fatty Liver Disease After Bariatric Surgery: A Systematic Review and Meta-analysis. *Clin Gastroenterol Hepatol*. 2019 May;17(6):1040-1060.e11.
31. Stoll K, Edmonds J, Sadler M, Thomson G, McAra-Couper J, Swift EM, **Malott A**, Streffing J, Gross MM, Downe S; ICAPP Study Team.. A cross-country survey of attitudes toward childbirth technologies and interventions among university students. *Women Birth*. 2019 Jun;32(3):231-239.

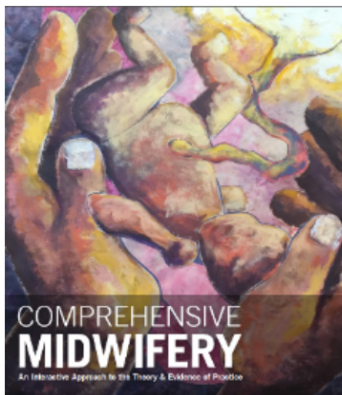
## McMaster e-Book Foundry Textbooks

Our e-Book Foundry has published six midwifery education e-books, the first ever midwifery-specific textbooks in Canada, that include: Comprehensive Midwifery Vol. 1: Professional Roles, Vol. 2: Normal Pregnancy, Birth, Postpartum & Newborn Care, Vol. 3: Management of Complications, Physical Assessment of the Well Woman & Newborn, Pharmacology Revealed, and Woman-Centered Reproductive Health Care: An e-Resource for Lady Health Visitors and Midwives in Pakistan that is now being piloted.

Samples of the books can be found here <https://gumroad.com/bcw> and are now available in print and interactive e-textbooks versions.

The books have been adopted as required texts across Canada and in some US and Australian midwifery education programs. The books include the contributions of a team of technical and creative designers, more than 50 authors, 10 medical illustrators, and 40 midwives across Ontario who participated in videos outlining tips for best practice.

We are continuing to evaluate the educational impact of these books as a learning resource.



VOLUME 1:  
PROFESSIONAL ROLES



VOLUME 2:  
NORMAL PREGNANCY, BIRTH, POSTPARTUM  
AND NEWBORN CARE



VOLUME 3:  
MANAGEMENT OF COMPLICATIONS ARISING IN  
PREGNANCY, BIRTH, POSTPARTUM & NEWBORN CARE

