



ARCH in 2014



Australian Research Centre for Health of Women and Babies

Highlights for 2014

- **Evidence Synthesis:** 19 high quality new or updated systematic reviews relevant to women and babies' health prepared and published.
- **Randomised Trials:** On-going recruitment to MAGENTA multicentre trial and follow-up for 4 major trials underway, through ARCH's strong national and international trials network.
- **New Grants:** funding for WISH Follow-Up Project (implementation of antenatal magnesium sulphate) from the Cerebral Palsy Alliance, ongoing funding from NHMRC to support Australian Cochrane and Pregnancy and Childbirth review authors, Cerebral Palsy Alliance funding to conduct an overview of reviews on antenatal and postnatal interventions to prevent Cerebral Palsy.
- **South Australian Aboriginal Family Birthing Program Evaluation:** completed with recommendation the program continues.

*Making
a meaningful
difference for
women
and babies*



Highlights for 2014

RANDOMISED TRIALS

Recruitment Phase

- **MAGENTA** (Magnesium sulphate at 30 to 34 weeks' gestational age: neuroprotection trial) funded by a NHMRC project grant - Total of 619 women and 723 babies recruited.
- **DIAMIND** (Postpartum reminders to test for Type 2 diabetes) funded by a HCF grant - Total of 276 women who have experienced gestational diabetes mellitus recruited.

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 ongoing.
- **IDEAL** (Investigation of dietary advice and lifestyle for women with borderline gestational diabetes) - NHMRC project grant - Follow-up of 724 women and children ongoing.
- **PROGRESS** (Progesterone after previous preterm birth for the prevention of neonatal respiratory distress syndrome) - Follow-up of 799 children ongoing.
- **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 ongoing.

Planning Phase

- **My Baby's Movements** (NHMRC funded stepped wedge randomised trial of maternal awareness of fetal movements to prevent stillbirth) with Caroline Crowther and Philippa Middleton investigators.

TRANSLATIONAL HEALTH PROJECTS

- **South Australian Aboriginal Family Birthing Program Evaluation** recommends continuation.
- **WISH** (Working to Improve Survival and Health for babies born very preterm) Project, funded by the Cerebral Palsy Alliance - Recruitment of over 600 women and babies from four sites (Auckland City Hospital, Mater Mothers' Hospital, Royal North Shore Hospital and Women's and Children's Hospital) was completed in November 2014.
- **WISH Follow Up** - funded by the Cerebral Palsy Alliance (2014-2019) has commenced and will monitor the uptake of the antenatal magnesium sulphate guidelines for neuroprotection and assess the effects at 2 to 5 years corrected age.

RESEARCH SYNTHESIS

- **Australia and New Zealand Satellite of the Cochrane Pregnancy and Childbirth Group** - Authors contributed to 6 new protocols, 6 new reviews and 13 updated reviews.
- **AMICABLE** (Antenatal Magnesium Sulphate Individual Participant Data International Collaboration: Assessing the Benefits for Babies using the Best Level of Evidence).
- **PRECISE** (Prenatal Repeat Corticosteroid Individual Participant Data International Collaboration: assessing the effects using the best level of Evidence).

New funding

NHMRC EVIDENCE PANEL FUNDING

- Evidence on the effectiveness of homeopathy for treating health conditions (Philippa Middleton, Emily Bain).
- Evidence on the effectiveness of interventions for caregiving practices and behaviours for optimal social and emotional development of infants (Philippa Middleton, Caroline Crowther, Vicki Flenady, Emily Bain).

Congratulations to our dedicated staff and exceptional 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

Staff and students

Research Leaders and Fellows:

Caroline Crowther,
Philippa Middleton,
Emily Bain,
Tanya Bubner.

Research

Coordination:

Pat Ashwood,
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Kaye Robinson,
Carol Holst.

Postgraduate

Students:

Emily Bain,
Angela Brown,
Shanshan Han,
Emer Heatley,
Zohra Lassi,
Philippa Middleton,
Laura Spencer.

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, WCHRI
- Shanshan Han - Dean's Commendation for Doctoral Thesis Excellence (2014).
- Kasia Siwicki - Perinatal Society of Australia and New Zealand New Investigator Award (2014) for her Oral Presentation 'There aren't too many that get away, are there? Non-receipt of antenatal magnesium sulphate.'
- Emily Bain - Perinatal Society of Australia and New Zealand New Investigator Award (2014) for Poster Symposium Presentation 'Interventions for managing asthma during pregnancy - a Cochrane review.'
- Zohra Kamran - School of Pediatrics and Reproductive Health Prize for Poster Presentation at the 2014 Florey International Postgraduate Research Conference.
- Laura Spencer - Most outstanding Honours student for School of Paediatrics and Reproductive Health, 2014.

TRAVEL GRANTS

- Emily Bain - Perinatal Society of Australia and New Zealand Early Research Career Travel Award; RRI and SPRH Travel Grants; Healthy Development Adelaide Travel Grant.

STUDENT COMPLETIONS

- Shan Han - PhD - 'Dietary and Lifestyle Advice for Women to Prevent and Treat Pregnancy Hyperglycaemia: Identifying and Closing Research Gaps'. Supervisors: Caroline Crowther and Philippa Middleton.
- Laura Spencer - BHSci, First Class Honours, 'Antenatal corticosteroids for women at risk of preterm birth: assessing the translation of research evidence into practice'. Supervisors: Philippa Middleton and Tanya Bubner.

Event and Conference Participation

- Kasia Siwicki: 'There aren't too many that get away, are there? Non-receipt of antenatal magnesium sulphate.' PSANZ, Perth.
- Emily Bain: 'Interventions for managing asthma in pregnancy - a review.' PSANZ, Perth.
- Morven Crane: 'Diet and exercise interventions for preventing gestational diabetes mellitus - a Cochrane review.' PSANZ, Perth.
- Emer Heatley: 'Clinician views and knowledge regarding healthcare provision for gestational diabetes.' PSANZ, Perth.
- Philippa Middleton: 'What impact do Australian perinatal randomised trials have on practice?' PSANZ, Perth.
- Philippa Middleton: 'The Aboriginal Family Birthing Program in South Australia: an evaluation.' PSANZ, Perth.
- Laura Spencer: 'Antenatal corticosteroids use: a survey of current obstetric practice.' PSANZ, Perth.
- Laura Spencer: 'Born too soon.' Robinson Research Institute and HDA Community Event.
- Zohra Lassi: 'Saving every woman, every child.' Three Minute Thesis, The University of Adelaide.
- Emily Bain: 'Progressing towards core outcomes in gestational diabetes. Reporting of perinatal mortality and its components in Cochrane reviews. 22nd Cochrane Colloquium, Hyderabad, India.
- Philippa Middleton: 'Cochrane reviews: linchpins of knowledge translation and impact.' 22nd Cochrane Colloquium, Hyderabad, India.
- Caroline Crowther: 'Prevention of cerebral palsy.' Perinatal Society Meeting of New Zealand, Wellington.
- Caroline Crowther: 'Glycaemic targets for women with gestational diabetes - The TARGET Trial.' IMPACT Workshop, Perth
- Philippa Middleton: 'Survey of research active people.' IMPACT Workshop, Brisbane.
- Philippa Middleton and Karen Glover: 'The Aboriginal Family Birthing Program in South Australia.' RANZCOG Meeting, Adelaide.
- Australian Clinical Trials Alliance Melbourne (Caroline Crowther, Philippa Middleton).
- WHO Preterm Birth Guideline Meeting, Panel Member, Ferney-Voltaire, France (Caroline Crowther).
- Translating Research into Practice Symposium, Brisbane (Philippa Middleton).
- Australasian Diabetes in Pregnancy Society Meeting, Queenstown, New Zealand (Emer Heatley, Caroline Crowther)
- Guideline International Network, Melbourne (Philippa Middleton, Emily Bain).
- IMPACT Workshop in Brisbane (Caroline Crowther, Philippa Middleton, Pat Ashwood).
- The 2014 International Congress on Stillbirth, SIDS and Baby Survival, Amsterdam (Philippa Middleton).

Publications



1. Bain E, Middleton PF, Yelland LN, Ashwood PJ, Crowther CA. Maternal adverse effects with different loading infusions of antenatal magnesium sulphate for preterm fetal neuroprotection: the IRIS randomised trial. *BJOG* 2014;121(5):595-603.
2. Bain E, Pierides, KL, Clifton VL, Hodyl NA, Stark MJ, Crowther CA, Middleton P. Interventions for managing asthma in pregnancy. *Cochrane Database Syst Rev* 2014, Issue 10.
3. Bain E, Wilkinson D, Middleton P, Crowther CA, Dickinson H, Walker DW. Creatine for women in pregnancy for neuroprotection of the fetus (Protocol). *Cochrane Database Sys Rev* 2014, Issue 11.
4. Bain E, Wilson A, Tooher R, Gates S, Davis LJ, Middleton P. Prophylaxis for venous thromboembolic disease in pregnancy and the early postnatal period. *Cochrane Database Syst Rev* 2014, Issue 2.
5. Costi D, Cyna AM, Ahmed S, Stephens K, Strickland P, Ellwood J, Larsson JN, Chooi C, Burgoyne LL, Middleton P. Effects of sevoflurane versus other general anaesthesia on emergence agitation in children. *Cochrane Database of Systematic Reviews* 2014, Issue 9
6. Crowther CA, Brown J, McKinlay CJ, Middleton P. Magnesium sulphate for preventing preterm birth in threatened preterm labour. *Cochrane Database Syst Rev* 2014, Issue 8.
7. Dalziel SR, Crowther CA, Harding JE. Antenatal corticosteroids 40 years on: we can do better. *Lancet* 2014; pii: S0140-6736(14)60722-4.
8. Dodd JM, Cramp C, Sui Z, Yelland LN, Deussen AR, Grivell RM, Moran LJ, Crowther CA, Turnbull D, McPhee AJ, Wittert G, Owens JA, Robinson JS. The effects of antenatal dietary and lifestyle advice for women who are overweight or obese on maternal diet and physical activity: the LIMIT randomised trial. *BMC Medicine* 2014;12(1):161.
9. Dodd JM, McPhee AJ, Turnbull D, Yelland LN, Deussen AR, Grivell RM, Crowther CA, Wittert G, Owens JA, Robinson JS. The effects of antenatal dietary and lifestyle advice for women who are overweight or obese on neonatal health outcomes: the LIMIT randomised trial. *BMC Medicine* 2014;12(1):163.
10. Dodd JM, Deussen AR, Grivell RM, Crowther CA. Elective birth at 37 weeks' gestation for women with an uncomplicated twin pregnancy. *Cochrane Database Syst Rev* 2014, Issue 2.
11. Dodd JM, Turnbull D, McPhee AJ, Deussen AR, Yelland LN, Crowther CA, Wittert G, Owens JA, Robinson JS, for the LIMIT Randomised Trial Group. Antenatal lifestyle advice for women who are overweight or obese: LIMIT randomised trial. *BMJ* 2014;348:g1285.
12. Dodd JM, Turnbull D, McPhee AJ, Deussen AR, Grivell RM, Yelland LN, Crowther CA, Wittert G, Owens JA, Robinson JS, for the LIMIT Randomised Trial Group. Antenatal lifestyle advice for women who are overweight or obese: LIMIT randomised trial. *Obstetrical & Gynecological Survey* 2014;69(6):311-313.
13. Doyle LW, Anderson PJ, Haslam R, Lee KJ, Crowther C. School-age outcomes of very preterm infants after antenatal treatment with magnesium sulphate vs placebo. *JAMA* 2014;312(11):1105-13.
14. Ganchimeg T, Morisaki N, Vogel JP, Cecatto JG, Barrett J, Jayaratne K, Mittal S, Ortiz-Panoso E, Souza JP, Crowther C, Ota E, Mori R, for the WHO Multicountry Survey Maternal and Newborn Health Group. Mode and timing of twin delivery and perinatal outcomes in low- and middle- income countries: a secondary analysis of the WHO Multicountry Survey on Maternal and Newborn Health. *BJOG* 2014;121:89-100.
15. Gill MG, Nguyen TMN, Bain E, Crowther CA, Middleton P. Home versus hospital glucose monitoring for gestational diabetes during pregnancy (Protocol). *Cochrane Database Syst Rev* 2014, Issue 4.
16. Grzeskowiak LE, Dekker G, Rivers K, Roberts-Thomson K, Roy A, Smith B, Bowden J, Bryce R, Davies M, Beilby J, Wilson A, Middleton P, Ruffin R, Karnon J, Clifton VL, for the AAMS Study Group. A randomized controlled trial to assess the clinical and cost effectiveness of a nurse-led Antenatal Asthma Management Service in South Australia (AAMS study). *BMC Preg Childbirth* 2014;14.
17. Lambert P, Cyna AM, Knight N, Middleton P. Clonidine premedication for postoperative analgesia in children. *Cochrane Database Syst Rev* 2014, Issue 1.
18. Makrides M, Crosby DD, Bain E, Crowther CA. Magnesium supplementation in pregnancy. *Cochrane Database Syst Rev* 2014, Issue 4.
19. McNamara H, Brown J, Crowther C. Different treatment regimens for magnesium sulphate for tocolysis in women in preterm labour for improving health outcomes (Protocol). *Cochrane Database Syst Rev* 2014, Issue 7.
20. Middleton P. Gestational diabetes: higher animal protein intake during pregnancy is associated with increased risk, and higher vegetable protein intake with decreased risk. *Evid Based Nurs* 2014;17(3):75.
21. Middleton P, Crowther CA. Reminder systems for women with previous gestational diabetes mellitus to increase uptake of testing for type 2 diabetes or impaired glucose tolerance. *Cochrane Database Syst Rev* 2014, Issue 3.
22. Netting MJ, Middleton PF, Makrides M. Does maternal diet during pregnancy and lactation affect allergy outcomes in their offspring? A systematic review of food based approaches. *Nutrition* 2014 Nov-Dec; 30(11-12):1225-41. doi:10.1016/j.nut.2014.02.015. Epub 2014 Mar 12.
23. Ota E, Ganchimeg T, Morisaki N et al., for the WHO Multicountry Survey Maternal Group (including Crowther CA). Risk factors and adverse perinatal outcomes among term and preterm infants born small-for-gestational age: secondary analyses of the WHO Multi-Country Survey on Maternal and Newborn Health. *PLOS One* 2014;9(8):e105155.
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25. Spencer L, Bubner T, Bain E, Middleton P. Screening and subsequent management for thyroid dysfunction pre-pregnancy, during pregnancy, and in the immediate postpartum period (Protocol). *Cochrane Database Syst Rev* 2014, Issue 8.
26. Tieu J, McPhee AJ, Crowther CA, Middleton P. Screening and subsequent management for gestational diabetes for improving maternal and infant health. *Cochrane Database Syst Rev* 2014, Issue 2.
27. Van Ryswyk E, Middleton P, Hague W, Crowther C. Clinician views and knowledge regarding healthcare provision in the postpartum period for women with recent gestational diabetes: A systematic review of qualitative/survey studies. *Diabetes res Clin Pract* 2014; pii: S0168-8227(14)00396-9.