Annual Report
2007

Social & Behavioural Research in Cancer Unit
research projects, activities and publications,
January to December 2007,
with dissemination plans for 2008.
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With support from: 1 the Cancer Society of New Zealand Inc. (see also specific projects/activities for details of support from Centres and Divisions); 2 Health Research Council; 3 University of Otago; 4 University of Otago Post Graduate Publishing Award; 5 Genesis Oncology Trust; 6 Health Sponsorship Council; 7 Ministry of Health HEHA Innovations Fund; 8 Southland District Health Board; 9 Sport Southland; 10University of Otago, Dunedin School of Medicine, Non-Medical PhD Start-Up Scholarship , 11 HealthCare Otago Charitable Trust, 12 Otago District Health Board, 13 SPARC
Foreword

It looks as though 2007 was a watershed year in the development of the Social & Behavioural Research in Cancer Unit (SBRCU).

The external review commissioned by Cancer Society of New Zealand (CSNZ) and subsequent site visit to our Unit by two distinguished overseas researchers resulted in an extremely positive report which commended our productivity and the quality of our research.

In response to the recommendations of the review, and in acknowledgement of the growing significance of social and behavioural research for cancer control, the CSNZ agreed to negotiate a new contract and increase core funding for our Unit. This should prove crucial, as it will permit continuity for existing skilled staff and, in addition, make possible additional appointments. A key difficulty has been a lack of staff to help develop research proposals in topic areas within the cancer control continuum, draft grant applications and supervise promising postgraduate students. In turn, the presence of additional staff should allow the Director more time to develop areas of research expertise and deal with the increased administrative tasks associated with a growing Unit. A critical improvement will be the provision of funding for research support, permitting the continued employment of Nathalie Huston whose contribution to our recent grant successes has been so critical.

The graduation of postgraduate students supervised by Unit staff demonstrates our contribution to research training in cancer control. These included two PhD students (Caradee Wright and Rose Richards), with Rose commended for an ‘exceptional’ thesis, receiving a postdoctoral award and becoming SBRCU Deputy Director. Namomo Schaaf is to be commended for his MPH thesis, An investigation of delay in diagnosis of cancer in Pacific Island men living in New Zealand, co-supervised in collaboration with primary supervisor A/Prof. Brian Cox (Hugh Adam Cancer Epidemiology Unit).

The number of successful grant applications to which Unit staff contributed increased considerably in 2007 resulting in Health Research Council (HRC) funding for three collaborative studies (vitamin D and sun exposure; colorectal cancer control; smoking initiation and childhood exposure to second hand tobacco smoke). Funding was also obtained from a number of other sources to support Unit led research initiatives.

Overall, it looks like 2008 is going to be another busy year, but with more secure support for our research and related health promotion activities.

Tony Reeder, March 2008
Part I

SBRCU activities by major topic area
1 Healthy Physical Activity & Nutrition

Scientific evidence continues to grow with respect to the potential contributions to cancer control to be made through population uptake and maintenance of healthy patterns of physical activity and nutrition. In 2007, the second report of the World Cancer Research Fund International and American Institute for Cancer Research\(^1\) summarised the evidence and made eight general recommendations:

- **Body fatness**: be as lean as possible within the normal range of body weight;
- **Physical activity**: be physically active as part of everyday life;
- **Foods and drinks that produce weight gain**: limit consumption of energy dense foods; avoid sugary foods;
- **Plant foods**: eat mostly foods of plant origin;
- **Animal foods**: limit intake of red meat and avoid processed meat;
- **Alcoholic drinks**: limit alcoholic drinks;
- **Preservation, processing, preparation**: limit consumption of salt; avoid mouldy cereals (grains) or pulses (legumes);
- **Dietary supplements**: Aim to meet nutritional needs through diet alone.

To achieve these recommendations among the New Zealand population will present many challenges at the individual, institutional and policy levels. Initially, obtaining local information about what may facilitate or present barriers to their achievement in NZ contexts will be critical, as will the pilot testing of potentially promising interventions.

The projects reported in the present section of our Annual Report relate directly to a number of the recommendations, above, as well as to the objectives of the NZ Cancer Control Strategy.\(^2\) For example, our projects include the evaluation of two community interventions related to the Healthy Eating Healthy Action programme; a study of the relations between perceptions of the local environment and adult participation in physical activity; and a feasibility study to investigate links between climate and physical activity participation. We also have plans to develop a number of other projects in areas that have the potential to impact directly and practically by increasing opportunities to achieve healthy physical activity and nutrition in everyday life – watch this space!

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1.1 Project Reports:

Healthy Physical Activity and Nutrition

1.1.1 Children’s activity in their local environment

Staff, Student & Collaborators
Robin Quigg (PhD Candidate), Ros Herbison (Research Assistant), Nathalie Huston (Research Support), Dr Tony Reeder (Principal Investigator and Primary PhD Supervisor), with Dr Debra Waters (PhD Co-supervisor, School of Physical Education), Andrew Gray (PhD Co-supervisor, biostatistician, Dept. of Preventive & Social Medicine), and Alec Holt (PhD Co-supervisor, Dept. of Information Science).

Funding
Otago District Health Board through the Ministry of Health’s Healthy Eating Healthy Action (HEHA) Evaluation Fund, Dunedin School of Medicine PhD Start-up Scholarship, Healthcare Otago Charitable Trust, Dunedin City Council and Sport and Recreation New Zealand (SPARC).

Rationale
Little is known about the amounts of activity undertaken by children in ‘free-living’ situations, and where these activities happen - indoors or outdoors, at home, in parks and playgrounds, or at school and other places. There is also little information about the variation in the amount and place of activity that may be attributed to differences in the characteristics of the communities where children live. Accelerometers and GPS units are the instruments used to provide objective data about the amount and site of child physical activity.

Study Aims
To describe the quantity and improve understanding about the environmental settings of children’s physical activity.

Progress / Results
The project was defined, grant applications submitted and funding for complementary aspects of the study (equipment, fieldwork, PhD support) secured from several sources. The available equipment was reviewed, sourced and tested, resulting in the purchase of 35 Actigraph GTM1 accelerometers and 35 Globalsat DG-100 GPS units. Two broadly comparable communities were selected and defined and the participation of eight
schools (four in the intervention community and four in the control community) was confirmed. An experienced research assistant was appointed to work with these schools, recruit children and carry out fieldwork data collection. Baseline anthropometric and physical activity data were collected from 186 children living in the two spatially defined communities and 160 questionnaires were completed and returned by their parents/caregivers. Data are now being cleaned and prepared for analysis. Data collection for Year 2 of the study is scheduled for late 2008.

Dissemination
The study aims and methods have been presented in two forums: a Dept. of Preventive and Social Medicine research student seminar, and to students enrolled in the PUBH703 Health and Environment paper. Regular project progress reports will be prepared for the ODHB and Ministry of Health.

1.1.2 Evaluating the Southland HEHA Programme for primary caregivers of children under 5 years in home settings.

Staff, Students & Collaborators
Leanne Liggett (PhD Candidate), Rob McGee (primary PhD supervisor), Winsome Parnell (co-supervisor, Dept. of Human Nutrition), Andrew Gray (co-supervisor, biostatistician, Dept. of Preventive & Social Medicine), Yvette McKenzie (Physical Activity Advisor), Stephanie Thurlow (Dietitian), Nikki Willis (Childcare Advisor), Katie Dunn (Research Assistant).

Funding
The Southland Healthy Eating Healthy Action (HEHA) Programme has three funding sources; nationally via the HEHA Innovations Fund (Ministry of Health) and locally from the Southland District Health Board and Sport Southland. Funding varies between 30–36 months.
Rationale
The HEHA Strategy and Implementation Plan addresses three of 13 priority population objectives in the NZ Health Strategy - improving nutrition, reducing obesity and increasing exercise. The Southland HEHA Programme was developed to assist addressing these objectives in Southland and this research aligns closely with its second phase, which is a short, comprehensive healthy lifestyle programme entitled Healthy Me and You. This six-week programme has been specifically designed for primary caregivers of children (3–4 years), in particular Māori, Pacific or low socioeconomic families.

Evaluating programme effectiveness in relation to fruit and vegetable consumption and activity levels is the primary focus of the related doctoral study of Leanne Liggett.

Study Aims
The proposed research aims to evaluate the effectiveness of the Healthy Me and You programme. Two of the eight HEHA Strategy population objectives are being investigated through the PhD project: fruit and vegetable intake (for children, foods offered rather than consumed) and daily exercise levels.

Potential outcomes for caregivers and children from the evaluation will be:
- improved fruit and vegetable consumption;
- improved uptake of physical activity messages;
- enhanced attitudes and behaviours around lifestyle physical activity and healthy eating.

These outcomes will subsequently increase the likelihood of caregivers and children making the healthy eating and physical activity choices by increasing the capability and capacity of the target audience.

Each caregiver and study child will be followed up for six months. Data will be collected at baseline and six months through: 1) face to face interviews with the participating caregiver; 2) seven day pedometer activity minutes on both the study child and caregiver; 3) five day fruit and vegetable tick-list for foods offered to children by the caregivers. Caregiver fruit and vegetable intake questions were incorporated into the interview schedule.

A comparison group in the wider Dunedin metropolitan region will also be recruited and the same measures captured, but the healthy lifestyle intervention programme will not be offered.

Progress / Results
The Southland HEHA Programme formally began in November 2006 and staff completed the delivery of the phase one workforce development component in August 2007.

A comprehensive literature review was commenced in late 2006 to identify potential instruments. Subsequently, a validation study was undertaken to confirm the reliability of the NL1000 pedometer against a modified Child Activity Rating Scale (CARS). To measure change in fruit and vegetables offered to the child by the primary caregiver,
four different instruments were developed and tested. Target group preference was for a fruit and vegetable tick-list, therefore this instrument was amended to incorporate the feedback received from testing. Ethical approval for this programme was obtained from the University of Otago and the Royal New Zealand Plunket Society in October 2007.

The design of the pilot was influenced by a comprehensive review of the relevant literature, together with several focus groups including both health professionals and parents/caregivers of children aged 3–4 years in Southland.3

In November and December 2007, the programme was piloted in Invercargill with seven participants. Final modifications to the programme content and delivery style were incorporated, following feedback from participants. The courses are scheduled to commence in early 2008.

**Dissemination**

In October 2006, a presentation was made at the Public Health Intelligence Analytical Workshop (Wellington) which focused on Public Health Outcomes Monitoring, using the Southland HEHA Programme as a case study. The first media article was published in a Southland newspaper (December 2006). A programme website as developed mid 20074. Every 6–8 weeks since August 2007, a newsletter full of helpful hints and tips has been developed and circulated to recruiting agencies in Southland. Six monthly reports are prepared for the Ministry of Health and regular reports provided to the Southland DHB and associated advisory groups.

#### 1.1.3 Childhood neighbourhood environments and later physical activity

**Staff & Collaborators**

Dr Rose Richards, Professor Richie Poulton (Director, DMHDRU; Co-Director, National Centre for Life-course Research) and Dr Karen Hartshorn (Director, Translational Research, National Centre for Life-course Research).

**Funding**

The scoping study for this project was funded by the National Centre for Life-course Research (NCLR).

**Rationale**

There is growing evidence to suggest that levels of physical activity are influenced by features of the neighbourhood environment, such as availability of parks and open spaces, interesting destinations and neighbourhood aesthetics. There is a unique

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3 University of Otago Departmental Ethics approval was gained as well as consent from participants prior to undertaking the focus groups
4 [www.southlandheha.co.nz](http://www.southlandheha.co.nz)
opportunity to examine this issue from a longitudinal perspective among members of the DMHDS cohort. One of the key findings in Dr Richard’s PhD thesis was that aspects of Study members’ outdoor home environment during childhood were associated with physical activity participation into adolescence and adulthood. This project will extend that work by exploring associations between physical activity and aspects of the Study members’ neighbourhood environment in Dunedin.

**Progress / Results**

A scoping study for this project has been funded by the NCLR which will take place in early 2008. This will identify specific measures and hypotheses and an estimate of project costs. In addition, this time will be spent developing the necessary relationships with key representatives from the Dunedin City Council who control access to the relevant neighbourhood information. A grant application for project costs will be prepared for submission in 2008.

### 1.1.4 The Climate and Physical Activity Project

**Staff & Collaborators**

Dr Rose Richards, Mr Andrew Gray (biostatistician, Dept. of Preventive & Social Medicine), Grant McLean (Manager Research, SPARC), Maea Hohepa (SPARC), Paula Jones (SPARC), Dr Richard McKenzie (NIWA), and Dr Tony Reeder

**Funding**

Feasibility study funding for the development of this project was obtained from the Cancer Society of New Zealand (National Office).

**Rationale**

Many forms of physical activity take place outdoors, meaning that participation is likely to be influenced by the climatic conditions experienced in that location. However, very few studies have looked at this issue in depth. Those that have used objective measures of climate (such as rain, temperature, snowfall, wind speed) have reported substantial weather dependent variation in physical activity, in one case, up to 2,000 steps/day
among individuals whose usual activity was around 10,000 steps/day. If physical activity in New Zealand is also strongly linked to climatic variables there are important implications for the encouragement of daily activity. As we have a temperate climate, individuals are unlikely to achieve recommended levels of activity if only active when climatic conditions are ideal. An additional complication in the New Zealand context is the presence of high levels of solar ultraviolet radiation during summer months and consequent high risk of sunburn during outdoor activity.

**Study Aims**

The aim of this study is to examine associations between a broad range of climatic variables and physical activity participation and the implications of support for participation that takes into account climatic conditions. In collaboration with researchers from Sport and Recreation New Zealand (SPARC), data from their 2007/08 New Zealand Sport and Physical Activity Survey (due for completion March 2008) will be linked with objective climate measures from the National Climate Database, which is collated by the National Institute of Water and Atmospheric Research (NIWA).

**Progress / Results**

A technical report (PR8) has been provided to the Cancer Society National Office regarding the process and outcome of the feasibility study. A grant application is in preparation for project costs for the full study.

**1.1.5 Screen-time & relationships with family & friends**

**Staff & Collaborators**

Dr Rose Richards, Dr Bob Hancox (DMHDRU), A/Prof. Sheila Williams (biostatistician, Dept. of Preventive & Social Medicine), A/Prof. Rob McGee (Dept. of Preventive & Social Medicine), Dr Helen Darling (Forensic Solutions, Dunedin)

**Funding**

Dr Richards will be co-funded by the Cancer Society of New Zealand Inc. core grant and the Health Sciences Career Development Postdoctoral Fellowship.

**Rationale**

The options for screen based sedentary behaviour have increased substantially over the past decade. However, very little information is available about the uptake and potential impact of these opportunities among adolescents.

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Study Aims
The aim of this study is to examine ‘screen time’ among two groups of adolescents, 16 years apart, one from the Health Sponsorship Council’s Youth Lifestyle Study (2004) and the other from the DMHDS cohort (1987/88). Differences in television use will be noted, along with the impact of new screen time opportunities on total ‘sedentary screen time’ among the later sample.

We will also look at one of the potential impacts of increases in screen time opportunities. An argument has been put forward by media organisations that watching television is good for family bonding. It is possible, however, that time spent watching television or attending to other screen based entertainment may inhibit this process by displacing other (higher quality) opportunities for family bonding.

Progress / Results
This is currently being written up for publication

1.1.6 Interest in sports among inactive adolescents: an opportunity for public health?

Staff & Collaborators
Dr Rose Richards and Dr Helen Darling (Forensic Solutions, Dunedin).

Funding
University of Otago (Dunedin School of Medicine Strategic Research Initiatives Award).

Rationale
This study builds on previously published work from the 2002 Youth Lifestyle Study, which identified interest and participation in selected sports and recreational activities among young New Zealanders. Some sports (e.g. rugby union, rugby league, basketball, soccer, and surfing) were identified as having substantial untapped potential, as large groups of adolescents reported interest in these sports codes, but not participation. The focus of the current study is to examine patterns of interest in sports and recreational activities among inactive adolescents. From a public health perspective, we are most interested in recruiting new sports code participants from the ‘inactive’ population, rather than just encouraging those who are already active to transfer between codes. It is likely, however, that there are additional barriers to participation among this inactive group and that initiatives may need to be developed that specifically target this group.
Study Aims
The aims of this exploratory study are to: a) describe demographic characteristics and sporting interests among inactive Year 10 and 12 students in New Zealand and; b) discuss some of the issues for programme development specifically to target these individuals.

Progress / Results
A paper is in preparation for publication.

1.1.7 Physical Environment and Physical Activity Pilot Study (PEaPA)

Staff & Collaborators
Dr Tony Reeder (Co-investigator) with A/Prof. Hilda Firth (Principal Investigator, Dept. of Preventive & Social Medicine) and A/Prof. Peter Herbison (Co-investigator, biostatistician, Dept. of Preventive & Social Medicine); and co-investigators Dr Debra Waters (School of Physical Education); Dr Claire Freeman (Dept. of Geography); Dr Nancy Rehrer (School of Physical Education and Glenys Forsyth (Research Assistant).

Funding
University of Otago Research Grant.

Rationale
Personal perceptions and some characteristics of the neighbourhood physical environment are potentially modifiable influences on physical activity participation.

Study Aims
The pilot study has three main aims, namely, among the population of selected Dunedin suburbs to: (1) quantify adult participation in physical activity, in relation to recommended levels; (2) investigate some specific potential predictors and barriers to participation, in particular, attitudes, perceptions and preferences with respect to characteristics of the
neighbourhood physical environment. A goal is to inform the development of a more comprehensive study.

**Progress / Results**
A research assistant was appointed and data collection was completed in 2007. Data are currently being cleaned and prepared for analysis.

**Dissemination**
It is intended to disseminate study findings to participants and agencies interested in advancing public health, local authorities and local government. A variety of means will be used including oral presentations and reports and, if possible (given the restricted scope of the study) a paper in a peer-reviewed journal.

![Image of a street scene]

1.1.8 A tailored intervention to increase New Zealanders’ fruit and vegetable consumption

**Staff & Collaborators**
Dr Tony Reeder (co-investigator) with the Otago University research team: Dr Caroline Horwath Matthaei and Louise Mainvil (principal investigators, Dept. of Human Nutrition), with Andrew Gray (biostatistician, Dept. of Preventive & Social Medicine), Grant Baxter (Dept. of Design Studies) and Dr Elaine Rose (School of Physical Education).

**Funding**
National Heart Foundation of New Zealand (project grant # 1016), the University of Otago, and the Cancer Society of New Zealand Inc. (Tony Reeder’s component).

**Rationale**
Low fruit and vegetable intake is associated with increased health risks, including obesity, and there is growing evidence that these may include some types of cancer. In order to
complement environmental and policy interventions, there is a need for effective behavioural interventions which motivate and enable New Zealanders to make healthy food choices.

Study Aims
The project aim is to increase fruit and vegetable consumption among those who do not meet the current recommended criteria, and to achieve this through the development of a health communication programme based on personally tailored, computer generated messages.

Progress / Results
Participants assigned to each of three groups (intervention, comparison and no-treatment) in the RCT were followed up during 2006. These data are currently being analysed and written up.

Dissemination
A number of papers will be prepared for publication and presentation. A paper on the preliminary work for this project is in press. Study participants will receive a brief report of the study findings and those in the tailored group will receive personalized results.

1.1.9 Alcohol imagery on New Zealand television

Staff
A/Prof. Rob McGee, Juanita Ketchel and Dr Tony Reeder.

Funding
Lotteries Commission, University of Otago, Cancer Society of New Zealand Inc.

Rationale
In 2002, we initiated a study of tobacco imagery in television programmes broadcast during prime-time viewing. In 2003, this research was extended to include alcohol and other drug imagery on television. Since we were successful in obtaining contestable grant funding to repeat the survey in 2004, we decided to report imagery across the two time periods in order to allow examination of any changes in its extent or nature.

Study Aims
To examine the amount and nature of depictions of alcohol use in one week of prime time television in 2002 and 2004.

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Progress / Results
There were 648 separate depictions of alcohol imagery across the week of viewing recorded in 2004, with an average of one scene every nine minutes. Scenes depicting uncritical imagery outnumbered, by 12 to 1, scenes showing possible adverse health consequences of drinking. The evidence points to a large amount of alcohol imagery incidental to storylines in programming on NZ television. Alcohol is also used in many advertisements to market non-alcohol goods and services. More attention needs to be paid to the extent of alcohol imagery on television from the industry, the government and public health practitioners. Health education with young people could raise critical awareness of the way alcohol imagery is presented on television.

Dissemination
A paper has been published and a copy sent to Ross Bell (Executive Director of the New Zealand Drug Foundation) for use in advocacy concerning alcohol advertising on New Zealand television. A copy of the paper has been sent to that committee. A poster has been prepared for presentation at the Australasian Association for Behavioural Medicine conference, Sydney 2008. Information has also been presented in teaching sessions with undergraduate and postgraduate students.

1.2 Other Activities:

Healthy Physical Activity and Nutrition

1.2.1 Conference and workshop attendances

Dr Richards gave presentations about longitudinal physical activity research to the SPARC Active Movement Professional Development Workshop and at the AGM of the Otago/Southland Branch of the New Zealand Recreation Association. Dr Richards also gave presentations to the Dept. of Preventive and Social Medicine/Public Health Association and Dept. of Human Nutrition regarding the translation of research to practice, using as a case study her project on tracking physical activity from childhood to adulthood. Geri Henry-McLeod gave a presentation to the Human Nutrition Dept on Weight maintenance and the Relapse Prevention Model. In September 2007, Robin Quigg attended a University of Otago Division of Health Sciences Research Forum. In June 2007, Leanne Liggett attended the Obesity Prevention 5 Day Course at Deakin University as well as a PHA and ANZEA Conference in July.
1.2.2 Teaching, training, postgraduate supervision and scholarships

Dr Richards was a guest lecturer for the Health 202 paper, to talk about the creation of supportive environments for physical activity. In March 2007, Robin Quigg gave a Departmental student seminar on ‘Children’s activity in their local environment: An explanation of the study design’ and, in September 2007, was a guest lecturer on ‘Children’s physical activity in the community’ for the PUBH703 Health and Environment paper.

Dr Richards was awarded a Health Sciences Career Development Postdoctoral Fellowship, which will support her ongoing involvement in this area. Robin Quigg was awarded a Dunedin School of Medicine PhD Start-up Scholarship for her PhD studies.

1.2.3 Collaboration, consultation and advocacy

Unit staff and postgraduate students continued to collaborate with CSNZ, SPARC and Ministry of Health staff. Leanne Liggett has supervision of four Southland HEHA Programme staff: Dietician, Physical Activity Advisor, Childcare Advisor, Research Assistant (comparison group).
2 Ultraviolet Radiation (UVR) Studies

The involvement of Unit staff and postgraduate students in the broadening area of ultraviolet radiation (UVR) studies increased in the past year. This reflects the need to respond to growing concerns around the issue of vitamin D insufficiency\(^7\) as well as our on-going, long-established commitment to research related to the prevention of diseases caused by excessive UVR exposure, in particular, skin cancer.

Our Unit has continued to provide leadership in support of the need for a balanced and comprehensive approach to research and health promotion advocacy focused on health outcomes related to both insufficient and excessive exposure along the UVR continuum. This approach is consistent with the recent WHO review\(^8\) and reduces the risk of partisan skin cancer versus vitamin D divisions. Such divisions only feed (and are fed) by media controversy, but contribute nothing to the development of the health promotion strategies required to address a variety of personal characteristics (e.g. age and skin type) and situations (e.g. season, latitude, time of day and occupation).

The NZ health promotion and research communities have, largely, adopted this integrated and comprehensive approach. The CSNZ commissioned a review of vitamin D and cancer,\(^9\) and guided the development of a balanced position statement,\(^10\) a process to which our Unit contributed.

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2.1 Project Reports: UVR Studies

2.1.1 Quantifying the association between sun exposure and vitamin D status in New Zealanders.

Staff, Students & Collaborators

Tony Reeder (co-investigator and primary PhD supervisor), Andrew Gray (Dept. of Preventive & Social Medicine, biostatistician and PhD co-supervisor) and Vanessa Hammond (PhD candidate) with A/Prof. Robert Scragg (School of Population Health, Auckland University, principal investigator and PhD co-supervisor), Dr Richard McKenzie (NIWA, Lauder, co-investigator and PhD co-supervisor), and co-investigators Mr Alistair Stewart (School of Population Health, Auckland University), Mr Ben Liley (NIWA, Lauder), Dr Lorna Dyall (Māori Health, School of Population Health, Auckland University), Mr Malakai ‘Ofanoa (Pacific Health, School of Population Health, Auckland University), Dr Ekramul Hoque (Centre for Asian Health Research and Evaluation, University of Auckland), Dr Michael Kimlin (Institute of Health and Biomedical Innovation, Queensland University of Technology), and Mr Paul Johnston and Dr Gregory Bodeker (NIWA, Lauder).

Funding

A three-year Health Research Council (HRC) project grant.

Rationale

Many New Zealanders have low vitamin D levels and a significant proportion has sub-optimal levels, particularly Pacific, Māori and South Asian peoples. Low levels of vitamin D have been implicated in a wide variety of health issues particularly rickets, osteomalacia and osteoarthritis, with evidence emerging of possible causal links with some cancers, multiple sclerosis, diabetes, hypertension, coronary heart disease and reduced lung function. For many of these outcomes, the risks are greater for Māori, Pacific Island and Asian peoples. Current scientific opinion is that serum levels of 25-hydroxyvitamin D (25OHDs), the main measure of vitamin D status, should be maintained above 75 nmol/L, but there is considerable debate about this, and the mean level in adult New Zealanders is 50 nmol/L.12 The primary source of vitamin D is sun exposure, but there is a lack of clarity on how to maintain vitamin D at the optimum levels required for good health. The amount of vitamin D produced from sun exposure varies with a number of factors, including age, skin pigmentation, time of year and day, and latitude. There also appear to be considerable individual differences. Vitamin D

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synthesis is dominated by reactions in the skin that utilize UV-B radiation in sunlight. The situation in NZ is special because we experience extreme solar UVR levels in summer, but low levels in winter. In the south of NZ, the daily dose of the UVR that produces vitamin D (UV\textsubscript{vdm}) on a winter day is \(~5\%\) of that in the summer, so vitamin D levels tend to be low during the winter months. A lack of clarity about the action spectrum for vitamin D formation also currently limits our understanding of how to mitigate the problem of insufficiency.

**Study Aims**

The study has two main scientific aims. The first is to determine the association between sun exposure and changes in serum 25OHD\textsubscript{3}, and how this varies with age, skin pigmentation, latitude and season. The second aim is to determine (a) the amount of UVR supplementation required from artificial light sources in order to maintain optimal levels of vitamin D, and (b) the wavelength-dependence (i.e. ‘action spectrum’) for vitamin D production across the UVB and UVA range. The goal is to inform and help guide the development of appropriate public policy and health promotion strategies that will assist maintenance of healthy levels of serum vitamin D in the NZ population, particularly vulnerable groups.

**Progress / Results**

Approval for the study was obtained from the Multi-Centre Ethics Committee and the National Radiation Laboratory. Recruitment of participants and data collection is scheduled to begin in early 2008. Instruments and procedures have been developed and equipment ordered.

### 2.1.2 NZ population trends in sun protection, knowledge, attitudes and behaviours, 1994-2006.

**Staff, Student & Collaborators**

Geri Henry-McLeod (PhD candidate), Dr Tony Reeder (primary PhD supervisor), Andrew Gray (co-supervisor, biostatistician, Dept. of Preventive & Social Medicine), Rob McGee (co-supervisor, Head of Dept.), Jean-Luc Bulliard (Technical Advisor, Unité d'épidémiologie du cancer, Institut universitaire de médecine sociale et préventive, Switzerland), and Nathalie Huston (research support).

**Funding**

Geri Henry-McLeod is supported by a PhD scholarship from the SunSmart partnership of the Health Sponsorship Council (HSC) and the Cancer Society of NZ (CSNZ). Additional support is provided by the University of Otago.

**Rationale**

Key aims of the New Zealand skin cancer prevention programme have been to raise awareness and reduce the risk of excessive sun exposure. This programme intends to encourage the New Zealand public to engage in sun protective behaviours appropriate
for the diurnal and seasonal ultraviolet radiation (UVR) levels. The Triennial Sun Protection Survey dataset, climate, and UVR data will be used to quantify to what extent the SunSmart recommendations are achieved among the New Zealand population. This study will be the first comprehensive assessment of both trends and associations regarding sun protection knowledge, attitudes and behaviours in the New Zealand adult population over the twelve-year survey period 1994–2006. This research has a focus on the prediction of sunburn, involves the development of an attitudes scale for future research and the inclusion of meteorological data from the National Institute of Water and Atmospheric Research (NIWA).

**Study Aims**

A key aim of this research is the comprehensive description of population trends in sun protection knowledge, attitudes and behaviours, 1994–2006. The other major aim is to develop a model of factors which contribute to the experience of sunburn. These contributions are hypothesised to include individual factors (attitudes and knowledge), behaviour in conjunction with the physical environment, health promotion messages and the meteorological environment (UVR, and other climate factors).

**Progress / Results**

The combined dataset for the five waves of the Triennial Sun Survey has been cleaned and prepared for analysis. A model of variables hypothesised to contribute towards the experience of sunburn has been created to guide the analyses. Preliminary descriptive analyses of socio-demographic variables have been conducted, and an *Attitudes towards Sun tanning* (*ProTan*) scale has been developed. Preliminary results suggest that, of the seven items used as an attitude scale, the item *Tan protects* (“A suntan protects me from melanoma and other skin cancers”) is more appropriate for use as a “knowledge” construct. In addition, other items not previously utilised in the analyses of attitudes have tentatively been added to the reduced six-item scale. ProTan attitudes have also been modelled with respect to the socio-demographic variables collected: area of residence, survey year, age, sex, self-reported ethnicity, occupation and highest educational qualification. The analyses are due to be completed in mid 2008.

**Dissemination**

Two presentations have been made so far: one to a student seminar and another on item response modelling to the Australasian Epidemiological Association (AEA) conference. Support to attend the AEA conference was provided by the AEA and the Dept. of Preventive & Social Medicine, University of Otago. Three papers are being prepared for submission to peer reviewed journals. A presentation has been accepted for the 9<sup>th</sup> Behavioural Research in Cancer Control Conference, Melbourne, April 2008.
2.1.3 Solar ultraviolet radiation exposure and workplace sun protection in outdoor occupational groups

Staff, Student & Collaborators
Vanessa Hammond (MPH candidate), Dr Tony Reeder (primary supervisor) with Andrew Gray (biostatistician and co-supervisor, Dept. of Preventive & Social Medicine), and Dr Greg Bodeker (co-supervisor, NIWA, Lauder), and Nathalie Huston (research support).

Funding
University of Otago, Otago University Postgraduate Award, CSNZ (core grant), NIWA (technical support).

Rationale
Exposure to solar ultraviolet radiation (UVR) is an occupational health and safety issue for outdoor occupations, since excessive exposure is associated with negative health outcomes, including eye diseases, and skin cancers.

Study Aims
The main aims of this Central Otago based pilot project were to: (a) obtain data that would help to inform and guide a proposed national study and (b) further the development of sun protection and skin cancer prevention programmes for outdoor workers. These aims were to be achieved by quantifying, for the first time in NZ, actual UVR exposure of outdoor workers and identifying the most appropriate targets and strategies for intervention and evaluation.

Progress / Results
Data analyses have been completed and are currently being written up for presentation and publication. The personal UVR exposure of participating workers was often high, but did not simply follow the pattern of ambient UVR, suggesting the influence of behavioural, not climatic factors. The associations between actual UVR exposure, workplace factors (such as having a sun protection policy; provision of protective products/equipment, or sun safety training) and workers' sun-related knowledge attitudes and behaviours were examined, as were differences between occupational groups.

Dissemination
This study has been written up and submitted for examination as a Master of Public Health Thesis. Participating workers received personalised reports of their actual occupational UVR exposure and sun-protective practices, including suggested areas for
improvement. A paper containing the analytical findings of the sun-protection data has been submitted to a journal for consideration for publication. A second paper, containing the UVR findings is currently being prepared for submission. A paper has been accepted for presentation at the 9th Behavioural Research in Cancer Control Conference, Melbourne, April 2008.

### 2.1.4 An audit of solaria services in New Zealand

#### Staff & Collaborators

Jan Jopson and Dr Tony Reeder with Andrew Gray (biostatistician, Dept. of Preventive & Social Medicine) and Nathalie Huston (research support).

#### Funding

CSNZ commissioned project.

#### Rationale

Exposure to excessive solar ultraviolet radiation (UVR) is associated with negative health outcomes, including eye conditions and skin cancers. The purpose of the present study is to help inform advocacy among the suppliers of solaria services, the customers utilising those services, and others concerned about potential health issues.

#### Study Aims

To document the number and variety of indoor tanning facilities and services listed in Yellow Pages telephone directory advertising in New Zealand, and to analyse changes in these listings from 1992 – 2006.

#### Progress / Results

The data collected and analysed indicate substantial growth since 1992 in the number of businesses that advertised some form of indoor tanning service in the NZ Yellow Pages telephone directories. There was also a large increase in the number of wholesale trade providers, indicative of significant expansion in the industry. Advertised hire services also increased. The reported findings are likely to represent an underestimate of the total numbers of facilities and providers because there was evidence that some services were offered without any associated Yellow Pages advertising.

When these findings are put into the context of the evidence of potential serious health risks from sunbed use, and a lack of responsibility among some NZ providers, they suggest a need for regulatory controls to strengthen existing voluntary guidelines.

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Dissemination

A technical report was prepared for the CSNZ and a paper has been submitted for publication in a scientific journal. A paper has been accepted for presentation at the 9th Behavioural Research in Cancer Control Conference, Melbourne, April 2008. The findings will provide evidence for revision of the Australian and New Zealand standard and development of proposed regulatory controls.

2.1.5 Validity and reliability of population measures for assessing skin photosensitivity

Staff & Collaborators

Dr Tony Reeder, Vanessa Hammond with Andrew Gray (biostatistician, Dept. of Preventive & Social Medicine), and Nathalie Huston (research support).

Funding

University of Otago Research Grant.

Rationale

Excessive exposure to ultraviolet radiation increases the risk of skin cancers and eye diseases. Inadequate exposure can cause vitamin D insufficiency or deficiency, and is linked with a number of diseases, most notably rickets, osteoporosis and osteomalacia, but possibly also some cancers.

The assessment of susceptibility to some of these diseases involves classification of skin photosensitivity. In large population studies this is usually obtained from self-report questionnaire responses or, sometimes, through the use of Munsell colour charts. However, with respect to both of these measures, there is a lack of evidence about their validity (i.e. do they measure what they are intended to measure?) and reliability (i.e. can they be relied upon to produce the same results on different occasions?), particularly among the NZ population.

Study Aims

We plan to compare two population measures (brief self-report questionnaire items and the Munsell Charts) with a criterion measure (spectrometry), among students at Otago University Residential Colleges.

Progress / Results

Ethical approval has been obtained and Māori consultation initiated. The Heads of Residential Colleges and OUSA listed student organisations have been contacted and the project explained. These contacts will be followed up early in 2008 and recruitment of student participants for the study will start in late February.
Dissemination
All participants will be provided with feedback to include: 1). a brief personal report about their skin type, and 2). summary guidelines about recommended UVR exposure under NZ conditions for reducing the risks associated with that exposure, both from potential excess and insufficiency / deficiency.

2.2 Other Activities: UVR Studies

2.2.1 Conference and workshop attendances

In August, Geri Henry attended and gave a presentation at the AEA conference in Hobart, Australia and attended the AEA workshop in Christchurch in November. Tony Reeder contributed to the Skin Cancer Control Steering Group and attended the workshop in Wellington on April 19 at which he presented an update on progress in NZ social and behavioural UVR research since 2004.

2.2.2 Teaching, training, postgraduate supervision and scholarships

Tony Reeder and Andrew Gray completed their supervision of Vanessa Hammond’s MPH project, Solar ultraviolet radiation exposure and workplace sun protection in outdoor occupational groups. Vanessa’s thesis was submitted for examination in December 2007. Vanessa was awarded a University of Otago Postgraduate Publishing Bursary (Master’s) to assist her in writing up papers based on her MPH thesis.

Tony Reeder, A/Prof. Rob McGee and Andrew Gray continued to provide supervision for Geri Henry-McLeod’s PhD study, Population trends in sun protection knowledge, attitudes and behaviours, 1994-2006, which is scheduled for completion in 2008.

2.2.3 Collaboration, consultation and advocacy

Tony Reeder continued to be involved in the Vitamin D Working Group responsible for updating the 2005 position statement, The risks and benefits of sun exposure in New Zealand. A roundtable meeting, convened by the CSNZ, was held in Wellington, 26 July 2007, bringing together experts from a range of disciplines relevant to vitamin D issues. Tony Reeder was invited to give a presentation in which he emphasised the

need to take a balanced approach and be aware that any behavioural messages disseminated will need to take into account the variation in key environmental factors (e.g. time of day and season) and personal factors (such as skin type and age).17

Tony also contributed to the drafting of the New Zealand Skin Cancer Control Steering Committee Strategic Framework 2008-2011, and the decision that population health promotion messages should emphasise the avoidance of sunburn, particularly for children.

Building on groundwork prepared by the Early Detection (of skin cancer) Advisory Group, of which Tony Reeder was a member, draft guidelines for the management of melanoma in Australia and New Zealand were produced and circulated for comment in October 2007 by the New Zealand Guidelines Group.

Tony Reeder continued to work closely with staff at the National Office of the CSNZ, in particular, Dr Judith Galtry and Mary Duignan, on issues such as the SunSmart Schools Accreditation Programme, solaria, and vitamin D. Tony has also provided feedback to HSC staff, in particular Dr Rhiannon Newcombe, on research and SunSmart programme development issues. He also continues to collaborate with respect to the Triennial Survey series.

Tony Reeder has also continued to collaborate with Dr Suzanne Dobbins (Centre for Behavioural Research in Cancer, The Cancer Council Victoria) and researchers throughout Australia on the Australian National Sun Survey. A number of reports have already been published and other reports and papers are in preparation for publication.

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3 Tobacco Control

There has been a relative reduction in our Tobacco Control research and activities over the past year. However, with the renewal of our core contract with the CSNZ in 2008, we aim to build on our existing body of research and contacts, and to take advantage of emerging opportunities to rebuild capacity.

In 2007, A/Prof Rob McGee took over leadership of tobacco control within the Unit. In 2008, we plan to build on our long-standing involvement with tobacco issues in the Dunedin Multidisciplinary Health & Development Study (DMHDS). The participants in that study were last assessed at age 32 years. Although a substantial proportion of these individuals remain cigarette smokers, many have either quit or attempted to quit. We are, therefore, in the position of being able to examine quit attempts and smoking cessation in a large sample of young NZ adults. In addition, Rob McGee, Andrew Gray and Tony Reeder are supervising Jackie Guo’s MPH project examining the development of early nicotine dependency among youth, using information from the 2004 Health Sponsorship Council’s Youth Lifestyle Study.

In 2008, Rob McGee will also re-establish his links with various tobacco control networks, including research networks. This will help in identifying research issues of particular relevance to New Zealand, as well as developing collaborative research and helping to inform advocacy and policy development.
3.1 Project Reports: Tobacco Control

3.1.1 Smoking cessation in early adulthood

Staff and Collaborators
A/Prof. Rob McGee and Dr Tony Reeder, in collaboration with Dr David Welch (DMHDS) and A/Prof. Sheila Williams (biostatistician, Department of Preventive & Social Medicine)

Funding
University of Otago; Cancer Society of New Zealand Inc. (core grant).

Rationale
An understanding of those factors which predict quit attempts and, ultimately, successful cessation, has the potential to be useful in developing public health actions to reduce smoking. Smoking cessation has been related to several variables including higher socio-economic status, lower alcohol intake, partner support for quitting, and lower nicotine dependence. However, much of the research on quitting has involved relatively short-term follow-up. Data relating to quit attempts among young adult smokers and successful quitting are available from the Dunedin Multidisciplinary Health and Development Study. These data cover the period from childhood to age 32, the most recent assessment. This research programme has collected a large amount of information enabling an investigation of socioeconomic, health, attitudinal and behavioural factors which might be associated with persistence or cessation of tobacco smoking.

Study Aims
To examine predictors of quit attempts and successful quitting in a sample of young NZ adult smokers. The nature of the data will allow us to examine quitting from a number of perspectives, including childhood variables relating to exposure to smoking.

Progress / Results
All data are now available. The proposed analyses will build on previous work on quitting that we have published.

Dissemination
Two papers have now already been published on smoking cessation. One has examined predictors of quitting smoking in a sample of older women over a thirteen year period in Addictive Behaviors (TP18). The second examined parents’ smoking behaviour and its effects on subsequent smoking and cessation among their children in Addiction (TP19).
3.1.2 The Whanau Auahi Kore (WAKA) project: Developing strategies to reduce smoking uptake and SHS exposure in children.

Staff and Collaborators
Tony Reeder (co-investigator) in project led by Dr Richard Edwards (Dept. Public Health, Wellington School of Medicine, Otago University) with Dr. George Thomson, Dr. Nick Wilson, and Professor Philippa Howden-Chapman (Dept. of Public Health, Wellington School of Medicine, Otago University); Dr. Heather Gifford (Whakauae Research Services), Dr. Judith McCool (Dept. Psychological Medicine, Faculty of Medicine and Health Sciences, University of Auckland), Andrew Waa (Quigley and Watts Ltd.) and Dr. Sue Walker (Research Manager, Health Sponsorship Council).

Funding
Health Research Council of New Zealand Partnership Programme.

Rationale
Tobacco smoking and exposure to secondhand tobacco smoke (SHS) remain substantial public health problems in New Zealand (NZ), particularly among Māori communities. Reducing smoking initiation and the exposure of children to SHS are key aspects of NZ tobacco control strategies. There is evidence that caregiver behaviours may be important influences on the prevalence of smoking and SHS exposure. Accordingly, there is interest in intervention strategies that target caregivers as a means of reducing smoking initiation and SHS exposure among children. However, existing interventions are poorly effective, which may reflect the use of interventions not congruent with the theoretical and empirical evidence about what influences smoking initiation and SHS exposure. Previous reviews of the literature in NZ have aimed to identify these influences, but have had limitations, particularly in the degree to which evidence has been appraised and graded. There is a large amount of quantitative and qualitative data available in NZ which could be analysed in order to determine context specific influences on smoking initiation and SHS exposure in the NZ population and in Māori communities, in particular.

Study Aims
To develop empirically based explanatory models, ‘change’ strategies and community intervention strategies for reducing smoking initiation and the SHS exposure of NZ, focusing particularly on Māori communities. A structured and systematic development process will include: systematic reviews, reviews of NZ datasets, additional dataset analysis, and primary research to fill priority information gaps, model(strategy building, feedback to key stakeholders and revision of models and strategies.
Progress / Results
Phase one of the 27 month project started in 2007. A face-to-face meeting of researchers and a number of teleconferences have been held. Processes for reviewing the literature and reporting findings have been established.

Dissemination
Findings will be written up and reported for academic audiences in journal papers, conferences and seminars. A report will be prepared for service providers, iwi and policy makers.

3.2 Other Activities: Tobacco Control

3.2.1 Teaching, training, postgraduate supervision and scholarships
A/Prof Rob McGee is providing a series of four seminars on Tobacco Control for the 5th Year Medical Students’ Public Health attachment in the Department of Preventive and Social Medicine. He is also acting as primary supervisor, along with Dr Tony Reeder (co-supervisor) and Andrew Gray (biostatistician) for an MPH thesis of Jackie Guo on nicotine dependency among young people.

3.2.2 Collaboration, consultation and advocacy
Rob McGee continues to serve on the Board of Trustees for the NZ Drug Foundation. He is also the Deputy Chair for the Board. During 2007, Tony Reeder continued to serve on the Research Coordinating Group for the NZ Youth Tobacco Monitor, attending meetings and contributing to preparations for the 2008 survey. Having served for three years, and recognising that the focus of most of his research had shifted from tobacco control, in December 2007 Tony resigned from the Board of the Smokefree Coalition.
Tony Reeder had a letter published in support of an ASH and Cancer Society led campaign advocating for a prohibition on retail tobacco displays.18 Tony Reeder reviewed tobacco control research grant applications for the National Drug Policy team at the Ministry of Health, the National Heart Foundation (twice during 2007) and the Genesis Oncology Trust. Rob McGee and Tony Reeder prepared a submission to the Ministry of Health regarding the Future of Tobacco Displays in NZ. This will be submitted in early 2008.

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4 Other Issues in Cancer Control and Health Promotion

4.1 Project Reports:

Cancer Control and Health Promotion

4.1.1 Spiritual well-being concepts and practices in Aotearoa New Zealand palliative cancer care

Staff, Student & Collaborators
A/Prof. Rob McGee supervising Richard Egan (PhD candidate) in collaboration with Prof. Rod MacLeod (University of Auckland), Dr Chrystal Jaye (Dept. of General Practice, Dunedin School of Medicine), and Dr Joanne Baxter (Ngāi Tahu Māori Health Research Unit, Dunedin School of Medicine).

Funding
Genesis Oncology Trust PhD Scholarship, University of Otago (Departments of General Practice and Preventive & Social Medicine), CSNZ (Canterbury and West Coast Division).

Rationale
Palliative care aims to meet the needs of the whole person dying from cancer: including the physical, social, mental and spiritual dimensions. This integrated approach to health is increasingly recognised as best practice in both end of life care and other areas of medicine. Current research suggests that spirituality is a key aspect of end of life care, but that it is not well attended to, and under researched. The topic is broad so as to be exploratory and hypothesis generating. As the project develops, more clarity and definition will result, for this research is breaking new ground in the New Zealand context.
Study Aims
Within a context where the incidence of cancer is increasing, the proposed research aims to investigate, explore and improve spiritual well-being concepts and practices in Aotearoa New Zealand palliative cancer care. Specific objectives include:

- literature search and review of overseas and New Zealand literature;
- exploration of understandings concerning spirituality and spiritual care in hospice settings held by staff, patients with cancer and families;
- select / develop a valid instrument to measure spiritual well-being and spiritual care;
- investigate the relations between staff concepts and practices of spiritual care and spiritual well-being of patients.

Progress / Results
Data collection for Stages 1 (qualitative) and 2 (quantitative) are complete. That is, fifty two interviews (patients, family members, staff and Māori experts) have been done across various NZ hospice / palliative care sites; and a survey of 25 hospices has been completed. Analysis and write up continue during 2008.

Dissemination
The results of this work will be made available to all respondents, including New Zealand hospices, in both written and oral forms. Lay and academic presentations will be made, both nationally and internationally, at conferences and hui. Articles will be prepared for publication in national and international journals.

4.1.2 Colorectal cancer control in New Zealand

Staff & Collaborators
Dr Tony Reeder (tenth of 14 co-investigators) with Prof. Ann Richardson (principal investigator) and co-investigators Mr Angus McGee, Dr Ian Sheerin, Mrs Gillian Abel, Dr Lisa Fitzgerald, Ms Suzanne Pitama and Dr Phil Hider (Dept. of Public Health and General Practice, Christchurch School of Medicine and Health Sciences); A/Prof. Bridget Robinson (Dept. of Medicine, Christchurch School of Medicine and Health Sciences); A/Prof. Brian Cox (Hugh Adam Cancer Epidemiology Unit, University of Otago); Dr Diana Sarfati (Dept. of Public Health, Wellington School of Medicine and Health Sciences); Dr Terri Green (Dept. of Management, University of Canterbury); Dr Susan Parry (Dept. of Gastroenterology, Middlemore Hospital, Auckland), and Mr Ian Bissett (Dept. of Surgery, University of Auckland).

Funding
HRC (Health Research Council) project grant.
Rationale
Currently, NZ health services cannot provide timely investigation and treatment for people with colorectal cancer (CRC), nor provide surveillance for individuals at increased risk of CRC, let alone offer CRC screening. This research will provide information that is essential for health service planning. It will also produce a powerful research tool for NZ, because the approach can be adapted to other disease outcomes in order to determine the requirements of new interventions. The approach is being applied to CRC in NZ initially, because information in this area is urgently needed.

Study Aims
In order to obtain information that is essential to help reduce the impact of CRC in NZ, a computer model will be developed which, when combined with epidemiological, clinical, economic, and qualitative data, will estimate the future services and costs required for appropriate treatment and follow-up for people with CRC, surveillance for those at increased risk, and CRC screening in NZ.

The specific SBRCU contribution to the project is in the area of qualitative research (thematic analysis of semi-structured interviews) into the perceptions of 1) health professionals (ten GPs and ten specialists) and 2) the general public - through telephone interviews with four groups (50-74 years of age), those considered at: (i) high risk (referred to a specialist for colonoscopy or other tests and have taken up this referral and been assessed by a specialist), (ii) high risk (referred to a specialist for colonoscopy or other tests but have not taken up this referral), (iii) moderate risk and (iv) low risk. Māori participants as well as additional GPs and specialists from regions with high numbers of Māori patients will be purposefully selected as although the incidence of CRC is higher among non-Māori, Māori are more likely to die as they are less likely to be diagnosed early.

Progress / Results
Project has started, staff been appointed and interviewing begun.

Dissemination
Wide dissemination to participants, Ministry of Health, District Health Boards, NZ Cancer Control Trust and CSNZ. Papers will be prepared for publication in journals and presentations for conferences.
4.1.3 The history of health education posters in NZ

Staff
A/Prof. Rob McGee and Juanita Ketchel with Dr Warwick Brunton (Dept. of Preventive & Social Medicine).

Funding
Dept. of Preventive and Social Medicine.

Rationale
Posters have been used as tools for health education in NZ for a considerable period of time. They usually have a high visibility in terms of attracting attention. They provide information for people who may have difficulty reading. They may be very cost effective. They can serve a function as reminders or cues at various behavioural choice-points (e.g. to encourage fruit and vegetable purchase in supermarkets). However, there has been no comprehensive examination of this material.

Study Aims
The project had aimed to provide a systematic examination of these poster collections in archives in Dunedin (Hocken Library) and Wellington (Archives NZ). The second aspect will involve using coding frames based upon the visual qualities of the posters together with a communication framework to examine the way health messages were delivered. (e.g. appeals to fear, humour, safety, good citizenship, and so on); and the target audiences (e.g. children, parents, workers, health professionals). We will be able to trace changes over time, and relate content to historical Dept. of Health (DoH) concerns.

Progress / Results
Cataloguing of posters is in process and articles in the Health Bulletin, published by the DoH from 1948-1993 have been recorded in category groups in order to document any shifts in focus on health. This search has also aided the dating of some of the posters from earlier years.
4.1.4 Public perceptions of cancer risk, prevention and treatment

Staff and collaborators
Dr Tony Reeder in collaboration with Dr Judy Trevena (Dept. of Psychological Medicine, Dunedin School of Medicine).

Funding
Cancer Society of New Zealand Inc. (core funding); former University of Otago research project.

Rationale
It is important to document public perceptions about cancer because they are potentially relevant for targeting primary prevention activities, and underlie motivations that influence the uptake of screening programmes and the acceptability of diagnostic and treatment services.

Progress / Results
A 2001 CATI survey of a random sample of the general NZ adult population (n = 438) produced a large dataset, much of which has already been analysed and published. During 2007, the remaining data were written up in the form of a paper about public perceptions of reducing the personal risk of getting cancer.

Most participants considered that there were things which people could do to help reduce their risk of cancer. We specifically asked about nutritional and other behavioural factors and perceptions of whether a range of factors, including being overweight, the consumption of animal fats, the experience of sunburn, and exposure to sunlamps and second hand tobacco smoke would increase, decrease or make no difference to risk. This specific project has now been completed, but further work is in the planning stages.

Dissemination
In addition to the two papers already published, the findings of the most recent analyses were written up and published as a paper in 2007.19

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4.2 Other Activities:

Cancer Control and Health Promotion

4.2.1 Conference and workshop attendances

Conference presentations
In July 2007, Richard Egan gave a presentation on *Spirituality: a dimension and determinant of health* at the Public Health Association Conference in Auckland and another entitled *Spirituality in (Health) Education* at the New Zealand Health Teachers’ Association Conference, Dunedin. In August 2007, Richard also presented a poster entitled: *Spirituality in New Zealand Hospice Care: Early ‘Chaplain’ Interview Findings*; at the Spirituality & Health Conference, Festival Theatre, Adelaide, Australia.

Workshop presentations
In February 2007, Richard Egan gave a presentation on *Spirituality and Health* at the Sea of Faith Network NZ (Otago) Meeting, Māori Hill Church, Dunedin. A Research Student Seminar was given by Richard Egan on *Spirituality in NZ End-of-life Cancer Care: Mid-PhD research discussion* at the Dept. of Preventive and Social Medicine, Otago University in April 2007. Richard also gave a presentation on *Spirituality in End-of-Life Care: a learning exchange* in October 2007 at the Psychosocial Oncology Group Presentation, Otago District Health Board, Dunedin Hospital.

4.2.2 Teaching, training, postgraduate supervision and scholarships

In July 2007, Richard Egan gave a *Spirituality: a dimension and determinant of health* lecture at the Otago Polytechnic School of Nursing and seminars for PUBH 702: Society, Health and Public Policy, Dept. of Preventive & Social Medicine (July), and for the Departments of Theology & Religious Studies, Otago University in October, entitled: *Spirituality, Health, A Discussion*. Rob McGee continues to be a supervisor for Richard’s PhD project.
Part II

Staff publications by major topic area, 1992-2007
2.1 Healthy Physical Activity and Nutrition

In chronological order, with the most recent listed last in each sub-section

Referred papers


Theses

PT01 Richards R. *Predictors of physical activity participation during adolescence and young adulthood*. A thesis submitted for the degree of Doctor of Philosophy (PhD), University of Otago, Dunedin, 15th December 2006.
Reports

PR01 Reeder AI, Chalmers DJ, Begg DJ, Langley JD. *Participation in physical activity and selected sports, the use of protective practices, and sports injury experience of the Dunedin Multidisciplinary Health and Development Study cohort at age 21 years*. A report prepared for the Accident Rehabilitation and Compensation Insurance Corporation, February 1997. Injury Prevention Research Unit, Department of Preventive and Social Medicine, Otago Medical School, Dunedin. (20p + appendices).

PR02 Reeder AI. *The development and implementation of the Otago Lifesaver host responsibility programme for licensed club premises*. Occasional Report 36, ISBN 0-0908958-37-4. Injury Prevention Research Unit, Department of Preventive & Social Medicine, Dunedin School of Medicine, Dunedin, November 1998. (54p).

PR03 Richards R, Reeder AI. *Physical activity: its measurement and health benefits, and the participation and opinions of young New Zealand adults*. A report to the Cancer Society and Hillary Commission, Social & Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, Dunedin School of Medicine, January 1999. (60p + appendices).


PR05 Richards R, Reeder AI. *Physical activity for cancer prevention*. A report prepared for the Cancer Society of New Zealand. Social & Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, Dunedin School of Medicine, August 17, 2001. (6p).

PR06 Richards R, Reeder AI. *Participation in vigorous physical activity, decisional balance scores and health status among young New Zealand adults*. A report to the Cancer Society of New Zealand. Social & Behavioural Research in Cancer Group, Dunedin School of Medicine, September 2003. (20p + appendices)


PR08 Richards R, Darling H, Reeder AI. A discussion document to report and seek feedback on the Preliminary findings from the ‘Sponsorship and Fundraising in New Zealand Schools Study’: Challenges and opportunities. Social and Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, Dunedin School of Medicine, Dunedin, February 2004. (15p + appendices).


Conference presentations (since 1998)


PC08 Richards R, Reeder AI, Poulton R, Williams S. *Predictors of patterns of physical inactivity among New Zealand adolescents.* Fifth National Physical Activity Conference, Melbourne, October 2005.

Workshop presentation


Tertiary seminars and lectures
1. Richards R, Reeder AI, Poulton R. *Longitudinal patterns and tracking of sport participation from childhood to early adulthood*. Student research seminar, Department of Preventive & Social Medicine, Dunedin School of Medicine. May 8, 2003.


3. Quigg R. *Children’s activity in their local environment: An explanation of the study design*. Student research seminar, Department of Preventive & Social Medicine, Dunedin School of Medicine. 27 March 2007.


8. Richards R. *Translational research: a case study of tracking of physical activity - from statistics to sound-bite*. Presented to Department of Preventive and Social Medicine/Public Health Association, Dunedin. 6 October 2007

Media Release
PMR1 Richards R. Getting kids active may not be enough to make active adults. Otago University media release, 28 December 2007.

Submissions
PS01 Begg DJ, Reeder AI, Simpson J. *Submission on Alcohol and Young People - comments on proposed ALAC strategic approach*. Submitted to Alcohol Advisory Council, 23 October 1996.


2.2 Ultraviolet Radiation Studies

Refereed papers


http://www3.interscience.wiley.com/cgi-bin/fulltext/42145/PDFSTART


http://www.blackwell-synergy.com/action/doSearch

http://www.blackwell-synergy.com/action/doSearch
Part 2


http://her.oxfordjournals.org/cgi/reprint/19/6/677


Book chapters


Theses


MT03  Kime NH. Sun protection information in summer weather reports: perceptions and practices. A thesis submitted for the degree of Master of Science in Health Promotion, Leeds Metropolitan University, UK, 2nd June 2003.


**Professional publications**


**Reports**

MR01  Morris J, Elwood M. How effective are sun exposure modification programmes? Social & Behavioural Research in Cancer Group / Hugh Adam Cancer Epidemiology Unit, Department of Preventive and Social Medicine, University of Otago, May 1995. (56p).


MR04  Reeder AI. Results from the Māori respondents included in the national survey of awareness, understanding and response to sun protection messages in media weather reports. A report to the National Health Promotion Committee, Cancer Society of New Zealand. Social & Behavioural Research in Cancer Group, Department of Preventive and Social Medicine, Dunedin School of Medicine, March 2001. (12p + appendices).

MR05  Reeder AI. Skin cancer prevention in New Zealand: A discussion document to help guide future SunSmart programme directions. A report prepared for the Cancer Society and Health Sponsorship Council Joint Working Group. Social & Behavioural Research in Cancer Group, Department of Preventive and Social Medicine, Dunedin School of Medicine, August 2001. (68p).

MR06  Kime N, Reeder AI. Sun protection information in summer weather reports: perceptions and practices. A report prepared for the Cancer Society of New Zealand Inc., and the Health Sponsorship Council. Social & Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, Dunedin School of Medicine, December 2002. (29p + appendices).

MR08 Jopson JA, Reeder AI. Sun protection in New Zealand secondary schools: obstacles and opportunities. Social & Behavioural Research in Cancer Group, Department of Preventive & Social Medicine, Dunedin School of Medicine, June, 2004. (42p + appendices).


MR10 McCool J, Petrie K, Gorman D, Reeder AI. Non-melanoma skin cancer: outdoor workers’ perceptions of risk and sun protection use. Final report prepared for the Cancer Society of New Zealand (Wellington Division) Inc. Department of Psychological Medicine, Faculty of Medical and Health Sciences, University of Auckland, December 2004. (40p + appendices).


MR13 Jopson JA, Reeder AI. Are NZ Primary Schools SunSmart? A Baseline study prior to the implementation of the National SunSmart Schools Accreditation Programme. A report to the Cancer Society of New Zealand, August 2006. (36p + appendices).


Conference presentations (from 1998)


MC14 Reeder AI, Jopson JA.  *Sun protection policies and practices of NZ territorial authorities: Rationale and preliminary findings*. Oral presentation at the Public Health Association of New Zealand Conference, Wellington, July 2005.

MC15 Wright CY, Reeder AI, Bodeker G, Allen A, McKenzie R.  *Linking real-time solar UV radiation exposure with the social and physical environment, activities, knowledge and attitudes of New Zealand school children*. 6th World Congress on Melanoma, Vancouver, Canada, 6-10 September 2005 (poster).


MC21  Jopson JA, Reeder AI. *A baseline study prior to implementation of a New Zealand primary schools’ National SunSmart Accreditation Program.* 8th Biennial Behavioural Research in Cancer Control Conference: Fortitude Valley, Queensland, Australia, 27-29 September 2006.


**Public seminar presentations (from 1998)**

MPS1  McGee R. *Fun in the sun.* Otago Branch of the Public Health Association of New Zealand and the Department of Preventive and Social Medicine, University of Otago, Dunedin, 30 April, 1998.

MPS2  Reeder AI. *The Melanoma Prevention Programme in New Zealand.* Barnett Lecture Theatre, Dunedin Hospital, 4 October 2001.

MPS3  Jopson JA, Reeder AI. *Sun protection in New Zealand secondary schools: obstacles and opportunities.* Department of Preventive and Social Medicine & Otago Branch of the Public Health Association of New Zealand, University of Otago, Dunedin, September 9, 2004.

**Workshop presentations (from 2003)**

1. Reeder AI. *Current commitment to population monitoring of sun protection in New Zealand.* Australian Sun Protection Survey meeting, Melbourne, 8 April 2003.


5. Reeder AI, Jopson J. *Sun protection policies and practices of Territorial Authorities: rationale and preliminary findings.* Cancer Society Health Promotion Workshop, Auckland, November 2005.


8. Reeder AI. *Snakes and Ladders: Picking a safe path for UVR and vitamin D health promotion in NZ.* Presented at the Round Table on Vitamin D, UVR exposure and health, Wellington, 26 July 2007.

**Student seminar presentations (from 2007)**

1. Henry G. *Attitudes towards suntanning in NZ, 1994-2006 and Application of Item Response Theory (IRT) to a ProTan Scale.* Presented at the Department of Preventive & Social Medicine, University of Otago, 10 July 2007.

2. Hammond V. *Outdoor workers and sun protection: Workplace or worker?* Presented at the Department of Preventive & Social Medicine, University of Otago, 10 July 2007

**Media releases**

**MMR1** Reeder AI, Richards R. Sun protection information in weather reports helps everyone. December 8, 2000.


**Submissions**

**MS1** The SunSmart Operational Group of the Cancer Society of New Zealand Inc. (Reeder AI). The need for legislation and regulations to control and monitor harmful exposure to ultraviolet radiation from equipment used for cosmetic tanning or other non-medical purposes. A submission to the Ministry of Health in response to: A Review of the New Zealand Radiation Protection Legislation: A Discussion Document. 2003.
2.3 Tobacco control

Refereed papers


[http://tc.bmj.com/cgi/reprint/15/1/34](http://tc.bmj.com/cgi/reprint/15/1/34)


**Invited editorials**

TE1 Reeder AI. Let’s clear the air of second hand smoke! *New Zealand Medical Journal*, 2001;114(1126): 53-54.  


**Letters published in scientific journals**


**Theses**

**TT1** Darling H. Personal, family, school and other factors that protect young people from cigarette smoking. A thesis submitted for the degree of Doctor of Philosophy (PhD), University of Otago, Dunedin, 3rd December 2005.

**Professional publications / non-refereed (recorded from 2003)**

**TN01** Darling H, Reeder A. Strong support for smoke-free schools. *Health Promoting Schools Magazine*, Public Health South, Dunedin, May 2003, p2.

**TN02** Reeder A. How things have changed. Link. Otago-Southland Division of the Cancer Society of New Zealand, Dunedin, May 2003.

[http://tc.bmj.com/cgi/reprint/13/3/243](http://tc.bmj.com/cgi/reprint/13/3/243)


**TN05** Darling H, Reeder AI. Exposure to secondhand smoke (SHS) is associated with adverse health outcomes for children and adolescents, including increased risk of invasive meningococcal disease, respiratory and middle-ear infections, and exacerbation of asthma symptoms. *Health Promoting Schools Magazine*. May 2004.


**Reports**


**Conference presentations (from 1998)**


TC04  Reeder AI, Blair A. *Views from the hospitality industry on smoking bans.* The Environmental Tobacco Smoke / Passive Smoking Conference, Wellington, 30 November 1999.

TC05  Reeder AI, Blair A. *Environmental tobacco smoke: New Zealand legislation & hospitality industry views on the prohibition of smoking in licensed premises,* Dunedin (poster). 11th World Conference on Tobacco or Health, Chicago, August 2000.
TC06 Reeder AI, Blair A. Environmental tobacco smoke: Views from the hospitality industry on prohibition of smoking in licensed premises, Dunedin, New Zealand. 6th International Congress of Behavioural Medicine, Brisbane, November 2000. International Journal of Behavioral Medicine, 2000; 7:569 (abstract).


TC08 Reeder AI, McGee R. Is the New Zealand youth access programme “a failed strategy”? Tobacco Control Research Symposium, Wellington, September 2002.


TC11 Darling H, Reeder AI. Student quit attempts, smoking sanctions and cessation programmes in New Zealand schools. Oral presentation at the 12th World Conference on Tobacco or Health, Helsinki, Finland, 3-8 August 2003.

TC12 Darling H, Reeder A. Youth smoking and exposure to second hand tobacco smoke: A New Zealand study. Oral presentation at the 12th World Conference on Tobacco or Health, Helsinki, Finland, 3-8 August 2003.

TC13 Waa A, Darling H. Risk factors associated with smoking among indigenous youth: Findings from a survey of New Zealand Māori youth. Poster presentation at the 12th World Conference on Tobacco or Health, Helsinki, Finland, 3-8 August 2003.


**Workshop presentations (from 2003)**


Tertiary seminars and lectures

1. Reeder AL. Tobacco control. Seminars for 5th year medical students public health attachment (four seminars throughout year to 2007).


Public seminar presentations (from 1998)

TPS1 Reeder AL. Youth smoking: A burning issue. Public Health Association, Otago Branch, and Department of Preventive and Social Medicine. Department of Preventive and Social Medicine, Dunedin, September 9, 1999.

TPS2 Darling H. School influence on behaviours: The example of tobacco smoking. Public Health Association, Otago/Southland, and Department of Preventive and Social Medicine. Department of Preventive and Social Medicine, Dunedin, April 6, 2006.

Media releases


TMR02 Reeder AL. Smoky bars, like sawdust and spittoons, are “a thing of the past.” November 24, 2000.

TMR03 Reeder AL. Study underlines continuing need for quit smoking services. September 14, 2001.


TMR07 Darling H, Reeder AL. Smoke-free homes help youth stay smoke-free. Otago University media release, 30 May 2003.
TMR08 Darling H, Reeder AI. Tobacco Prevention Efforts Should Include Younger Children. Otago University media release, 10 September, 2004.  


Submissions

TS2 Social and Behavioural Research in Cancer Group staff submissions supporting ASH’s submission on MP Grant Gillon’s Cigarettes Fire Safety Bill, 2001.

TS3 Reeder AI. Tobacco control legislation to protect and promote public health in New Zealand. Submission to the Health Select Committee in support of the Smoke-free Environments (Enhanced Protection) Amendment Bill 1999 and Supplementary Order Paper. November 2001.

TS4 McGee $, Reeder AI. Submission to the Ministry of Health regarding pictorial warnings, 13 June 2006.

Letters to the Editor (from 2006)


Other
TO1 Darling H. Youth & Smoking. Factsheet prepared for the Quit Group. February 2005.

2.5 Other research in cancer control and health promotion

Treatment/ screening issues

Refereed papers


**Theses**


**Media Releases**


**Reports**


**Child and adolescent health**

**Referred papers**


Invited editorial


Professional publications

AN1  Richards R, Darling H, Reeder AI. *Current research about sponsorship and fundraising in New Zealand schools*. Health Promoting Schools, Otago, Muhiiku and Wakatipu, Public Health South, August 2004.  

Conference presentations


AC2  Darling H, McGee R, Williams S, Reeder AI. *Self-concept among a large sample of New Zealand adolescents: are they related to school and demographic characteristics?* Self Concept Conference, Sydney 2002.


AC4  Darling H, Reeder AI. *Preliminary results: New Zealand students' disposable income and spending on items with potential health risk.* Presented as a paper at the Public Health Association Conference, Christchurch, New Zealand 30 June-2 July 2004.

AC5  Darling H, Reeder AI. *Use of the Internet for health information by New Zealand secondary school students, preliminary results.* Presented as a poster at the Public Health Association Conference, Christchurch, New Zealand 30 June-2 July 2004.


Workshop presentations (from 2003)


Media Releases

Psychosocial factors

Refereed papers


PSP5 Trevena J & Reeder A. Perceptions of New Zealand adults about reducing their risk of cancer. *New Zealand Medical Journal*, 2007; 120 (1258)

Book chapter

Book review

Invited Editorial

Report
PSR1 McGee R. Comment on “Cannabis: the PHC’s advice to the Minister.” A report to the Cancer Society of New Zealand, Department of Preventive & Social Medicine, Dunedin School of Medicine, Dunedin, August 1995. (This report formed the basis of the Society’s submission on Cannabis and Health to the Minister of Health).
Professional publications

Conference presentations

Workshop presentations
2.  Egan, R. Spirituality in NZ End-of-life Cancer Care: Mid-PhD research discussion. Department of Preventive and Social Medicine, Otago University. Research Student Seminar. April 17, 2007

Tertiary seminars and lectures

Submissions
PART III

Dissemination plans for 2008 by major topic area
3.1 Healthy Physical Activity & Nutrition

Refereed papers
4. Richards R, Darling H. Interest in sports among inactive adolescents: an opportunity for public health?

Conference Presentation

3.2 Ultraviolet Radiation Studies

Refereed papers
1. Wright C, Reeder AI, Gray A. Sun-related knowledge, attitudes and practices among New Zealand school children: the role of gender, year level and a school factor.
2. Wright C, Reeder AI, Gray A, Bodeker G. Predictors of excess UV radiation exposure and identification of possible intervention opportunities.

6. Hammond V, Reeder AI, Gray AR, Bell ML. Are workers or their workplaces the key to occupational sun protection?


10. Wright C, Reeder AI, Gray A, Cox B. Child sun protection: sun-related attitudes mediate the association between children’s knowledge and behaviours


PhD Thesis

MPH Thesis
Hammond V. Solar ultraviolet radiation exposure and workplace sun protection in outdoor occupational groups.

Conference Presentations


3. Hammond V, Reeder AI, Gray, A. Patterns of real-time occupational ultraviolet radiation exposure among a sample of outdoor workers in New Zealand population. To be presented at: The 9th Behavioural Research in Cancer Control Conference, Melbourne; April 2008
Student Seminar Presentation


3.3 Tobacco Control

Refereed papers


3. Darling H, Reeder AI, Williams S, McGee R. Attending a place of worship, unsupervised activities and tobacco smoking. In submission.

Submission


MPH Thesis

1. Guo J. *Nicotine dependence among Year 10 & 12 NZ students in the 2004 Youth Lifestyle Survey*
3.4 Other research in cancer control and health promotion

Refereed papers


PhD Thesis

Egan R. *Spirituality in New Zealand hospice / palliative care*

Conference Presentations

1. Egan R. *Spirituality in Health: Research Overview*. To be presented at: PHA Conference, June 2008