2016/2017 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on 4 July 2016

Supervisor Information (First named supervisor will be the contact):	
First Supervisor's Name and Title: Dr Tony Walls	
Department - UOC &/or CDHB (if applicable): Department of Paediatrics UOC	
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First Supervisors Mailing Address: OUC PO Box 4345 Christchurch Mail Centre, Christchurch 8140	
Co-Supervisors Name and Title(s): Dr Cheryl Brunton (Department of Population Health UOC), Dr Natalie Martin	

Research Category (Choose one category only **– to be used for judging the students'** presentations):		
Clinical	Laboratory	Community

Project Title (20 words MAXIMUM):

The epidemiology of non-viral gastroenteritis in New Zealand children

Project Description:

Introduction:

Acute diarrhoea continues to be an important cause of hospitalisation in young children. Historically the majority of cases have been due to viral pathogens, and rotavirus in particular. The introduction of the rotavirus vaccine into the national immunization schedule in 2014 has dramatically reduced the numbers of hospital admissions relating to rotavirus gastroenteritis bringing disease due to other pathogens more into the spotlight. *Shigella, Salmonella, Campylobacter, Yersinia* and verotoxin producing strains of *Escherichia coli* are all bacterial gastrointestinal pathogens which are notifiable in New Zealand. In addition there is significant morbidity due to the protozoan diseases giardiasis and cryptosporidiosis which are also notifiable. The morbidity and mortality due to these infections globally is greatest in children <5 years of age. This will be the first project in NZ to specifically look at the impact of these infections in the paediatric population.

Aim:

To describe the epidemiological trends in hospital admissions and disease notifications from non-viral gastroenteritis in New Zealand children.

Possible impact (in lay terms):

Children generally have the highest burden of disease from acute non-viral gastroenteritis. However, the occurrence of these infections in New Zealand children hasn't been studied in detail before. This project will provide the first specific information on the burden of these diseases in children and how this may have changed over time.

Method:

This is a population based descriptive study, using datasets that include routinely collected administrative data on hospital admissions/discharges. The National Minimum Data Set will be used to identify cases of acute gastroenteritis caused by these organisms using the relevant International Classification of Diseases (ICD) codes. Cases will be potentially identifiable as the data is stored using the National Health Index (NHI) number, however, name and address data will not be included in the requested data sets.

Notification data from ESR will also be requested for the same time periods for each of the diseases caused by these organisms. The exact time periods examined will be determined once the dates after which the individual diseases became notifiable have been established.

Annual age-specific and age-standardised admission rates in children <15 years of age will be calculated for each disease using the direct method of standardisation and the NZ standard population. Hospital admission rates will be compared to age-specific notification rates for each disease estimated from ESR data. Time trends in rates of hospitalisation and notification will be described and compared between diseases. Hospitalisation rates will also be examined in relation to previously described epidemics of these diseases in NZ.