

## NHMRC Project Grant Outcomes 2008 – University of Newcastle

<i>Title/First Name</i>	<i>Surname</i>	<i>Project Title</i>	<i>Awarded</i>	<i>NHMRC ID</i>	<i>Project Summary</i>
A/Prof Amanda	Baker	Long term follow-up of two randomised controlled trials of treatment for depression and alcohol/other drug comorbidity	\$244,150	510700	This study proposes the long term follow-up of participants in two of the first and largest studies of psychological treatment for people with co-occurring depression and alcohol/other drug use problems ever conducted. This is a crucial next step in research on the effectiveness of psychological treatment among this highly prevalent yet often neglected section of the community.
Prof Julie	Bytes	Tracking the impact of drug regulatory actions: consumer health outcomes, risk-benefit issues and policy framework	\$421,000	510724	This study will explore what happens in the community when a medicine is withdrawn from the market or discredited due to safety concerns. It will examine the impacts of two recent cases of medicine withdrawal or serious long-term safety concern, on a large cohort of women with high utilisation rates who were monitored during the time the medicines were discredited. The study will be an important guide to future regulatory, media and provider responses when medicines are discredited.
Prof Trevor	Day	Dopamine mechanisms conferring resilience to depression: A new antidepressant target	\$531,750	510782	A significant proportion of people who suffer depression fail to obtain effective relief from either drugs or psychotherapy. Accordingly, there is a pressing need to develop new, and more effective, treatments. This project will determine whether certain specific brain pathways that use the transmitter dopamine can be manipulated in their activity so as to increase resilience to depression. This work has potential to provide the foundation for the development a new generation of antidepressants.
Dr Christopher	Dayas	Brain Pathways Underlying Vulnerability to Drug Relapse	\$466,000	510778	Addiction to drugs is a major health and social burden for Australian society. Once addiction is established, prevention of relapse is the most significant obstacle to successful treatment. Unfortunately, efficacious pharmaceutical options to treat relapse are lacking. By employing an animal model of relapse that accurately reflects drug taking in humans the proposed project aims to advance our understanding of the brain mechanism underlying addiction.

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Prof Sandra	Eades	Yr 4 & 5 of a randomised controlled trial of an intensive intervention to reduce smoking among pregnant Indigenous women	\$314,875	510771	Rates of smoking in pregnancy are significantly higher among Indigenous women than other Australian women (65% vs 20%). This application is to continue the first ever trial of an intensive program of smoking cessation advice provided to women and their major family supports designed to reduce smoking rates among Indigenous women in pregnancy. This project has already been running successfully for two years, however, further funds are required to complete years four and five of the project.
Prof John	Forbes	Prevention of late breast cancer (BC) events in postmenopausal women with endocrine responsive BC.	\$4,430,875	510787	<p>This proposal is from Australia's national breast cancer (BC) trials group, the ANZ BCTG, for a new phase III, multi-centre clinical trial evaluating whether much later endocrine therapy with an aromatase inhibitor can prevent BC recurrence in postmenopausal women who have: had hormone sensitive BC at least 6 years ago; were treated by Tamoxifen more than 1 year ago; and, are currently disease free.</p> <p>Subjects will randomly receive letrozole or placebo as a daily tablet for five years.</p>
Prof John	Forbes	Tailored Treatments for Premenopausal Women with Endocrine Responsive Breast Cancer	\$287,000	510788	For women <50yrs with ER+ breast cancer adjuvant treatment (AT) with chemotherapy (CT), tamoxifen and ovarian function suppression (OFS) are each effective and reduce recurrence. Combining 2 treatments is more effective than 1, but it is unclear if combining 3 provides any extra benefit. 2 trials, SOFT & TEXT, aim to answer this question. SOFT tests the benefit of adding OFS for very young women who remain premenopausal after CT, TEXT is for women who should receive OFS from the start of AT.

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Prof Paul	Foster	The role of microRNAs as new anti-inflammatory targets for the treatment of asthma	\$600,375	510714	Asthma is a significant health and economic burden to our society and its prevalence has increased over the last 25 years. New ways of treating asthma are urgently required as current therapeutics treat the symptoms and not the cause of the disease. Asthma is widely thought to be due to the abnormal accumulation of white blood cells (inflammation) in the lungs of diseased individuals. In this project we are exploring new advanced ways to inhibit inflammation and the development of disease.
Prof Paul	Foster	The mechanisms underlying pneumoviral-induced angiogenesis of the lung and its impact on the asthmatic response	\$541,875	510715	Asthma, is a serious respiratory disease resulting in structural changes to the lung and breathing difficulties, and is often compounded by respiratory viruses. We have shown that viral infection of newborn mice causes the growth of new blood vessels in the lungs (a feature seen in human asthmatics). This project will investigate the mechanisms involved and determine the potential of this feature as a therapeutic target.
Prof Paul	Foster	Targeting the shared beta-chain of the IL-3, IL-5 and GM-CSF receptors as therapy for allergic inflammation	\$585,375	510716	This research aims to develop new treatments for allergic diseases such as asthma and allergic rhinitis, which remain significant public health problems in Australia. We will develop therapies targeting a common receptor pathway with the potential to completely suppress acute and chronic disease whilst maintaining a single molecular target. We will perform preclinical testing of antibodies for treatment of allergic disorders using a novel mouse strain expressing the human form of this receptor
Prof Eugenie	Lumbers	The role of the intrauterine (pro) renin/(pro)renin receptor system in prostaglandin synthesis in pregnancy.	\$468,750	510746	Preterm birth is associated with a very high incidence of infant disability and mortality. This has long term economic and social costs to the Australian people. We will demonstrate that in late gestation, the intrauterine (pro)renin renin receptor system controls prostaglandin synthesis by the fetal membranes and the placenta. Prostaglandins can cause premature labour.

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Dr Eileen	McLaughlin	Xenobiotics - oxidative stress in the mammalian ovary	\$362,625	510735	Synthetic chemicals called xenobiotics in the environment are capable of interfering with female fertility. Xenobiotics can trigger oocyte depletion of the ovary and infertility. Exhaustion of the oocyte population results in the menopause, loss of ovarian hormones and profoundly affects female health through increasing susceptibility to heart and bone disease. This research will characterise xenobiotic effects on the ovary and will lead to significant advances in reproductive healthcare.
Dr Mark	Parsons	Low-Dose Tenecteplase vs Standard-Dose Alteplase for Acute Ischaemic Stroke: An Imaging Based Safety and Efficacy Study	\$335,500	510722	This study compares standard dose alteplase (a proven stroke thrombolytic) with a low dose of the new medication tenecteplase for stroke treatment. We propose that the clot-dissolving activity of low-dose tenecteplase will be superior to alteplase, with a lower risk of brain bleeding. MRI scanning is the most effective way of assessing outcomes and will be used to measure how well the medication restores blood flow, the amount of permanent brain damage, and whether any brain bleeding occurs.
Dr Simon	Phipps	Pneumovirus infection in infancy affects the development of life-long adaptive immunity	\$392,125	510718	Respiratory syncytial virus is the most important cause of acute lower respiratory tract infection (RTI) in young children worldwide. Hospital admission rates in Western societies for RTIs are around 3% for children younger than 1 year. A vaccine to RSV is not yet available and repeat infections occur throughout life, suggesting that the immune response does not develop correctly. In this project we are exploring the mechanisms that underpin disease development and promote incomplete immunity.
Prof Robert	Sanson-Fisher	Increasing appropriate screening for colorectal cancer patients and first degree relatives. A RCT	\$1,303,750	510776	Adoption of guideline recommendations is difficult to achieve. This research aims to improve adherence to guideline recommendations for surveillance for people with colorectal cancer and screening in their first degree relatives using an educational intervention. People with colorectal cancer and their first degree relatives will be randomly assigned to an educational intervention or to usual care, and adherence to guideline recommendations will be compared between groups.

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Dr Peter	Wark	The mechanisms of infection of bronchial epithelial cells by human & avian influenza viruses in chronic airways disease	\$379,650	510762	Influenza is an important infection that causes disease every year in the Australian population. People with lung disease are at particular risk to its effects. The ability of the virus to grow in birds and change its appearance to our immune system allows this virus to cause severe disease every year. We will examine the immune response to this virus in human cells, comparing this response to human and bird strains of the virus and see why subjects with lung disease are more susceptible.
Dr Lisa	Wood	High fat diets and airway inflammation in asthma	\$490,803	510727	This project examines how high fat diets affect inflammation and asthma outcomes. Research regarding the relationship between asthma and obesity is inconclusive. This project examines high fat intake as an initiator of both these conditions. We explore statins as a treatment for diet-induced inflammation. By increasing our understanding of how fat affects inflammation, we will be able to plan a dietary approach to improve asthma outcomes.
Dr Ming	Yang	Innate immune factors regulate steroid-resistant airways hyperreactivity and asthma	\$503,250	510717	Infection induced asthma is often difficult to manage because of lack of efficacy of steroid treatment. The innate immune system plays an important role in inflammation associated with infection. I have shown that two innate immune factors, IFN-gamma and lipopolysaccharide (LPS), induce airways hyperreactivity that is resistant to steroid therapy in a mouse model. Identification of how this pathway works may help in the treatment of infection induced steroid-resistant difficult to manage asthma.