

ARCH in 2015



*Making
a meaningful
difference for
women
and babies*

*Congratulations to
our exceptional staff and students
who are making a positive impact
on the health of women and babies
in Australia and beyond.*

*Caroline Crowther
Clinical Director*

*Philippa Middleton
Executive Director*



 **Robinson
Research Institute**
Healthy children for life.



Australian Research Centre for Health of Women and Babies

Highlights for 2015

- **Evidence Synthesis:** 32 high quality new or updated systematic reviews and protocols relevant to women and babies' health prepared and published.
- **Randomised Trials:** DIAMIND Trial (Postpartum reminders to test for Type 2 Diabetes) completed - high overall uptake of testing for type 2 diabetes by 6 months postpartum.
- **ARCH** becomes a full member of Australian Clinical Trials Alliance (ACTA) as a Founding *Clinical Trial Coordinating Centre*.

Highlights for 2015

RANDOMISED TRIALS

Recruitment Phase

- **MAGENTA** (Magnesium sulphate at 30 to 34 weeks' gestational age: neuroprotection trial) funded by a NHMRC project grant - Total of 886 women and 1040 babies recruited.
- **STRIDER NZAus** (A Randomised Controlled Trial of Sildenafil Therapy In Dismal Prognosis Early-Onset Intrauterine Growth Restriction) funded by a NZ HRC grant and led by Katie Groom at the Auckland City Hospital. Womens' and Children's Hospital has enrolled 5 of 53 recruits.
- **My Baby's Movements** (NHMRC funded trial of maternal awareness of fetal movements to prevent stillbirth). Led by Vicki Flenady with Caroline Crowther and Philippa Middleton and coordinated from The Mater Research Institute, Brisbane.

Follow-Up Phase

- **ASTEROID** (Study to evaluate dexamethasone versus betamethasone prior to preterm birth to increase survival free of neurosensory disability) - NHMRC project grant - 2 year follow-up of 1508 children is nearing completion.
- **IDEAL** (Investigation of dietary advice and lifestyle for women with borderline gestational diabetes) - NHMRC project grant - 2 year follow-up of 724 women and their children is ongoing.
- **PROGRESS** (Progesterone after previous preterm birth for the prevention of neonatal respiratory distress syndrome) - 2 year follow-up of 799 children is nearing completion.
- **BAC** (Birth After Caesarean: Planned vaginal birth or elective repeat caesarean for women at term with a previous caesarean) - Follow-up of women and children at 6 to 8 years of age is completed and data are being analysed.

TRANSLATIONAL HEALTH PROJECTS

- **WISH Project** (Working to Improve Survival and Health for babies born very preterm), funded by the Cerebral Palsy Alliance - aimed to monitor the uptake of the antenatal magnesium sulphate guidelines for neuroprotection. Recruitment at four sites (Auckland City Hospital, Mater Mothers' Hospital, Royal North Shore Hospital and Women's and Children's Hospital) was completed in November 2014. The follow-up of these infants at 1 and 2 years' corrected age is ongoing.
- **WISH Follow Up Study** - funded by the Cerebral Palsy Alliance (2014-2019) - will continue to monitor the uptake of the antenatal magnesium sulphate cerebral palsy guidelines for neuroprotection. Longer-term follow-up of the children recruited into WISH at 3 to 5 years' corrected age commenced. The WISH cohort of children will be linked with the Cerebral Palsy Registers in Australia and New Zealand.

RESEARCH SYNTHESIS

- **Australian and New Zealand Satellite of the Cochrane Pregnancy and Childbirth Group** - Authors contributed to 11 new protocols, 9 new reviews and 12 updated reviews.
- **AMICABLE** (Antenatal Magnesium Sulphate Individual Participant Data International Collaboration: Assessing the Benefits for Babies using the Best Level of Evidence). Manuscript nearing completion.
- **PRECISE** (Prenatal Repeat Corticosteroid Individual Participant Data International Collaboration: Assessing the Effects using the Best level of Evidence). Manuscript in preparation.

Funding

NEW GRANTS

- Cerebral Palsy Alliance funding to conduct an overview of reviews on antenatal and neonatal interventions to prevent cerebral palsy.
- Cerebral Palsy Alliance funding to conduct a systematic review of neonatal and infant adverse effects of magnesium sulphate for improving outcomes for mothers and babies.

NHMRC EVIDENCE PANEL FUNDING

- Funding for evidence on the effectiveness of interventions for caregiving practices and behaviours for optimal social and emotional development of infants.

Staff and students

Research Leaders and Fellows:

Caroline Crowther,
Philippa Middleton,
Emily Bain,
Zohra Lassi,
Shanshan Han.

Research

Coordination:

Pat Ashwood,
Michaela Jarrett.

Research Support:

Mary Paleologos,
Jacki Smith,
Melissa Ewens.

Data Management:

Vincent Ball,
Sasha Zhang,
Tran son Thach,
Kaye Robinson,
Carol Holst.

Postgraduate

Students:

Emily Bain,
Angela Brown,
Emer Van Ryswyk,
Zohra Lassi,
Philippa Middleton.

Awards, Grants and Completions

AWARDS

- Philippa Middleton - NHMRC Early Career Fellowship 2015-18 on 'Preventing preterm birth, and preventing diabetes in and beyond pregnancy - influence of maternal diets,' mentored by Maria Makrides, SAHMRI.
- Emer Van Ryswyk - 2015 Dean's Commendation for Doctoral Thesis Excellence.

TRAVEL GRANTS

- Emily Bain - Robinson Research Institute and School of Paediatrics and Reproductive Health.
- Emer Van Ryswyk - Healthy Development Adelaide.

STUDENT COMPLETIONS

- Philippa Middleton - PhD - 'Maternal and perinatal research coordinated in Australia: Generation, synthesis, translation, implementation and impact'. Supervisors: Caroline Crowther and Sally Green.
- Emer Van Ryswyk - PhD - 'Improving postpartum healthcare and health outcomes of women with a history of gestational diabetes mellitus.' Supervisors: Caroline Crowther, Philippa Middleton and Bill Hague.
- Zohra Lassi - PhD - 'Health care seeking for maternal and newborn health.' Supervisors: Caroline Crowther, Philippa Middleton and Zulfiqar Bhutta.

Event and Conference Participation

- Caroline Crowther: 'What should be the evidence-based recommendations on the use of single course of antenatal corticosteroids for women at risk of preterm birth be?' PSANZ, Melbourne 2015.
- Bain E, Bubner T, Middleton P, Ashwood P, Van Ryswyk E, Simmonds L, Reid S, Crowther CA: 'Barriers and enablers to implementing the magnesium sulphate for fetal neuroprotection guidelines: a study using the Theoretical Domains Framework.' PSANZ, Melbourne 2015.
- Groom KM, Middleton P, Flenady V, Bain E, Shirley P, Bloomfield FH, Crowther CA, on behalf of the IMPACT Network Strategic Planning Committee: 'What do 'research active' practitioners think about supporting multicentre maternal and perinatal clinical trial research across Australia and New Zealand?' PSANZ, Melbourne 2015.
- Lassi ZS, Middleton PF, Crowther C, Bhutta ZA: 'Interventions to improve neonatal and later survival: An overview of systematic reviews.' PSANZ, Melbourne 2015.
- Van Ryswyk EM, Middleton PF, Hague WM, Crowther C: 'Postpartum SMS reminders to women who have experienced gestational diabetes mellitus to test for type 2 diabetes: the DIAMIND randomised controlled trial.' PSANZ, Melbourne 2015.
- Han S, Middleton PF, Crowther CA: '4 Month follow-up study of weight and body composition for women after receiving lifestyle advice for treatment of borderline gestational diabetes.' PSANZ, Melbourne 2015.
- Zohra Lassi: 'Saving every woman, every child.' Three Minute Thesis, The University of Adelaide.
- Caroline Crowther: 'Developments in management of gestational diabetes.' RANZCOG Scientific Meeting, Wellington, New Zealand.
- Caroline Crowther: 'Glycaemic targets for women with gestational diabetes - The TARGET Trial.' IMPACT Workshop, Melbourne 2015.
- Caroline Crowther: 'The Physician Researcher is a Threatened Species: A Clinician Researcher Perspective reality versus solution.' ACTA, Sydney 2015.
- Philippa Middleton: 'Contribution of Australian maternal and perinatal trials to better health.' ACTA, Sydney 2015.
- WHO Corticosteroid Meeting, Panel Member, Geneva, Switzerland (Caroline Crowther).
- Translating Research into Practice Symposium, Brisbane (Philippa Middleton).
- Cochrane Contributors Meeting, Melbourne (Emily Bain, Philippa Middleton).
- Introduction to Cochrane systematic reviews workshop, Adelaide (Emily Bain, Philippa Middleton).
- Australasian Cochrane Centre Symposium - editors' and trainers' meeting (Emily Bain, Philippa Middleton).
- New Zealand Ministry of Health Guideline Implementation Meeting, Wellington, New Zealand (Caroline Crowther).
- IMPACT Workshop, Melbourne (Caroline Crowther, Emily Bain, Philippa Middleton, Pat Ashwood).
- Cochrane Pregnancy and Childbirth Group Editors' Meeting, Liverpool, UK (Caroline Crowther, Philippa Middleton, Emily Bain).

Publications 2015

1. Bain E, Middleton P, Crowther C. Progressing towards standard outcomes in gestational diabetes Cochrane reviews and randomised trials. Australian and New Zealand Journal of Obstetrics and Gynaecology (accepted November 2015).
2. Bain E, Bubner T, Ashwood P, Van Ryswyk E, Simmonds L, Reid S, Middleton P, Crowther CA. Barriers and enablers to implementing antenatal magnesium sulphate for fetal neuroprotection guidelines: a study using the theoretical domains framework. BMC Pregnancy and Childbirth 2015;15:176.
3. Bain E, Crane M, Tieu J, Han S, Crowther CA, Middleton P. Diet and exercise interventions for preventing gestational diabetes mellitus. The Cochrane Database of Systematic Reviews 2015, Issue 4. Art. No.: CD010443.
4. Brown A, Middleton PF, Fereday JA, Pincombe JI. Cultural safety and midwifery care for Aboriginal women - a phenomenological study. Women and Birth Nov 2015.
5. Brown J, Crawford TJ, Alsweiler J, Crowther C.A. Myo-inositol for preventing gestational diabetes (Protocol). The Cochrane Database of Systematic Reviews 2015, Issue 2. Art. No.: CD011507.
6. Crowther CA, McKinlay CJD, Middleton P, Harding JE. Repeat doses of prenatal corticosteroids for women at risk of preterm birth for improving neonatal health outcomes. The Cochrane Database of Systematic Reviews 2015, Issue 7. Art. No.: CD003935.
7. Crawford TJ, Brown J, Alsweiler J, Martis R, Crowther CA. Different intensities of glycaemic control for women with gestational diabetes mellitus (Protocol). The Cochrane Database of Systematic Reviews 2015, Issue 4. Art. No.: CD011624.
8. Dodd JM, Ahmed S, Karnon J, Umberger W, Deussen AR, Thach T, Grivell RM, Crowther CA, Turnbull D, McPhee AJ, Wittert G, Owens JA, Robinson JS, for the LIMIT Randomised Trial Group. The cost-effectiveness of providing antenatal lifestyle advice for women who are overweight or obese: the LIMIT randomised trial. BMC Obesity 2015;2(14).
9. Dodd JM, Dowswell T, Crowther CA. Reduction of the number of fetuses for women with a multiple pregnancy. The Cochrane Database of Systematic Reviews 2015, Issue 11, Art. No.: CD003932.
10. Doyle LW, Anderson PJ, Haslam R, Lee KJ, Crowther C. School-Age Outcomes of Very Preterm Infants After Antenatal Treatment With Magnesium Sulfate vs Placebo. Obstetrical and Gynecological Survey 2015;70(1):13-15.
11. Flenady V, Wojcieszek AM, Middleton P, David E et al. Stillbirths: Recall to action in high-income countries. Lancet (accepted September 2015).
12. Han S, Middleton PF, Bubner TK, Crowther CA. Women's Views on Their Diagnosis and Management for Borderline Gestational Diabetes Mellitus. Journal of Diabetes Research 2015:Article ID 2092015, 9 pages.
13. Lassi Z, Middleton PF, Crowther CA, Bhutta ZA. Interventions to improve neonatal health and later survival: an overview of systematic reviews. EBioMedicine 2015;2(8):983-98.
14. Manayande A, Cyna AM, Yip P, Chooi C, Middleton P. Non-pharmacological interventions for assisting the induction of anaesthesia in children. The Cochrane Database of Systematic Reviews 2015, Issue 7, Art. No.: CD006447.
15. McBain RD, Crowther CA, Middleton P. Anti-D administration in pregnancy for preventing Rhesus alloimmunisation. The Cochrane Database of Systematic Reviews 2015, Issue 9, Art. No.: CD000020.
16. McKinlay C, Cutfield WS, Battin MR, Dalziel SR, Crowther CA, Harding JE. Cardiovascular Risk Factors in Children After Repeat Doses of Antenatal Glucocorticoids: An RCT. Paediatrics 2015;135(2):e405-e415.
17. Morris JM, Roberts CL, Bowen JR, Patterson JA, Bond DM, Algert CS, Thornton JG, Crowther CA; PPR0MT Collaboration. Immediate delivery compared with expectant management after preterm pre-labour rupture of the membranes close to term (PPROMT trial): a randomised controlled trial. Lancet 2015 Nov 9. pii: S0140-6736(15)00724-2.
18. Ota E, Mori R, Middleton P, Tobe-Gai R, Mahomed K, Miyazaki C, Bhutta ZA. Zinc supplementation for improving pregnancy and infant outcome. The Cochrane Database of Systematic Reviews 2015, Issue 2. Art. No.: CD000230.
19. Rumbold A, Ota E, Nagata C, Shahrook S, Crowther CA. Vitamin C supplementation in pregnancy. The Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD004072.
20. Schneeberger C, Geerlings SE, Middleton P, Crowther CA. Interventions for preventing recurrent urinary tract infection during pregnancy. The Cochrane Database of Systematic Reviews 2015 Issue 7. Art. No.: CD009279.
21. Schulz KF, Altman DG, Moher D, Barbour V, Berlin JA, Boutron I, Devereaux PJ, Dickersin K, Elbourne D, Ellenberg S et al (including Middleton P.). CONSORT 2010 statement: updated guidelines for reporting parallel group randomized trials. Japanese Pharmacology and Therapeutics 2015;43(6):883-91.
22. Siwicki K, Bain E, Bubner T, Ashwood P, Middleton P, Crowther CA. Nonreceipt of antenatal magnesium sulphate for fetal neuroprotection at the Women's and Children's Hospital, Adelaide 2010-2013. Australian and New Zealand Journal of Obstetrics and Gynaecology 2015;55(3):233-238.
23. Spencer L, Bubner T, Bain E, Middleton P. Screening and subsequent management for thyroid dysfunction pre-pregnancy and during pregnancy for improving maternal and infant health. The Cochrane Database of Systematic Reviews 2015 Issue 9. Art No.: CD011263.
24. The Antenatal Corticosteroid Guideline Panel. The Antenatal Corticosteroids Guidelines given to women prior to birth to improve fetal, infant, child and adult health: Clinical Practice Guidelines 2015. The University of Auckland, Liggins Institute., 2015 ISBN 978-0-473-32253-3. http://www.ligginsinstitute.org/ANC_CPG
25. Van Ryswyk EM, Middleton PF, Hague WM, Crowther CA. Postpartum SMS reminders to women who have experienced gestational diabetes to test for Type 2 diabetes: the DIAMIND randomized trial. Diabetic Medicine: A Journal of The British Diabetic Association 2015;32(6):1-9.
26. Van Ryswyk EM, Middleton PF, Hague WM, Crowther CA. Women's views on postpartum testing for type 2 diabetes after gestational diabetes: Six month follow-up to the DIAMIND randomised controlled trial. Primary Care Diabetes 2015: pii: S1751-9918(15)00100-X
27. Van Ryswyk E, Middleton P, Shute E, Hague W, Crowther, C. Women's views and knowledge regarding healthcare seeking for gestational diabetes in the postpartum period: A systematic review of qualitative/survey studies. Diabetes Research and Clinical Practice 2015: pii: S0168-8227(15)00383-6.