PhD in Diagnosed Colorectal Cancer Patients: Prospective

Qualification type: PhD
Location: Hamilton, New Zealand
Funding: There is no available funding for this project however; students can apply for a UoW Doctoral Scholarship at the time of submitting an application to enrol. The Scholarship is worth $22,000 (NZD) per annum plus domestic fees for a period of three years.
Hours: Full Time
Closes: Until the position is filled
Chief Supervisor: Professor Ross Lawrenson
Department: University of Waikato Medical Research Centre
Notes: When submitting an application to enrol please ensure you provide the project title in the ‘Research Area of Interest’ section on the Supplementary Form.

Project description

Hypothesis for PhD: The hypothesis of this PhD study is that we have poor sensitivity with our HSC pathways and that there are delays in the detection period (suspected cancer pathway), which may be due to three factors: 1. Patient delay in recognizing symptoms and seeking help; 2. Health system delays in responding to referrals, in making a differential diagnosis, doing investigations, and referring to a specialist; and, 3. Tumour biology, including cancer type and location of cancer in bowel/rectum.

Tentative PhD Research Question (flexible depending on student direction): What are the routes to accessing a colorectal cancer diagnosis, including facilitating and impeding factors during the detection period?

Rationale for Research

Colorectal Cancer in NZ New Zealand (NZ) has one of the highest incident rates of Colorectal Cancer (CRC) in the world. Five-year survival rates for NZ patients with CRC are significantly (5%) lower than that in Australia. NZ men are slightly more likely to develop CRC than women at 52% vs. 48%, respectively. Māori are 30% less likely to be diagnosed with CRC but their mortality rates are only slightly lower than NZ European. Survival from CRC is linked to the stage at diagnosis with stage 1 and 2 disease being eminently curable whilst survival in patients with stage 3 and 4 disease is relatively poor. By international standards, NZ has a low rate of early stage CRC diagnosis.

A variety of factors can affect early diagnosis and referral. A facilitating event/factor makes progress of the patient more rapid within the cancer care pathway; whereas an impeding event/factor makes the progress of the patient slower within the cancer care pathway. These have not been systematically researched in NZ. To achieve this, we have adopted international current best practice on the design, conduct and reporting of research studies exploring the symptomatic cancer diagnosis pathway as is recommended in the Aarhus statement. One major recommendation is that research in this domain should utilise a robust theoretical framework. We have therefore chosen to use the Model of Pathways to Treatment, which highlights the four key intervals to treatment as: symptom appraisal, help-seeking interval, diagnostic interval and pre-treatment interval. Walter et al developed this internationally recognised model for examining pathways to cancer diagnosis, which they adapted from the seminal work of Andersen et al.
Awareness of cancer warning signs and symptoms by individual patients affects the time between the development of symptoms and the realisation that these maybe serious and need investigation. In some cases, this interval may be substantial. The next stage is between realisation of the potential importance of the symptom/s and the actual action required in consulting a health professional. This interval is influenced by the ease with which patients can access a GP and can be influenced by a number of factors – many of which are specific to a NZ setting. The third interval that we intend to measure is the time from making first appointment with a Health Care Provider (HCP) to referral for diagnostic testing. Finally, the pre-treatment stage provides insight into the time interval post a diagnosis and will support understanding of how delays in the earlier stages impact on the type of treatment offered – in particular, curative or palliative intent.

Design and Methods

Cohort: We will prospectively identify and recruit all patients in MCN with a diagnosis of CRC in the 18 months from 1/7/17 to 31/12/18.

Power calculation: Based on a median delay of 104.5 days and a clinically relevant difference in delay of 30 days with 80% power and 5% significance the study requires sub-groups of 96 patients to allow comparative analyses of delay by gender, age and ethnicity.

Method: There are two sub-studies. The first phase is a clinical note review, including a retrospective review of primary care notes of the individual and the second will be an interviewer-assisted questionnaire.

Phase 1: Clinical note review across Primary and Secondary Care Services

Working with the primary care practice we will access records for consenting patients. Symptom and signs of colorectal cancer have been well documented e.g. New Zealand Guidelines Group 2009, Suspected cancer in primary care: guidelines for investigation, referral and reducing ethnic disparities and Ministry of Health, Guidance on Surveillance for People at Increased Risk of Colorectal Cancer. These can be divided into patient symptoms and then signs and symptoms relevant to a health professional. Patient records will be reviewed to identify key signs and symptoms, the date of first recording of symptoms and record to the GP, the time these symptoms had been present. The time from first presentation with signs and symptoms, the diagnostic tests ordered and then the time from presentation to referral, will be measured.

Analysis:

- Assess evidence of interval delay in patients from first presentation of key signs and symptoms.
- For each patient estimate from the records the times for “Appraisal”, “Health seeking” and “Diagnostic” intervals. Assess what are the factors associated with evidence of delay for each of these key intervals e.g. age, gender, ethnicity, SES status, presenting symptom, location of cancer, and pathway to diagnosis e.g. e-referral with HSC, ED referral or other pathway.
- Count the number of GP contacts in the 2 years prior to diagnosis for each patient divided into 3 month periods and see the mean number of contacts per 3 months and how this rises prior to diagnosis.

Phase 2: Patient perspectives of factors facilitating and impeding their access to diagnosis: interviewer-assisted questionnaires

The objective of this phase is to capture the patient perspective, including their detection of bodily changes, decision to consult with family, friends, or HCP, and seek help. Question areas will consider patient appraisal of symptoms and self-management and decision to consult HCP and experiences of care received by primary and secondary care. Patient questionnaires will ask about:

1. first awareness and type of symptom/s;
2. recognition of seriousness;
3. knowledge of symptom;
4. why they considered that this was associated with their cancer;
5. first presentation to Dr;
6. No. visits (primary care) before referral;
7. tests undertaken;
8. time to seeing a hospital specialist and diagnosis;
9. perception of ease of access/ booking;
10. anxiety, stress, depression;
11. cognitive processing;
12. emotional and physical barriers to accessing help;
13. facilitators to diagnosis;
14. relationship with HCP;
15. discrimination.

Ensuring quality:
- Recruit as close to diagnosis as possible to avoid recall bias.
- Cross-reference patient responses (where possible) against GP and other HCP data to help validate these data.

Analysis:
1. Questionnaires will be scored and compared with the clinical note review and other reference cancer populations.
2. Compare the outcomes for patients whose time intervals fall outside of agreed pathways – whether due to the patient interval or due to delay within the practice; with those patients whose time intervals fell within agreed pathways.
3. To assess factors contributing to delay or to stage of disease, using multiple logistic regression analysis with delay or stage as the dependent variable.
4. Factors related to time interval from first symptom to GP referral.
5. Compare early to late stage CRC.

Person Specification
Candidates should normally hold a First or Upper Second class honours degree in a relevant subject with some health research knowledge. Prior research experience, together with the ability to analyse, develop and solve open-ended research problems is desirable.

Skill summary:
- Experience building rapport
- Data collection, cleaning
- Data quality assurance
- An understanding of health
- Academic writing skills
- Masters in relevant discipline
- Organisational skills

Personal Qualities
- A team player – Can work effectively as a member of a team
- Conscientious - do a task well, and take obligations to others seriously
- Commitment to equal opportunity and to the University partnership with Maori as intended by the Treaty of Waitangi
- Ability to work with a range of organisations and individuals
- Ability to relate effectively and sensitivity to colleagues from a range of backgrounds and cultures
- Leadership – demonstrate integrity and support others
- Confidence to build relationships/work/engage with diverse Māori community/iwi/hauora organisations
- Ability to learn and meet timeline target/s

Please note that instead of the ‘Research Proposal’ we request a ‘Statement of Research Interests’. Your statement should answer two questions: (i) why are you interested in the topic described above? (ii) what relevant experience do you have? Your statement should be brief: no more than 500 words or one side of A4 paper. In addition to your CV and Statement of Interest we would also like you to send a sample of your written work (e.g. excerpt of final year dissertation or published academic paper).

Funding
The University of Waikato offers PhD scholarships of up to $25,000 plus domestic fees. This is not guaranteed as a part of the PhD project, and must be applied for separately. The closing dates for this 1 March, 1 July and 1 November).

Contact information
Further information and informal enquiries may be made to Dr Lynne Chepulis (lynnec@waiako.ac.nz; phone 07 837 9553)/

How to apply
Please send your CV and Statement of Research Interest along with a sample of your written to Dr Lynne Chepulis (lynnec@waiako.ac.nz; phone 07 837 9553).