

2017/2018 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on 3 July 2017

Supervisor Information (First named supervisor will be the contact):

First Supervisor's Name and Title: Dr Tony Walls

Department - UOC &/or CDHB (if applicable): Paediatrics UOC

First Supervisors Phone: 0272629968

First Supervisors Email: tony.walls@otago.ac.nz

First Supervisors Mailing Address: Paediatrics UOC, PO Box 4345 Christchurch Mail Centre

Co-Supervisors Name and Title(s): Dr Cheryl Brunton, Dr Jonathan Williman

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 listeriosis in pregnant women and infants in New Zealand

Project Description:

Introduction:

Listeria monocytogenes causes listeriosis, a severe food-borne bacterial infection. In resource-rich countries *L. monocytogenes* has the highest case-fatality rate of any foodborne pathogen. Pregnant women and their infants are disproportionately affected and currently listeriosis is a notifiable disease in NZ.

Infections during pregnancy can cause significant illness in the mother and if transmitted to the fetus can lead to termination of the pregnancy or life-threatening neonatal infection. A recent study from France found that 80% of infected mothers experienced major fetal or neonatal complications¹.

The incidence of these infections are thought to be rare but the has not been systematically studied in NZ. Due to the severity of the illness all neonates with suspected infection are treated with antibiotics targeting *L. monocytogenes* as well as other infections.

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):

We hope to define the extent of disease in NZ and if possible identify trends in outcomes from infection. This will inform policy around health promotion in relation to preventing disease.

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 listeriosis cases 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 this organism. The exact time periods examined will be determined once the dates after which listeriosis became notifiable have been established.

Annual age-specific and age-standardised admission rates will be calculated (where possible) 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. Hospitalisation rates will also be examined in relation to previously described outbreaks in other countries.

Statistical analysis will be done using the statistical programme R.

Reference:

1) Clinical features and prognostic factors in listeriosis: the MONALISA national prospective cohort study. *Lancet Infect Dis* 2017;17:510-519

Student Prerequisites (eg. Medical Student) if applicable:

Medical student

Administration Details

1. Is ethical approval required? Yes

If Yes: please circle or tick one of the following:

- a) Applied for (provide application #)
- b) Approved (attach a copy of the letter of approval from the ethics committee or application #)
- c) To be done

2. Are you able to provide the funding for this project (ie. \$5,000 for the student, incidental expenses should be met from departmental or research funds) Yes/No

If Yes: Please provide name of the funder _____

If No: Please provide ideas of possible funding sources, including past funding agents and topics often associated with this research area, for the Research Office to contact.

_____CureKids_____

If Yes: You will be sent a request for more information.

3. Medical Records or Decision Support accessed Yes/No

4. Health Connect South or other DHB records Yes/No

5. Signatures:

- I have read the 2017/2018 Summer Studentship programme handbook.
- I am prepared to supervise the project and will be available to the student during the studentship (including Christmas/New Year break if the student is working during this time).
- I agree to assume responsibility for the submission **of the student's reports to the Research Office** by the due date 29 January 2018.
- I agree that the project lay report may be available to local media for publicity purposes.

Signature of Project Supervisor(s):

Date:

3/6/17

- I understand that I am responsible for hosting the Summer Student chosen for this project and will meet any costs incurred. I agree that incidental expenses will be met from departmental or research funds.

Signature of Head of Department:
(Print Name)

Date:

3/6/17

Signature of Clinical Director: (if applicable)
Not applicable

Date: