1. Key Areas of Research

- **Severe Neonatal Jaundice**: national surveillance and neurodevelopmental follow-up studies of babies with severe jaundice.
- **High Flow trial**: High Flow nasal cannula for weaning preterm infants from CPAP - pilot study.
- **Sudden Unexpected Early Neonatal Death** or collapse in previously healthy term infants in the first 7 days of life: national surveillance for 3 years to establish the incidence, risk factors and aetiology for sudden unexpected death or collapse in Australia.
- **New methods using air displacement plethysmography to define neonatal body composition** in order to prevent immediate and long term poor outcomes.
- **Perinatal and infant mortality** – translating evidence into practice to prevent death due to neonatal and perinatal infection in four South East Asian countries.
- **The prevalence and perinatal outcomes of gestational diabetes** in an urban setting in Vietnam: a Prospective cohort study.
- **Low Systemic blood flow in preterm babies study**: NHRMC funded collaborative study with Centre for Perinatal Research, Brisbane and Royal North Shore Hospital.
- **Early detection of congenital heart disease**: review of impact of early oxygen saturation screening and clinician performed cardiac ultrasound in early detection of congenital heart disease.

**Diagnostic tests**

- Accuracy of Point of Care Devices (POC) for detection of hypoglycaemia in newborn infants
- Accuracy of Finapres and Philips non-invasive blood pressure measurement device in neonates

**Randomised trials**

- **HiFlow Study**: High flow nasal cannula for weaning in preterm infants from CPAP Trial
- **APTS trial**: Australian Placental Transfusion Study
- **Australian Placental Transfusion Study – Echocardiographic substudy**
- **A study of the impact of treating electrographic seizures in term or near-term infants with neonatal encephalopathy** (*NEST study*)
- Investigating the effects of probiotics on late onset sepsis in very preterm infants (*Neonatal Probiotic Study “ProPrems”*)
- **The ProPrems Neuro Study**: Investigating the effects of probiotics on the neurodevelopmental outcomes of preterm infants

**Stillbirth**
- **Sydney Stillbirth Study** – population based case control study of risk factors for late pregnancy stillbirth completed Dec 2011 that recruited from 9 Sydney hospitals.
- **NHMRC Stillbirth Investigations study** – Large scale prospective cohort study across 27 maternity hospitals in Australia that aims to improve the quality of data on stillbirths through identifying a cost-effective, evidence-based approach to stillbirth investigations.
- **NSW Population based data linkage studies** that assessed risk factors for stillbirth and stillbirth recurrence in New South Wales.
- Co-author on *Lancet Stillbirth Series*

2. **Key Achievements, 2012**
   * PhD awarded – Adrienne Gordon

3. **Staff Engaged in Research**
   * Dr Angela McGillivray, Neonatology Fellow RPAH. PhD candidate University of Sydney (Severe Neonatal Jaundice)
   * Tracey Lutz. RPAH Department of Newborn Care and NETS Staff Specialist, University of Sydney
   * Dr Himanshu Popat, Research Fellow, Low Systemic Blood Flow Study.
   * Dr Adrienne Gordon, Staff Specialist and Senior Clinical Lecturer
   * Prof Heather Jeffery, Clinical Academic Neonatologist, RPAH
   * A/Prof Nick Evans, Head of Department
   * A/Prof David Osborn, Director of NICU
   * Dr Sandie Bredermeyer, Clinical Nurse Consultant
   * Ms Shelley Reid, CNC, Audit

4. **Prestigious Awards / Medals, 2012**
   * PSANZ New Investigator Award – 2011 Adrienne Gordon
   * Commendation in Deans Prize for student publication 2012 Adrienne Gordon

5. **Publications, 2011/2012**

• Evans N. Diagnosis of the preterm patent ductus arteriosus: clinical signs, biomarkers, or ultrasound? Seminars in Perinatology 2012;36:114-22

• Evans N. Hyett JA. Haemodynamics edition of seminars in fetal and neonatal medicine. Seminars In Fetal & Neonatal Medicine. 2011;16:1


• Abdel-Latif ME. Osborn DA. Nebulised surfactant in preterm infants with or at risk of respiratory distress syndrome. Cochrane Database of Systematic Reviews. 10:CD008310, 2012.


• Abdel-Latif ME. Osborn DA. Laryngeal mask airway surfactant administration for prevention of morbidity and mortality in preterm infants with or at risk of respiratory distress syndrome. Cochrane Database of Systematic Reviews. (7):CD008309, 2011.

• Abdel-Latif ME. Osborn DA. Intratracheal Clara cell secretory protein (CCSP) administration in preterm infants with or at risk of respiratory distress syndrome. Cochrane Database of Systematic Reviews. (5):CD008308, 2011.


• Angela E Carberry, Camille H Raynes-Greenow, Robin M Turner, Heather E Jeffery. Breast feeding within the first hour compared to more than one hour reduces risk of early onset feeding problems in term neonates: a cross-sectional study. In press, Letter to the editor Breastfeeding Medicine 2013 In press
• Walton M, Van Staalduinen S, Klein L, Jeffery HE. When should students learn about ethics, professionalism and patient safety? Clinical Teacher (in press 2013).


• Gordon, Adrienne; Lahra, Monica; Raynes-Greenow, Camille; Jeffery, Heather. Histological chorioamnionitis is increased at extremes of gestation in stillbirth: a population-based study Infectious Diseases in Obstetrics & Gynecology 2011: 456728

• Flenady, Vicki; Koopmans, Laura; Middleton, Philippa; Froen, J. Frederik; Smith, Gordon C.; Gibbons, Kristen; Coory, Michael; Gordon, Adrienne; Ellwood, David; McIntyre, Harold David; Fretts, Ruth; Ezzati, Majid. Major risk factors for stillbirth in high income countries: a systematic review and meta-analysis Lancet 2011; 377: 1331–40


• Gordon A, Raynes-Greenow C, Morris J, Jeffery H. Re: Pregnant women deserve better research than this. Letter to editor BMJ Published online June 2011.


6. **Research Grants commencing in 2011/2012**

    See table below for completion.

7. **PhD students supervised**

<table>
<thead>
<tr>
<th>STUDENT NAME</th>
<th>PRIMARY SUPERVISOR, INSTITUTION (if outside RPAH)</th>
<th>SUPERVISOR, INSTITUTION (if outside RPAH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr A McGillivray</td>
<td>A/Prof N Evans</td>
<td>Prof Nadia Badawi Maquarie Group Foundation Chair of Cerebral Palsy (University of Notre Dame) and Head of Neonatology, The Children's Hospital Westmead</td>
</tr>
<tr>
<td>Dr Himanshu Popat</td>
<td>A/Prof N Evans</td>
<td>A/Prof David Osborn</td>
</tr>
<tr>
<td>Dr Adrienne Gordon (2011)</td>
<td>Prof Heather Jeffery</td>
<td>Prof Jonathan Morris Director Kolling Institute of Medical Research St Leonards NSW</td>
</tr>
<tr>
<td>Dr Jane Hirst</td>
<td>Prof Heather Jeffery</td>
<td>Prof Jonathan Morris Director Kolling Institute of Medical Research St Leonards NSW</td>
</tr>
<tr>
<td>Angela Carberry</td>
<td>Prof Heather Jeffery</td>
<td>Dr Camille Raynes-Greenow, Sydney School Public Health, University Sydney</td>
</tr>
<tr>
<td>Dr Tracey Lutz</td>
<td>Prof Heather Jeffery</td>
<td>A/Prof David Osborn</td>
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<tr>
<td>Karen Garlan</td>
<td>Prof Heather Jeffery</td>
<td>Dr Linda Klein, Sydney School Public Health, University Sydney</td>
</tr>
<tr>
<td>Dr Katherine Carmo</td>
<td>A/Prof Nick Evans</td>
<td>Prof Nadia Badawi Maquarie Group Foundation Chair of Cerebral Palsy (University of Notre Dame) and Head of Neonatology, The Children's Hospital Westmead</td>
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## Attachment: Research Grants commencing in 2011/2012

<table>
<thead>
<tr>
<th>GRANTING BODY</th>
<th>Awardees</th>
<th>Project Title</th>
<th>Years</th>
<th>$ Total</th>
</tr>
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<tbody>
<tr>
<td>Stillbirth Foundation Australia</td>
<td>Adrienne Gordon, Camille RaynesGreenow, Heather Jeffery, Jonathan Morris</td>
<td>The Sydney Stillbirth Study</td>
<td>2011</td>
<td>$75,000</td>
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<tr>
<td>Stillbirth Foundation Australia</td>
<td>Camille RaynesGreenow, Adrienne Gordon, Jonathan Morris</td>
<td>Pilot randomised trial of a sleep intervention in late pregnancy to reduce stillbirth</td>
<td>2012</td>
<td>$72,000</td>
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<tr>
<td>NHMRC</td>
<td>A/Prof Vicki Flenady; Dr Glenn Gardener; Prof David Ellwood; A/Prof Adrian Charles; A/Prof Michael Coory; Dr Louisa Gordon; A/Prof Kassam Mahomed; Prof Yee Khong; Dr Adrienne Gordon; A/Prof Alison Kent</td>
<td>Investigating the causes of stillbirth; a prospective cohort study examining use and effectiveness of a comprehensive investigation protocol</td>
<td>2012-2014</td>
<td>$547,634</td>
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<td>Public Sector Linkages Program Grant (PSLP)</td>
<td>Kirsty Foster, Heather Jeffery, Elizabeth Elliott, Jonathan Morris, Jane Hirst, Monica Lahra, Cathy Adams</td>
<td>Educational initiatives to improve maternal, neonatal and childhood outcomes in Dien Bien Province, Viet Nam.</td>
<td>2012-2013</td>
<td>$242,000</td>
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<tr>
<td>Marie Stopes International</td>
<td>Trevena L, Jeffery HE, Martins N, Black K.</td>
<td>Review of Marie Stopes International Timor Leste’s partnership model with the Ministry Health’s SISCa program in Timor-Leste.</td>
<td>2012-2013</td>
<td>$60,000</td>
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<tr>
<td>Grant Source</td>
<td>Principal Investigators</td>
<td>Project Title</td>
<td>Year</td>
<td>Funding</td>
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<td>AusAID ALAF grant</td>
<td>Sitharthan G, <strong>Jeffery HE</strong>, Sitharthan R</td>
<td><strong>MAKING A DIFFERENCE:</strong> A Pilot Leadership Development Program to Promote Maternal and Child Health in Myanmar (Burma)</td>
<td>2011</td>
<td>$176 000</td>
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<tr>
<td>University of Sydney</td>
<td>McEwan A, Atai J, <strong>Jeffery HE</strong></td>
<td>Dynamic wavefront shaping development</td>
<td>2012</td>
<td>$30 000</td>
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<tr>
<td>Grand Challenges Explorations Round 7, Bill and Melinda Gates Foundation.</td>
<td>Shu Ning Bian, Alistair McEwan and <strong>Heather Jeffery</strong></td>
<td>Malnutrition and neonatal body composition assessment for under $1,</td>
<td>2011-2013</td>
<td>US $100 000</td>
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<tr>
<td>NHMRC</td>
<td>Green S, <strong>Jeffery HE</strong>, Lahra M, McDonald S, Macenzie J</td>
<td>South East Asia-Using Research for Change in Hospital-acquired Infection in Neonates SEA URCHIN project</td>
<td>2011-2015</td>
<td>$2 100 000</td>
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<tr>
<td>International Program Development Fund, USydney</td>
<td>Black K and <strong>Jeffery HE</strong></td>
<td>Access and availability of family planning in Port Moresby PNG</td>
<td>2011</td>
<td>$15 000</td>
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<tr>
<td>NHMRC</td>
<td>Prof William O Tarnow-Mordi, A/Pr Nick Evans, Prof John P Newnham, <strong>A/Prof David A Osborn</strong>, Prof David Isaacs, A/Pr Karen Simmer et al.</td>
<td>Australian Placental Transfusion Study. NHMRC grant # 571309: Australian Placental Transfusion Study (APTS)</td>
<td>2011-2015</td>
<td>$2696700</td>
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<tr>
<td>NHMRC</td>
<td>Dr Barbara E Lingwood, Prof Paul B Colditz, E/Pr Eugenie R Lumbers, A/Pr Nicholas J Evans, <strong>A/Prof David A Osborn</strong></td>
<td>Low systemic blood flow in preterm infants NHMRC grant #569635</td>
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<td>$758750</td>
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<tr>
<td>Department of Health and Aging grant: Grant number ITA 318/0809;</td>
<td><strong>A/Prof David Osborn</strong></td>
<td>Australian Cochrane Neonatal Support Group.</td>
<td>2009-2011</td>
<td>$180 000</td>
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<td>NHMRC</td>
<td><strong>A/Prof David Osborn</strong></td>
<td>Australian Cochrane Neonatal Support Group. RIMS Project # 2013-01632</td>
<td>2013-2016</td>
<td>$179 982</td>
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<tr>
<td>NHMRC</td>
<td>Dr Rod Hunt, Prof Paul Colditz, A/Prof Terrie Inder, Prof Nadia Badawi, Prof Karen Simmer, Dr Helen Liley, A/Prof David Osborn, Dr Jeanie Cheong, Dr Ian Wright</td>
<td>NHMRC Project Grant Application: 1006053 A study of the impact of treating electrographic seizures in term or near-term infants with neonatal encephalopathy.</td>
<td>$1,301,309.60</td>
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