# EDGAR NATIONAL CENTRE FOR DIABETES RESEARCH ANNUAL REPORT 2007

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### 1. RESEARCH AND ACTIVITIES REPORT

The Edgar National Centre for Diabetes Research (ENCDR) has had a successful year in terms of attracting research funding, new initiatives, project completions and publications. Extension of our Health Research Council Programme Grant (value: \$2.1m) as well as smaller grants from Lottery Health Research and the Maurice and Phyllis Paykel Trust ensure the continuing viability of our research programmes. The appointment of Dr Rachael Taylor as the Karitane Products Society Senior Research Fellow in Early Childhood Obesity will considerably enhance activities of the ENCDR.

The formation of the Centre for Translational Research in Chronic Diseases (CTRCD) under the aegis of the ENCDR has facilitated close collaboration with colleagues at Massey and Victoria Universities and the Auckland University of Technology and provides opportunities for strengthening other existing links both nationally and internationally. The first major contract involves a 4 year evaluation of the Healthy Eating, Healthy Action (HEHA) programme, the Government's principal public health strategy for reducing the epidemic of obesity and associated comorbidities, including type 2 diabetes, in New Zealand.

A number of major projects were successfully completed during 2007 including the publication describing the results of the active intervention phase of the APPLE Study, the first evaluation of the Ngati and Healthy Prevent Diabetes Project and the HEAT Project which examined approaches to the long term maintenance of weight loss.

The World Health Organization Expert Panel on dietary carbohydrates and the New Zealand Ministry of Health Expert Advisory Group on diabetes and cardiovascular disease, both chaired by Jim Mann and supported by members of the ENCDR team, completed their reports, now published. Jim Mann also played a lead role in the much publicised World Cancer Research Fund Report on Diet, Physical Activity and Cancer which identified obesity as the common causal risk factor for the three major groups of non-communicable disease: type 2 diabetes, cardiovascular disease and cancer. These and other activities are described in more detail in the sections which follow.

# a) Research funding

• Health Research Council of New Zealand (Programme Grant extension): 'Lifestyle and nutritional approaches to reduce obesity, type 2 diabetes and its complications'. Investigators: Prof Jim Mann, Dr Rachael Taylor, Dr Kirsten McAuley, Dr Kirsten Coppell, Ms Lorraine Brooking, Assoc Prof Sheila Williams, Assoc Prof Geoff Chase, Dr Alex Chisholm, Dr Geoff Shaw, Ms Eleanor Murphy, Dr David Tipene-Leach, Ms Helen Pahau, Assoc Prof Patrick Manning, Prof Rob Walker, Dr Wayne Sutherland, Miss Victoria Farmer, Mr Chris Booker. Starting: 01/07/07 for 3 years (\$2,116,152)

This HRC programme grant funds 3 projects:

i. **'The APPLE project: preventing obesity in children via environmental intervention'.** Principal Investigator: Dr Rachael Taylor. Commencing 1<sup>st</sup> September 2007 for 3 years (\$948,554). Process Evaluation and long term follow up.

- ii. **'Ngati and Healthy'.** Principal Investigators: Dr Kirsten Coppell and Prof Jim Mann. Commencing 1<sup>st</sup> September 2007 for 3 years (\$713,105). Process Evaluation and second phase intervention.
- iii. **'Validation of a new clinical test for insulin sensitivity'**. Principal Investigator: Dr Kirsten McAuley. Commencing 1st September 2007 for 2 years (\$454,493).
- Maurice and Phyllis Paykel Trust. 'The effects of IL-18 on body weight regulation'. Investigators: Prof Dave Grattan, Mr Chris Booker. Starting on 01/05/07 for 3 years (\$22,000).
- Lottery Health Research. 'Impact of removing televisions from households: feasibility study'. Investigators: Dr Rachael Taylor, Assoc Prof Oliver Davidson, Prof Grant Schofield, Dr Martha Bell, Miss Victoria Farmer. Starting on 01/01/08 for 1 year (\$72,877).

### b) Collaborations

### Centre for Translational Research in Chronic Diseases

• The Centre for Translational Research in Chronic Diseases (CTRCD) was established under the aegis of the ENCDR in March 2007. The CTRCD principally involves close collaboration with colleagues in Massey and Victoria Universities, the Auckland University of Technology and the Department of Human Nutrition at the University of Glasgow and has the potential to strengthen other existing collaborations with individuals and institutions nationally and internationally. A contract, potentially of the value of around \$4m, has been awarded following a request for proposals by the Ministry of Health to evaluate the Healthy Eating, Healthy Action (HEHA) strategy, the Government's public health approach to reducing obesity and its comorbidities, including type 2 diabetes. Personnel involved in the CTRCD are listed in Appendix 1.

### Ngati Porou Hauora (NPH)

• The long standing collaboration with NPH relating to the Ngati and Healthy Prevent Diabetes Project (led by colleagues from NPH and Dr Kirsten Coppell) has enabled the development of a successful community diabetes prevention programme. The process evaluation of the first phase of this project and a second prevalence survey were completed in 2007.

## University of Canterbury and Christchurch School of Medicine

• Dr Kirsten McAuley's work on assessing insulin sensitivity has led to an HRC research grant which has enabled a major collaboration study (led by Dr McAuley) to be established in Christchurch with Prof Geoff Chase and Dr Thomas Lotz (University of Canterbury) and Drs Geoff Shaw and Juliet Berkeley (Christchurch School of Medicine).

### World Health Organization

• Strong collaboration continues with the WHO Nutrition and Chronic Diseases (including diabetes) groups based in Geneva. 2006 saw the publication of the WHO/FAO Scientific Update on Carbohydrates chaired and edited by Jim Mann who also acted as advisor to the review on trans fatty acids.

### World Cancer Research Fund

• Jim Mann was a member of the Advisory Group and Panel (strongly supported by the ENCDR team) which produced the widely acclaimed report Diet, Physical Activity and Cancer. This report has particular relevance to type 2 diabetes since it now identifies obesity as the risk factor common to all three major groups of chronic diseases: type 2 diabetes, cardiovascular disease and cancer.

### International Union of Nutritional Sciences

• The panel on Evidence-Based Nutrition is chaired by Jim Mann. He also acts as the liaison person between the International Union and the Nutrition Group at WHO.

### European Union Diabetes Research Groups

• Jim Mann has convened the group which has generated and revised the nutritional guidelines for the management of diabetes on behalf of the European Association for the Study of Diabetes since 1985. As a result of this work, close collaboration has developed with the diabetes research groups in the Universities of Dusseldorf, Uppsala, Naples and Kuopio.

### c) Other contributions to the research environment

(in addition to those mentioned under (b) above):

- (i) APPLE (<u>A Pilot Programme for Lifestyle and Exercise</u>) Study. The active intervention phase of this, the first controlled community-based intervention study aimed at reducing childhood obesity, has been completed and evaluated with publications in the American Journal of Clinical Nutrition and the Health Education Journal.
- (ii) HEAT (<u>Healthy Eating And Training</u>) Study. This HRC funded project which examined approaches to the long-term maintenance of weight loss provided the central component of Dr Kelly Dale's PhD thesis. The first paper summarising the findings has been submitted to the British Medical Journal.
- (iii) Measurement of insulin sensitivity. The first phase of this research led by Dr Kirsten McAuley has been completed and led to the publication of a review article in Diabetes Care.
- (iv) Otago Diabetes Project. During the year, the ENCDR became the custodian of this project and the 10<sup>th</sup> year of this primary care focussed quality improvement project was completed. Ten years of longitudinal data will facilitate answers to a number of useful research questions.
- (v) Award of Ministry of Health Research Contract (in response to a Request for Proposals) to lead a consortium to evaluate the national Healthy Eating, Health Action (HEHA) programme, one of the largest government sponsored public health programmes.

- (vi) Initiation of several new research projects:
  - Lifestyle Over and Above Drugs in Diabetes (LOADD) Study
  - Impact of removing televisions from households: feasibility study
  - The effects of IL-18 on body weight
- (vii) Other activities: Jim Mann chaired the Ministry of Health Expert Advisory Group which developed the first phase of the Quality Improvement Plan for Diabetes and Cardiovascular Disease as well as several advisory groups relating to the implementation of the HEHA strategy. Kirsten Coppell and Jim Mann contributed to the National Diabetes Epidemiology Workshop in August and Kirsten wrote the summary report of the workshop for the Ministry of Health. Kirsten Coppell and Jim Mann were appointed to the New Zealand Guidelines Group panel charged with the revision of the cardiovascular disease and diabetes guidelines.
- (viii) ENCDR staff act as regular reviewers for international medical and scientific journals including the Lancet, Diabetologia, Diabetes Care, the American and European Journals of Clinical Nutrition and Professor Jim Mann is on the Editorial Board of 5 international journals. He also chairs the Scientific Committee of the National Heart Foundation of New Zealand and the Diabetes and Nutrition Study Group of the European Association for the Study of Diabetes (EASD) which updates the nutritional recommendations for those people with diabetes.

Staff also regularly review applications for research grants to the Health Research Council of New Zealand, the National Heart Foundation of New Zealand, Medical Research Council (UK), Diabetes UK, National Health and Medical Research Council (Australia) and the National Institutes of Health (USA) and occasionally for other international grant awarding bodies.

- (ix) Staff of the ENCDR are involved in the supervision of 5 PhD students: Lorraine Brooking, Claire Cameron, Amber Strong, Lisa Te Morenga and Chris Booker, previously Senior Research Technician in the ENCDR, jointly supervised by Associate Professor Dave Grattan of the Department of Anatomy and Structural Biology.
- (x) Teaching within and external to the university is also undertaken. In addition to teaching undergraduate and postgraduate students, teaching on diabetes has been provided for nurses and general practitioners.

# 2. Community Involvement (Talks, conferences, awards or recognition)

The work of the Centre has been well reported in the national media (press, radio and television) and articles have been written for a lay readership. Several examples are given in Appendices 3-5. There has been considerable involvement with community organisations at the national and local levels. For example, Jim Mann acts as an advisor to Diabetes New Zealand (DNZ) nationally and is also patron of Diabetes Otago. In addition to serving as Chair of the Scientific Committee of the National Heart Foundation (NHF) he acts as an advisor to several of their community and patient related groups and has been guest speaker at several local functions of the NHF (for example, the Anniversary Celebrations of the Southland Branch).

All members of the ENCDR have given invited lectures to a wide range of other community groups as diverse as Rotary Clubs, the Otago Over 60s Club, University of the 3<sup>rd</sup> Age and the Royal Arch Annual Convocation of Free Masons, New Zealand

The ENCDR is involved with the running of the New Zealand Society for the Study of Diabetes (NZSSD). Professor Jim Mann and Dr Kirsten Coppell are members of the executive committee, with Professor Mann being Chairman. The ENCDR acts as the secretariat for the NZSSD.

# **Invited conference and symposium lectures**

- Mann J. Dietary Fibre: Confusion reigns supreme. Invited lecture. 25<sup>th</sup> International Symposium on Diabetes and Nutrition (DNSG), Kuopio, Finland, June, 2007.
- Mann J. Stemming the tide of the Diabetes Epidemic in New Zealand. Keynote lecture. Joint New Zealand & Australian Nutrition Societies Conference & Annual Scientific Meeting, Auckland, December 2007.
- Mann J. The changing pattern of heart disease in NZ: New approaches required. Invited lecture. Medical Sciences Congress, Queenstown, November 2007.
- Mann J. Obesity as a risk factor for cancer. Invited lecture. World Cancer Research Fund's Launch of Report on Food, Nutrition, Physical Activity and the Prevention of Cancer: A Global Perspective, October/November 2007, Beijing and Hong Kong.
- Coppell K. Insulin Resistance and Diabetes in New Zealand. Invited lecture. Symposium on Insulin Resistance, Diabetes and Vulnerable Populations. Research Centre for Māori Health and Development, Massey University, October 2007.
- Mann J. Body fatness: Its significance to cancer. Invited lecture. The Cancer Society of New Zealand Symposium, Wellington, November 2007.
- Mann J. Obesity, Prediabetes and Diabetes. Invited lecture. Perioperative Nurses' Conference, Dunedin, September 2007.

- Mann J. Food and nutrition in the prevention and treatment of diabetes. Invited lecture. 45th Annual Conference, Diabetes NZ, Hamilton, May 2007.
- Mann J. Diabetes prevention strategies. Invited lecture. South Link Education Trust GP Conference, Queenstown, May 2007.
- Mann J. Definition of dietary fibre. Invited lecture. Food Standards Authority New Zealand (FSANZ) – Quads Meeting – Dietary Fibre Workshop, Auckland, March 2007.

### **Conferences**

- <u>Taylor R</u>, McAuley KA, Barbezat W, Williams SM, Mann JI. Reducing excessive weight gain in 5-12 year old children via enhancing non-curricular activity and healthy eating: the APPLE project. ADS & ADEA Annual Scientific Meeting in association with NZSSD. 5-7 September (Christchurch, NZ). Oral Presentation.
- <u>Dale K</u>, McAuley K, Mann J, Taylor R, Chisholm A, Vorgers S, Williams S, Farmer V. Determining optimal approaches for successful maintenance of weight loss. 25th International Symposium on Diabetes and Nutrition. 25<sup>th</sup> Diabetes and Nutrition Study Group Symposium (Finland). Oral Presentation.
- <u>Lotz T</u>, McAuley KA, Chase G, Shaw GM, Mann J. A simple model-based test for insulin sensitivity compares well with the euglycaemic hyperinsulinaemic clamp. ADS & ADEA Annual Scientific Meeting in association with NZSSD. 5-7 September (Christchurch, NZ). Poster Presentation.
- Coppell K, Williams S, Anderson K, <u>Farmer V</u>. Changes in hospitalisations for the Otago Diabetes Register population, 1997-2005. What does it mean? ADS & ADEA Annual Scientific Meeting in association with NZSSD. 5-7 September (Christchurch, NZ). Poster Presentation.
- <u>Coppell K</u>, Williams S, Anderson K. Characteristics of type 2 diabetic patients with unsatisfactory glycaemic control enrolled on the Otago Diabetes Register. ADS & ADEA Annual Scientific Meeting in association with NZSSD. 5-7 September (Christchurch, NZ). Poster Presentation.

### **Awards**

• Kelly Dale received the Young Investigator Award at the 25<sup>th</sup> Diabetes and Nutrition Study Group Symposium in Kuopio, Finland.

### 3. Plans for the coming year

It will be clear from the preceding sections that many of the research and service commitments are ongoing.

The APPLE Study enters a new phase: process evaluation and a further survey to determine the extent to which benefits accrued during the active intervention phase have been sustained. The structural strategy of the Ngati and Healthy Project will be extended and the process evaluation with the addition of a formative evaluation continued for another 3 years. The LOADD (Lifestyle Over and Above Drugs in Diabetes) Study is now in full swing and may lead to a multicentre, multinational study with morbidity and mortality endpoints rather than clinical and laboratory measures as in the present study. The insulin sensitivity work in Christchurch will gather momentum. The evaluation of the HEHA strategy represents a major challenge and will be immensely time consuming. The IL-18 Study and the feasibility study relating to removing televisions from households (see Section 1C (vi) above) will be initiated. The initiation of additional projects will depend upon the success of HRC grant applications currently pending.

ENCDR staff are scheduled to give keynote and invited lectures and oral presentations at major international conferences:

- International Diabetes Federation-Western Pacific Region Congress, Wellington (31 March-4 April)
- 5<sup>th</sup> World Congress on Prevention of Diabetes and its Complications, Helsinki, Finland (1-4 June)
- 10<sup>th</sup> Nordic Meeting for Dietitians, Uppsala, Sweden (10-12 April)

National and international guideline and advisory groups described earlier will continue.

# 4. Comments from the Leading Thinker

There have been two key developments in the life of the ENCDR during the past year: the appointment of Dr Rachael Taylor as Karitane Products Society Senior Research Fellow in Early Childhood Obesity and the formation of the University of Otago Centre for Translational Research in Chronic Diseases (CTRCD). Obesity is the major preventable cause of type 2 diabetes and there is universal agreement that the greatest hope of prevention and risk reduction lies in the earliest possible intervention. Dr Taylor has been associated with the ENCDR since its establishment, but the contribution which the Centre can make to this core component of its activities will understandably be enhanced by this appointment.

The formation of the CTRCD creates exciting opportunities for collaboration with leading authorities in the fields of *marketing* (Professor Janet Hoek, Professor of Marketing, Massey University); *physical activity* (Professor Grant Schofield, Director of the Centre for Physical Activity and Nutrition Research, Auckland University of Technology, specialising in the role of physical activity in enhancing human health); *public policy* (Dr Jackie Cumming, Director of the Health Services Research Centre, Victoria University); *public health* (Dr Louise Signal, Health Promotion and Policy Research Unit, Department of Public Health, University of Otago, Wellington) and *economics of obesity and primary health care* (Dr Bronwyn Croxson, Health Services Research Centre, Victoria University) and strengthening our relationship with Prof Mike Lean of the University of Glasgow, an internationally acknowledged expert in obesity research. Although the major initial task of the CTRCD will be the evaluation of the HEHA strategy, the ENCDR as a whole will benefit from the expertise of these colleagues whose fields of interest impact on most, if not all, aspects of our activities.

I believe that the achievements of the ENCDR in terms of both research outputs and professional activities have been considerable. This is entirely a result of the enthusiasm and commitment well beyond the usual call of duty shown by all those associated with the Centre. Those employed in other University departments and institutions have been as involved as the small number of staff members directly employed by the ENCDR. The outputs have been remarkably diverse ranging from publication in the leading international medical journals (see Appendix 2) and involvement in high level national and international decision making to the provision of a secretariat for the New Zealand Society for the Study of Diabetes (NZSSD).

There have been some staff changes among the core group in Dunedin. Dr Kirsten McAuley has reduced her official time commitment to the Centre because of family responsibilities but retained responsibility for the insulin sensitivity research as well as involvement with several other research projects. Chris Booker has started working towards a PhD, but retains a strong involvement with the Centre both through his research and with responsibility for the organisation of journal clubs and maintenance of our website. We are delighted to have been joined by Margaret Johnston as Senior Research Technician, an experienced high school teacher and chemist who brings a range of additional skills to our group. She joins Victoria Farmer as the only other full-time staff member. Dr Kirsten Coppell has increased her official time commitment to 0.8FTE, though this still does not adequately acknowledge the workload accepted by her and indeed all others involved in our work.

We have been fortunate both in terms of our endowment and in being able to attract reasonably substantial research grant contract funding. However we are all too well aware of the unpredictability of research funding and we have no funding for infrastructure and our wide ranging public service commitments which form a core component of our mission. We

are undoubtedly overcommitted to an extent that is not sustainable in the long term without additional income. Thus we must attempt to increase our endowment income. In addition we remain committed to enhancing our activities relating to type 1 diabetes with exciting prospects on the horizon in 2008. Currently, most of our research in the ENCDR has related directly or indirectly to type 2 diabetes. This applies to other New Zealand-based research as well as the activities of relevant governmental and non-governmental organisations. Yet there is convincing research that rates of type 1 diabetes are escalating. The causes of this increased prevalence are unknown and services provided for those with type 1 diabetes are not taking into account the fact that type 1, along with type 2, diabetes, is rapidly acquiring "epidemic status".

J. J. Karn

## 5. Summary of staff and postgraduates supervised

### **STAFF**

### Professor Jim Mann (Director) CNZM, FRSNZ

Jim Mann has been Professor in Human Nutrition and Medicine at the University of Otago and Consultant Physician (Endocrinology) in Dunedin Hospital for the past 20 years. He is Director of the Edgar National Centre for Diabetes Research and the WHO Collaborating Centre for Human Nutrition. For the preceding 15 years he lectured at the University of Oxford and worked as a Physician in the Radcliffe Infirmary. His research and clinical work have principally been in the fields of lipids and carbohydrates as they relate to diabetes and coronary heart disease. He is the author of 306 publications, 72 book chapters and 6 books on related topics.

He has been involved with a number of national and international organisations concerned with nutrition and health, several of which he has chaired or is continuing to chair, including the Diabetes and Nutrition Study Group of the European Association for the study of Diabetes, the Scientific Advisory Committee of the National Heart Foundation of New Zealand, the Expert Advisory Group on Diabetes and Cardiovascular Disease of the New Zealand Ministry of Health and several Expert and Advisory Groups of the World Health Organization, World Cancer Research Fund and the International Union of Nutritional Sciences.

### **Dr Kirsten Coppell** (Senior Research Fellow) MBChB, MPH, FAFPHM

Dr Kirsten Coppell is a specialist in public health medicine and has also trained and practised as a general practitioner. Prior to undertaking diabetes research she was involved with monitoring the National Cervical Screening Programme and worked as a medical officer at the Family Planning Association. Kirsten has a particular interest in monitoring and evaluation of registers as a tool to improve quality of care and community interventions.

### **Dr Kirsten McAuley** (Senior Research Fellow) *MBChB*, *PhD*

Dr Kirsten McAuley is a medical practitioner with extensive experience in clinical and community-based studies regarding weight loss, obesity, diabetes and insulin sensitivity in adults. Dr McAuley's previous research includes studies assessing the estimation of insulin sensitivity using simple surrogates and she has implemented a number of clinical studies involving lifestyle intervention in insulin resistant individuals.

# **Dr Rachael Taylor** (Karitane Products Society Senior Research Fellow in Early Childhood Obesity) *PhD*

Dr Rachael Taylor was employed in this position in May 2007. Dr Taylor has had over 12 years investigating various aspects of body composition, obesity and health in children and adolescents. She was also the principal investigator for the APPLE (<u>A Pilot Programme for Lifestyle and Exercise</u>) Study, the first successful New Zealand obesity prevention initiative in children which demonstrated that a relatively simple intervention can significantly reduce the rate at which primary school aged children gain weight.

**Margaret Johnston** (Senior Research Technician) *BSc, PGDipSci, DipTeach* Margaret has a background in Chemistry and has many years teaching experience at the secondary school level. She joined the ENCDR at the beginning of 2007 and is particularly involved with the evaluation of the Healthy Eating, Healthy Action (HEHA) programme currently being undertaken by the ENCDR, CTRCD and collaborators.

### Victoria Farmer (Senior Research Technician) MSc

Victoria Farmer's Masters research involved isolating bacteriocins produced by *Staphylococcus aureus* and *Staphylococcus warneri*. A move from a communicable disease research environment to the ENCDR has led Victoria to assist with running the Centre and involvement in numerous research projects carried out by the ENCDR. In 2008 she will study a University paper, Public Health 701: Epidemiology and Biostatistics.

### Chris Booker (PhD Student) BSc(Hons)

Chris Booker, formerly a Senior Research Technician at the ENCDR, started a PhD in 2007 with funding provided by a Postgraduate Scholarship from the National Heart Foundation. His research will focus on the role of inflammatory markers and adipokines in type 2 diabetes, and be based at both the ENCDR and the Department of Anatomy and Structural Biology.

### **POSTGRADUATES SUPERVISED**

### PhD

- Kelly Whiteford. The HEAT Study; Encouraging Weight Maintenance. 2003 2007.
- Lorraine Brooking. Lifestyle interventions to improve Māori health. 2001 -
- Lisa Te Morenga. Nutritional determinants of insulin sensitivity. 2006 -
- Chris Booker. Inflammatory markers and adipokines in type 2 diabetes. 2006 -
- Amber Parry-Strong. Dietary intervention for the Diabetes Excess Weight Loss (DEWL) Study. 2007 -

### *MSc*

- Amber Strong. Reducing sugary drink consumption and increasing fruit and vegetable consumption of primary school children. 2005 2006.
- Wendy Aitken. Genetic variation and plasma cholesterol response to changes in dietary fat. 2004 2005.

#### M MedSci

 Nathan Joseph. Barriers to improving glycaemic control in Māori patients with type 2 diabetes. 2005 -

### B Med Sci

• Emma Heydon. A survey of iodine status and pre-diabetic status in a Sherpa Community. 2005 – 2006.

### 6. APPENDICES

# <u>APPENDIX 1: Personnel involved in the Centre for Translational Research</u> <u>in Chronic Diseases</u>

**Principal investigators:** 

Dr Bronwyn Croxson

Prof Jim Mann Edgar National Centre for Diabetes Research, Department of

Medical and Surgical Sciences, University of Otago

Prof Mike Lean Department of Medical and Surgical Sciences, University of

Otago

Department of Human Nutrition, University of Glasgow,

Scotland

Prof Janet Hoek Department of Marketing, Massey University

Prof Grant Schofield Auckland University of Technology,

Centre for Physical Activity and Nutrition Research

Mr Terry Ehau bpac<sup>NZ</sup> and Ngati Porou Hauora

Dr Jacqueline Cumming Victoria University, School of Government

Dr Louise Signal Department of Public Health,

Wellington School of Medicine and Health Sciences Health Services Research Centre, Victoria University

Dr Kirsten CoppellEdgar National Centre for Diabetes ResearchDr Kirsten McAuleyEdgar National Centre for Diabetes Research

Dr Rachael Taylor Karitane Products Society Senior Research Fellow in Childhood

Obesity, Edgar National Centre for Diabetes Research

Assoc Prof Sheila Williams Department of Preventive and Social Medicine,

University of Otago

Prof Ailsa Goulding Department of Medical and Surgical Sciences, University of

Otago

Assoc Prof Oliver Davidson Department of Psychological Medicine, University of Otago

Assoc Prof Paul Hansen Department of Economics, University of Otago

Dr Geoffrey Shaw Department of Medicine

Christchurch School of Medicine and Health Sciences

Research Fellow, University of Canterbury

Prof Geoffrey Chase Department of Mechanical Engineering, University of

Canterbury

Assoc Prof Dave Grattan Department of Anatomy and Structural Biology,

University of Otago

Dr Jeremy Krebs Wellington School of Medicine and Health Sciences

Dr Rawiri Tipene-Leach Ngati Porou Hauora

**Associate Investigators:** 

Victoria FarmerEdgar National Centre for Diabetes ResearchMargaret JohnstonEdgar National Centre for Diabetes ResearchChris BookerEdgar National Centre for Diabetes Research

Dr Kelly Dale Department of Women's and Children's health, University of

Otago

Dr Lorraine Brooking Department of Human Nutrition, University of Otago Department of Human Nutrition, University of Otago

### APPENDIX 2: Published research articles in 2007

### **Refereed Journal Articles**

- Mann J. Dietary carbohydrate: relationship to cardiovascular disease and disorders of carbohydrate metabolism. *European Journal of Clinical Nutrition* 2007;61(Suppl 1):S100-S111.
- McAuley KA, Mann JI, Chase JG, Lotz TF, Shaw GM. Point: HOMA-Satisfactory for the Time Being: HOMA: The best bet for the simple determination of insulin sensitivity, until something better comes along. *Diabetes Care* 2007;30(9):2411-2413.
- Mann JI, Cummings JH, Englyst HN, Key T, Liu S, Riccardi G, Summerbell C, Uauy R, van Dam RM, Venn B, Vorster HH, Wiseman M. FAO/WHO Scientific Update on carbohydrates in human nutrition: conclusions. *European Journal of Clinical Nutrition* 2007;61(Suppl 1):S132-S137.
- Goulding A, Grant A, Taylor R, Williams S, Parnell W, Wilson N, Mann J. Ethnic differences in extreme obesity. *Journal of Pediatrics* 2007;151:542-544.
- Parnell W, Wilson N, Alexander D, Wohlers M, Williden M, Mann J, Gray A. Exploring the relationship between sugars and obesity. *Public Health Nutrition* 2007;Sep 21:1-7.
- Taylor RW, McAuley KA, Barbezat W, Strong A, Williams SM, Mann JI. APPLE Project: 2-y findings of a community-based obesity prevention program in primary school age children. *American Journal of Clinical Nutrition* 2007;86(3):735-742.
- Mann J, McAuley K. Carbohydrates: is the advice to eat less justified for diabetes and cardiovascular health? *Current Opinion in Lipidology* 2007;18:9-12.
- Taylor RW. Obesity in New Zealand children a weighty issue (editorial). *New Zealand Medical Journal* 2007;120(1260):ISSN 1175 8716. URL: http://www.nzma.org.nz/journal/120-1260/2689/
- Taylor RW, Williams SM, Grant AM, Ferguson E, Taylor BJ, Goulding A. Waist circumference as a measure of trunk fat mass in children aged 3 to 5 years. Accepted, to appear in the *International Journal of Pediatric Obesity*.

### **Submitted**

- Taylor RW, Murdoch L, Carter P, Gerrard DF, Williams SM, Taylor BJ. Longitudinal study of physical activity and inactivity in preschoolers: FLAME study. Submitted 2007 *Medicine Science in Sports and Exercise*.
- Taylor RW, Williams S, Baylor B. Choosing the most appropriate BMI reference data to define overweight/obesity in the new 4.5-year-old Well Child Health Check. Submitted 2007 *New Zealand Medical Journal*.

### **Textbooks**

• Essentials of Human Nutrition. Published by Oxford University Press. J.I. Mann and A.S. Truswell (eds) 1st edition 1998, 41 chapters; 2nd edition 2002, 38 chapters; 3rd edition 2007, 40 chapters.

### **Book Chapters**

- Mann JI, Truswell AS. Chapter 10.1: Diseases of overnourished societies and the need for dietary change. In: Warrell DA, Cox TM, Firth JD, editors. Oxford Textbook of Medicine. 5th ed. Oxford: Oxford University Press; 2007. To be published.
- Mann JI, Cummings J. Carbohydrates. In: Mann JI, Truswell AS, editors. Essentials of Human Nutrition. 3rd ed. Oxford: Oxford University Press; 2007. p. 8-32.
- Mann JI, Skeaff M. Lipids. In: Mann JI, Truswell AS, editors. *Essentials of Human Nutrition*. 3rd ed. Oxford: Oxford University Press; 2007. p. 33-52.
- Mann JI, Chisholm A. Cardiovascular Diseases. In: Mann JI, Truswell AS, editors.
   *Essentials of Human Nutrition*. 3rd ed. Oxford: Oxford University Press; 2007. p.
   283-312.
- Mann JI. Diabetes mellitus and the metabolic syndrome. In: Mann JI, Truswell AS, editors. *Essentials of Human Nutrition*. 3rd ed. Oxford: Oxford University Press; 2007. p. 327-342.

### Reports

 World Cancer Research Fund / American Institute for Cancer Research. Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective. Washington, DC: AICR, 2007.

### APPENDIX 3: Media

Members of the ENCDR are regularly interviewed by national and international media, most especially Radio New Zealand National, the New Zealand Herald, the Dominion Post, the Christchurch Press and the Otago Daily Times. Some *other* examples are listed below:

World Cancer Research Fund (WCRF) Second Expert Report:

On 1 November 2007 the WCRF released its Second Expert Report on Food, Nutrition, Physical Activity and the prevention of Cancer - A Global Perspective. Prof Jim Mann was a member of the Expert Panel behind the report and gave numerous interviews on its publication: *Interview with Prof Jim Mann on TV One News:* 

http://tvnz.co.nz/view/video popup windows skin/1425921

*Interview with Prof Jim Mann on TV 3 News:* http://www.tv3.co.nz/tabid/209/articleID/38248/Default.aspx

'Cancer Society to host launch of report' Article on scoop.co.nz: www.scoop.co.nz/stories/GE0711/S00104.htm

'Modern lifestyle contributing to global cancer rates- experts respond' Australian Science Media Centre article: www.aussmc.org/WCRF global cancer rates.php

*'Cancer report angers Aust meat industry'*ABC Local radio interview:
www.abc.net.au/worldtoday/content/2007/s2078487.htm

'Obesity, inactivity top cancer cause rankings'
FOODweek Online Article:
www.foodweek.com.au/main-features...articleId=1003

'Fighting NZ's Epidemics With Food, Exercise' Epoch Times Article: https://www.ninecommentaries.com/news/7-11-26/62346.html

'Founders of innovative diabetes project to speak' 7 November 2007 Article on scoop.co.nz: www.scoop.co.nz/stories/GE0711/S00046.htm

'A1 milk critic no expert – nutritionist'
11 October 2007
Article on stuff.co.nz:
http://www.stuff.co.nz/4233104a11.html

'Program helps kids stay at a healthy weight'
20 September 2007
Article on Health News by Reuters:
www.sutterdoc.com/health/healthinfo/reuters....cfm?fx=article&id=38901

'Dr Rachael Taylor on school tuck shops'

11 June 2007

Interview with Dr Rachael Taylor on TV One Breakfast:

http://tvnz.co.nz/view/video\_popup\_windows\_skin/1178637

'Regulating unhealthy foods in schools'

11 June 2007

Interview with Prof Mann and National MP Katherine Rich on Campbell Live:

www.tv3.co.nz/.../CampbellLive/...7/cat/97/Default.aspx

'Government launches \$6m "Feeding our Futures" programme'

24 May 2007

New Zealand Herald Article:

http://www.nzherald.co.nz/.../story.cfm?c id=280&objectid=10441578

'Child obesity focus of research post'

8 May 2007

Article on TV One News:

http://tvnz.co.nz/view/page/1107145

'Otago to research child obesity'

8 May 2007

Article in New Zealand Herald:

http://www.nzherald.co.nz/...story.cfm?c id=1&objectid=10438406

'Demise of project deplored'

17 April 2007

Article in the Otago Daily Times

'Cut condemns diabetes project'

24-25 March 2007

Article in the Otago Daily Times

'Lessons learned from healthier school setting'

10 March 2007

Article in New Zealand Herald:

http://www.nzherald.co.nz/.../story.cfm?c id=288&objectid=10428086

'Bitter pill for vitamin industry'

28 Feb 2007

Article on TV One News:

http://tvnz.co.nz/view/page/1007431

'Spending needed to fight diabetes'

2 Feb 2007

Article in the Gisborne Herald

# **APPENDIX 4: Internal or professional newsletters**

'Big!' University of Otago Magazine, Issue 16, February 2007. Pages 20-23.

'APPLE study puts the bite on childhood weight gains' HRC News. Issue 56, June 2007 (page 14)

HRC Performance Highlights 2006/07 (page 16).

Harwood M and Tipene-Leach D. Chapter 9: Diabetes. In Robson B, Harris R, editors. *Hauora: Māori Standards of Health IV. A study of the years 2000-2005.* Wellington: Te Rōpū Rangahau Hauora e Eru Pōmare.

# APPENDIX 5: Publicity materials, conference reports/programmes

Edgar National Centre for Diabetes Research pamphlet.