Human Research Ethics Committee

Project Summaries for Approved Proposals

April to June 2014 Quarter

Project summaries for proposals approved by the Department of Health Human Research Ethics Committee – April to June 2014 quarter

The material contained in this document is made available to assist researchers, institutions and the general public in searching for projects that have ethics approval from the Department of Health Human Research Ethics Committee. It contains lay description/summaries available for the April to June 2014 quarter.

Project Title	Western Australian safety and quality point prevalence survey 2014		
Principal Investigator	Dr Amanda Ling		
Institution	Department of Health		
Start Date	1 May 2014	Finish Date	31 December 2014

This project will comprise of a survey. Patients within each activity-based funded WA Health hospital will be invited to take part in the survey in May 2014. The survey is to determine the prevalence of a number of conditions and associated management measures (i.e. documentation, risk assessment, and preventative management) in the priority areas of: pressure injuries; falls prevention; healthcare associated infections; medication management and safety; venous thromboembolism prevention; and patient identification.

Analyses of the data derived from this survey will focus on trends across WA using a number of categories, including: hospital type, age, sex, indigenous status, geographical location, socio-economic measures, history of disease, length of stay, admission characteristics, and pre-existing conditions.

Project Title	An audit of the outcomes of Western Australian patients undergoing peritonectomy (+/-heated intra-peritoneal chemotherapy -HIPEC).		
Principal Investigator	Dr David Ransom		
Institution	Department of Health		
Start Date	1 January 2014	Finish Date	31 March 2015

Peritonectomy is a complex surgical procedure where visible malignant tumours are stripped from the intra-abdominal surfaces. This can be coupled with intra-peritoneal or intravenous chemotherapy administered post-operatively. The surgical procedure itself is lengthy (up to 12 hours). There are multiple indications for the surgery, but the evidence of benefit to patients varies.

Currently, the procedure is unavailable in WA and WA patients receive this treatment in NSW. The Director-General has indicated his support for the (re-)establishment of a peritonectomy service in WA.

This study will review the WA patients' whose disease has previously been managed by peritonectomy and identify factors associated with favourable and unfavourable outcomes. The factors identified will inform inclusion and exclusion criteria to assist patient selection for peritonectomy services in WA.

Project Title	**Predicting emergency department demand in Western Australia**
Principal Investigator	Dr Qun (Bella) Mai
Institution	Department of Health

Start Date	12 March 2014	**Finish Date**	31 March 2016

Background: The Health care system faces significant challenges with the high and continuing rise in demand and costs. Overcrowding in emergency department (ED) is an indicator that the health care system fails to cope with the demand. To be able to accurately predict future ED demand is critical and the first step is to develop strategies that set priority and rationale resource allocation to avoid ED overcrowding and access block, improve safety and quality of care, manage demand effectively and ensure the sustainability of the health care system. The purposes of this project are to predict ED demand in Western Australian (WA) in the next 10 years stratified by age group, disposition, triage and place of residence, and to compare different methods for modelling and forecasting ED demand.

Methods: Ten-year historical monthly ED data for all public hospitals with an ED in WA will be modelled using two time series analysis (TSA) techniques – univariate and multivariate. Modelling strategies will include three stages. Firstly, the Box-Jenkins method of univariate TSA will be used to identify the best fit Autoregressive Integrated Moving Average (ARIMA) model to obtain the overall forecasts of ED demand. Secondly, multivariate TSA will be employed to develop the best Vector Autoregressive Moving-Average (VARMA) model taking into account multiple time-series matrix to obtain the forecasts of ED demand by categories. Thirdly, the two best models will be compared to determine which one provides a better forecast based on accuracy tests.

Expected outcomes: ED demand in WA is expected to increase rapidly in the next 10 years, with the greatest growth in older, triage 3, admitted and outer metropolitan area cohorts. This will require proactive and integrated system-wide strategies for disease and injury prevention and control to ensure the safety, effectiveness, efficiency and sustainability of the health care system.

Project Title	**The epidemiology, risk factors and economic costs of severe bacterial lower limb cellulitis in Western Australia**
Principal Investigator	Dr Laurens Manning
Institution	Fremantle Hospital

Start Date	1 June 2014	**Finish Date**	1 June 2018

Lower limb bacterial cellulitis (LLBC) is a common, recurring, bacterial infection that is a cause for emergency visits or admissions to ambulatory care services. There are substantial costs associated with cellulitis with an episode of hospitalisation costing between $5,000-10,000 per admission. In Western Australia, little is known of the overall burden and economic costs to the health system. The few international studies of LLBC disease burden and epidemiology vary by 100 fold, so may not reflect the situation in WA. In this study we aim to describe the epidemiology and risk factors for LLBC using the WA Data Linkage System. Understanding the epidemiology of LLBC will allow emergency departments and ambulatory care services to refine workforce planning and will allow us to estimate how effective potential interventions may be in the future.

Project Title	Morphology and molecular profiling of interval colorectal cancers: Is procedural quality or altered biology responsible?
Principal Investigator	Dr Hooi Ee
Institution	Department of Health

Start Date	1 November 2013	Finish Date	1 November 2018

Bowel cancer is a major public health issue. However, when diagnosed at an early stage, the prognosis has significantly improved over recent decades with a large proportion of patients being cured. Colonoscopy is the best test for diagnosing and preventing bowel cancer through the removal of pre-cancerous lesions, called polyps. However, a small risk of developing bowel cancer remains after having a colonoscopy. Previous studies have shown that this risk is between 2.9-7.9%. These cancers are termed interval colorectal cancers.

We aim to determine the proportion of individuals in WA with a diagnosis of bowel cancer who have had a colonoscopy within 3 years of the diagnosis being made. We then aim to determine if these cancers are biologically different to the bowel cancers detected in individuals who have not had a previous colonoscopy. Determining if bowel cancers that are detected after a complete colonoscopy are due to poor procedural skills or relate to the cancer having a different, more aggressive biology has important implications for both future endoscopy training and bowel cancer screening programs.

Project Title	Health seeking behaviours and knowledge of infectious disease risks in Western Australian travellers to Asia
Principal Investigator	Dr Paul Effler
Institution	Department of Health

Start Date	15 April 2014	Finish Date	15 April 2015

The aim of the project is to understand the knowledge and attitudes of Perth travellers regarding to how to reduce exposure to infectious diseases while abroad in Asia. Specifically, the aim is to assess how knowledgeable/concerned travellers are about the need to avoid mosquito bites, monkey bites, high risk food/beverages, and the need to be sure one has been vaccinated against measles. The project aims to identify the best ways to reach future travellers with health promotion messages, for example, 'what proportion of these travellers see a travel clinic doctor or GP prior to departure, what proportion get their information principally from travel agents or websites?'.

Project Title	An international collaboration for autism registry epidemiology: multinational investigations of autism risk factors and trends (MINERvA)		
Principal Investigator	Professor Helen Leonard		
Institution	Telethon Kids Institute		
Start Date	1 June 2014	Finish Date	31 July 2017

Autism Spectrum Disorder (ASD) is a developmental disorder characterised by impairments in social abilities and communication, and by restricted or repetitive interests. ASD is thought to be caused by both genetic and environmental factors, but the interaction of these two factors is unknown. Small-scale research has shown that ASD in children is associated with older parental ages and this has also been observed in other psychiatric disorders such as schizophrenia. ASD also has been seen to co-occur in individuals or families who have certain medical comorbidities such as type 1 diabetes, epilepsy, celiac disease and rheumatoid arthritis. Research into these associations may help to understand specific pathways or causes of ASD and help to identify children who may be at a higher risk of developing an ASD.

ASD has also been observed to be of high prevalence in some migrant groups, suggesting ethnic differences in ASD prevalence, or possibly an effect of the migration process. However for these studies, sample sizes are generally small and therefore the relationships are not consistent. Research using large sample sizes and different cultural groups will clarify these observations.

This project aims to compare health and family information between children who develop ASD and children who do not. It is an international collaboration of seven sites, of which WA is the only Australian member. It involves all children born in WA 1998-2007 (alongside the other five data contributing sites). In WA, approximately 1,500 cases of ASD and 238,000 non-ASD cases born in this period are anticipated, and overall the project is predicted to include approximately 20,000 cases of ASD and 4.5 million controls across the six data sites. Combining data across many sites will allow large and powerful analyses to occur. Novel data technologies will be used to merge data securely from all contributing countries. Insight into the risk factors, familial patterns, inter-generational trends, and cultural differences of autism will be made.

Project Title	An investigation of parental mental health among the Aboriginal population in Western Australia, and its impact on children's outcomes		
Principal Investigator	Professor Rhonda Marriott		
Institution	Telethon Kids Institute		
Start Date	1 April 2014	Finish Date	31 May 2016

This project aims to address some important gaps in the evidence base area of Aboriginal mental health, with a focus on the perinatal period. It will examine the type, scale and timing of mental health problems in Aboriginal children and their parents (and how these have changed over time) and provide insights into the causal pathways between the mental health problems of parents and the development of Aboriginal children in the early lifecourse.

Project Title	The pathogen specific burden of hospitalisation for enteric and blood stream infection in children and young people in Western Australia		
Principal Investigator	Dr Hannah Moore		
Institution	Telethon Kids Institute		
Start Date	1 July 2014	Finish Date	31 December 2015

Enteric (gut) infections are a major cause of illness in children and young adults. Aboriginal children suffer from more gut infections compared to non-Aboriginal children. In addition to dehydration, sever gut infections can give rise to bloodstream infections (BSI) and other nutrition/growth related problems. By directly linking the birth, hospitalisation and laboratory records of children across Western Australia over the last 10 years through population-based linkage, the project will investigate which pathogens (bacteria, viruses or parasites) are responsible for enteric infection related health care presentations in children, who are most at risk and what factors (such as age, region of residence and co-morbidities such as low birth weight, maternal age etc) predicts the severity of the illness. The overall impact of the rotavirus vaccination program introduced in Western Australia in 2007 will be assessed. This will assist with better targeting for further prevention and management strategies for these infections.

Project Title	Mortality after first-ever seizure		
Principal Investigator	Dr Nicholas Lawn		
Institution	Royal Perth Hospital		
Start Date	1 August 2013	Finish Date	31 December 2014

Seizures are common, with a lifetime prevalence of 5%. Although the mortality of patients with epilepsy (i.e. two or more seizures) has been extensively studied, there is limited information regarding the mortality in patients with only one seizure. This is an important question, as during clinical assessment of patients with first seizure the prognosis, including risk of death, is often discussed. Although mortality in first-seizure and epilepsy patients is clearly linked to the underlying aetiology (causes of disease), the mortality following first ever seizure, particularly the frequency of seizure-related death and the factors that may predict this, are unknown. Hence, a better understanding of this issue may influence management of first-ever seizure.

This study is an extension of an existing research project that has been previously approved by the Royal Perth Hospital (RPH) Human Research Ethics Committee. The aim of the current study is to assess the mortality rate in patients with a first-ever seizure compared to the general population. The cohort comprises of the first seizure database, which has prospectively collected data from approximately 3,200 patients seen following a first seizure since 2000. Controls will be randomly selected from the electoral roll and birth records in Western Australia in order to compare mortality rates with the general population. Mortality data, including date of death and cause of death, will be obtained from the Department of Health and compared between the cohort and controls. Standardised mortality ratios (SMR, i.e. ratio of observed to expected deaths) and average annual risk of mortality will be calculated overall and for each seizure aetiology. Additionally, within the cohort, clinical features of deceased patients will be compared to the surviving patients in order to assess variables that may predict mortality in patients with first seizure, such as age, seizure aetiology and seizure recurrence.