2014/2015 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on **4 July** 2014

Supervisor Information	
Supervisor's Name(s): Susan Gee, Matthew Croucher, and Jason Elley	
Department: Psychiatric Service for the Elderly	Institution: CDHB
Phone: 337 8894 / 02102333355	E-mail: susan.gee@cdhb.govt.nz
Mailing Address: PSE, Level 2 Heathcote Building, The Princess Margaret Hospital, PO Box 800, Cashmere, Christchurch	

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

Project Title (20 words MAXIMUM):

Validity of the InterRAI outcome scales for older adults in specialist mental health services

Project Description:

Background

According to the World Health Organisation (2013), over 20% of older adults suffer from a mental or neurological disorder, predominantly dementia and depression. Robust screening and outcome measures have an important role both in ensuring detection and in monitoring the effectiveness of services and treatments to guide decision-making (MacDonald, 2002; Sperlinger, 2002; Zimmerman et al., 2008).

The interRAI assessment tool for older people is now mandated across all New Zealand District Health Boards for older community clients. Developed by a network of health researchers in over 30 countries, the interRAI suite of tools aim to provide a comprehensive clinical assessment of medical, rehabilitation, and support needs and abilities to help inform care plans. Several clinical outcome measures are embedded within the full interRAI instrument, including a Depression Rating Scale and a Cognitive Performance Scale.

The key advantage of the interRAI is its scope of implementation and the provision of a 'common language' across settings and professions to enable individuals and services to be followed-up and compared across time (Wellens, et al., 2013). The embedded outcome scales may potentially be useful stand-alone measures, reducing the need to administer multiple tests (Traver, Bryne, Pacana, Klein, & Gray, 2013). The psychometric properties of these scales need further evaluation however. There has been little evaluation in populations outside residential care, despite concerns that the more limited interactions between staff and clients could affect performance (Bula & Wietlisbach, 2009).

To date the few studies of the validity of the Cognitive Performance Scale in non-residential settings have provided contradictory conclusions (Travers et al, 2013; Bula et al, 2009; Wellens et al; 2013). Indeed, Wellens and colleagues (2013) conclude that the Cognitive Performance Scale may only be suitable for coarse differentiation between intact cognition and severe cognitive impairment in non-residential settings.

Subsequent evaluations of the Depression Rating Scale (Koehler et al., 2005; Anderson et al., 2011; Liang et al, 2011, Smart et al., 2011) have not matched the sensitivity reported by the scale's developers (Burrows et al., 2000). It has been suggested that the Depression Rating Scale may be improved by including additional items available within the interRAI assessment (Anderson et al., 2003; Martin et al., 2008, Liang et al., 2011).

Aims. To help inform the interpretation of mandated interRAI assessments for older community clients and address the lack of psychometric evaluations of the outcome scales in this population, the present study aims

1. To assess the convergent validity of the interRAI dementia and depression scales in non-residential settings
2. To assess the sensitivity and specificity of the interRAI Cognitive Performance Scale for differentiating mild cognitive impairment
3. To assess whether the sensitivity of the interRAI Depression Rating Scale could be enhanced by including additional interRAI items

Methods

Data will be collated for a sample older people (65+) who were discharged from specified services within older persons' mental health services of Canterbury DHB and Auckland DHB from 1 June 2013 to 31 May 2014 who received an interRAI-Home Care assessment and who gave permission for this data to be used for research purposes. Because of risk of under-detection of depression and dementia in some health settings, the sampling frame will be limited to clients of psychogeriatric inpatient, day hospital and memory clinic services, where the routine process of comprehensive neuropsychiatric assessment, ongoing contact, and interdisciplinary team meetings enable confidence in the rates of detection of dementia and depression. InterRAI data will be extracted from the national repository to provide participant characteristics, Depression Rating Scale scores, and Cognitive Performance Scale scores. Standardised cognitive testing scores (where available), HoNOS65+ depression and cognitive problems ratings, and presence or absence of a stated diagnosis of depression and dementia in the discharge summary will be collated from patient records. The Canterbury data will be collated by the summer research student in Christchurch, with the Auckland data collated by a second student in Auckland.

Observed agreement (Cohen's K) and diagnostic accuracy (including sensitivity, specificity, and area under the ROC curve) will be assessed a.) for the Depression Rating Scale with chart diagnosis of depression and with HoNOS65+ depression rating b.) for the Cognitive Performance Scale with chart diagnosis of dementia, standardised measures of cognition, and HoNOS65+ rating of cognition.

Regression analyses will investigate whether there is a gain in predictive power in adding additional depression related items over and above the items in the Depression Rating Scale.

To assess the performance of the Cognitive Rating Scale in differentiating between mild dementia and intact cognition, data from a previous study to compare cognitive screening tools for dementia will be used (Cheung, Gee, Croucher et al., 2014). Only participants who have an available interRAI assessment and who have given permission for their interRAI data to be used for research purposes will be included in this secondary analysis. It is estimated that approximately 60% (50 individuals) of the initial sample of 46 older people without dementia and 36 people with mild dementia will be available for this analysis. Observed agreement and diagnostic accuracy against known diagnosis will be calculated for the Cognitive Performance Scale and compared to that for other cognitive screening tools (MMSE, MoCA, ACE-III, RUDAS, mini-ACE).

Student Role. The study will be completed within the 10 week studentship time frame. The student will have the opportunity to gain supported experience in data entry, management, analysis, and interpretation, as well as an overall introduction to the process of evaluating clinical measures. The student will also gain practical experience in conducting research in a health care setting including issues such as understanding privacy and maintaining confidentiality. The student's role will include:

1. Familiarisation with key work in the area
2. Management of database
3. Review of patient records for data collation
4. Data input and management
5. Participation in the analysis and interpretation of results
6. Contributing to the dissemination of results.

Significance

Robust routine measurement of depression and dementia can help establish guidelines, address unmet need, and strengthen decision making for older people (Anderson et al., 2003). The interRAI Depression Rating Scale and Cognitive Performance Scale require further evaluation of their psychometric properties in nonresidential settings before their value in this role can be established.