

Sydney University Nutrition Research Foundation

Annual Report 2005-2006

Objectives

- to foster and support research in human nutrition
- to strengthen links with industry and the health sectors
- to provide a forum for the exchange of research findings
- to aid research scholars working in the field of human nutrition

Council Members

Chairman: Emeritus Professor A Stewart Truswell AO

Deputy Chairman: Mr Bill Shrapnel

Director: Professor Ian Caterson AM

Honorary Governors: Mrs Beth Boden
Professor Jennie Brand-Miller
Dr John Christian AO
Ms Margaret Fulton OAM
Professor Peter Sainsbury
Ms Catherine Saxelby
Dr Diana Thomas

Liaison Officer:

Corporate Governors: Abbott Australasia Pty Ltd
Dairy Australia
DSM Nutrition Products
Kellogg Australia Pty Ltd
Masterfoods (Australia & New Zealand)
McDonalds Australia Ltd
Meat and Livestock Australia
Unilever Australia Ltd
Wyeth Nutrition Australia Pty Ltd

Chairman's Report 2006

*Stewart Truswell AO, Emeritus Professor
MB ChB MD Cape Town DSc FRCP FPHM FRACP*

In my Chairman's reports I have concentrated on the national nutrition scene so I leave news from the Human Nutrition Unit to the Director who is in charge of it. In my report for the last Council Meeting (31st January) I wrote about the new NH&MRC Nutrient Reference Values books. These are now at the printers for the hardcopy and I imagine the numbers are available online from the Commonwealth Department of Health.

Then there was our Symposium on Vitamin D. A paper on the nutritional aspects of our new knowledge about Vitamin D by Bill Shrapnel and myself has been accepted by the ANZ dietitians journal "Nutrition and Dietetics" so we hope to see it published in the next few months. Our paper raises the question whether more of our foods should be fortified because thousands of especially older people don't get in the sun enough and also have higher requirements. Fortification of modified milks, like the prevalent 2% fat "Lite" milks is already allowed by FSANZ and we hope the dairy industry will think about voluntary fortification.

The third topic in my January report was our other Symposium on nutrition for the housebound elderly. Mr Bartl, Ms Bunney and I have written these up as fairly informal notes from the Symposium, and they will be printed shortly. A copy will go to all who attended and to the council members. In the same general area but quite independently, I have been asked to give a plenary lecture on nutrition for older people at the annual scientific conference of the Nutrition Society of Australia, which will be in Sydney this year at the end of November (Nov 24- Dec 2). Last year the Society had an excellent conference in Melbourne and we hope Sydney's follow on won't be too much weaker. Our problem here is that the Nutrition Society has one branch in Melbourne (so a lot of talent and workers). But in NSW they are split up into Newcastle branch, Wollongong branch, Canberra branch, as well as a (much reduced) Sydney branch. Another problem for this Nut Soc Conference is that it is overshadowed by the International Obesity Conference to be held at Darling Harbour in September. But I do hope that members of the Foundation will support the Nutrition Society's conference enthusiastically. Incidentally, the Nutrition Society has had 30 annual conferences and as far as I can see, there has never been a plenary lecture on nutrition for older people. So there is quite a lot to say.

I thought it would be good to bring the Council up to date on the research status in our Human Nutrition Unit. Dr Bing Wang is a medical graduate and consultant neonatologist from Tianjin, China. When she came to us in 1996, to learn more about nutrition research with Professor Jennie Brand-Miller she was at first supported by SUNRF. She has since become a fluent lecturer in English, graduated PhD, obtained research grants from the NH&MRC and from international industry, and has her own four research students. She has mastered an unusual range of research skills from molecular biology through biochemistry and pediatrics to animal behaviour. She is now an international expert on nutrition and brain development in young infants. Her studies have concentrated on sialic acid (N-acetyl neuraminic acid), a 9 carbon amino sugar which is part of the structure of gangliosides in the grey matter of the brain.

They play a crucial role in the transmission of storage of information. Human brain contains much more sialic acid than other animals. Human milk contains four times more sialic acid than cows milk, and the brains of SIDS babies, she found, contain significantly more sialic

acid in those who were breast fed than those who had been fed on formula. Her big question is whether sialic acid is a conditional essential nutrient in human infants, whether endogenous synthesis is marginal and hence exogenous sialic acid important for full brain development. Dr Wang last year finished an impressive set of animal researches with baby piglets and showed that those given extra sialic acid remembered their way better in a feeding maze. She has also isolated some of the genes of enzymes involved in sialic acid metabolism.

Her work has already led to a change in the composition of some infant formulas and is opening up a new area that she calls “Nutrigenomic Cognitive Neuroscience”. The initial support that Dr Wang had from SUNRF was one of our best investments.

Lastly, I am delighted that our Deputy Chairman, Bill Shrapnel has organised a very timely symposium for SUNRF on Diet and Cancer, for 10 May. It’s a long time since SUNRF looked into this subject in a symposium and there have been some surprises and even disappointments in recent years. I think that at the advancing front of nutritional and epidemiological research, diet and cancer looks rather different from the concepts that are bandied about by the popular nutrition media. The three speakers Bill has recruited are all excellent and experienced. The American speaker comes from the Willett’s group, one of the two leading groups in the world on diet and cancer. The Melbourne speaker Dr Giles is running the major cohort study in Australia, and the Adelaide speaker, Dr Peter Baghurst (husband of Dr Katrine Baghurst) is an experienced nutrition epidemiologist. I hope that Bill has allowed enough time for questions and answers after each talk.

Director's Report

*Ian Caterson, Professor
AM MMBS BSc(Med) PhD FRACP, Boden Professor of Human Nutrition
Co-director NSW Centre for Public Health Nutrition*

Each year the Foundation gets busier and does more and this year has been no exception. The Human Nutrition Unit has had another successful year and this has been due, in no small part, to the help that SUNRF and the Governors give. We are able to support research, give PhD scholarships to support good students, and to help teaching and continuing education. The fact SUNRF exists means, compared to the other disciplines in the School of Molecular & Microbial Biosciences, the HNU is flexible, advanced and very successful. We continue to provide more, in terms of actual support and per capita income than any other group. The Foundation makes this possible.

In the last 12 months we have not produced a major report of the activities of SUNRF and the HNU. This was a conscious decision, to have a small report and to attempt to produce regular newsletters, but owing to the pressure of day-to-day work, this has not been possible. So, we will produce a formal printed report at the end of this year documenting our activities in detail. This type of report, though it takes time & effort and is costly does show what SUNRF is doing and is of benefit to our Governors and Supporters as well as to us and the University.

Council Matters.

Each year there are changes on Council. This year we have "lost" a couple of long term supporters. Kellogg did not find themselves able to continue the Kellogg Lectureship but we look forward to them returning as Governors. Other industry partners who have reduced involvement this year are the Australian Sugar Industry but we look forward to them returning as well. We wish to express our thanks to Dr Eithne Cahill (Australian Sugar Industry), Monique Rennie (George Weston Foods), Dr Suresh Gulati (Goodman Fielder), Dr Vijaya Rajendram (Nestle Australia) and Mr E E Bond who have retired and we welcome Kristene Mullins (McDonalds Australia) and Dr Diana Thomas who have joined the Council. The current list of Governors and Council members is given elsewhere in this report.

Having a Council is important. It does help us get beyond a limited academic view of matters of nutritional importance and we welcome the input of Governors. It is essential for nutrition in the University to advance. One regret I have is that many companies and businesses in the nutrition area do not see this opportunity for dialogue and input, rather they are looking for immediate commercial advantage. This narrow approach is a pity. In the current environment, food companies in particular, are seen as less responsible and in fact causing harm to sections of the community. More radical groups are calling for their exclusion from consultation and for legislation limiting their activities. It is important they realise the opportunity being involved with an academic group and with SUNRF Council gives. In addition to such input and dialogue, we have tried to have a presentation of aspects of research being done in the HNU at each Council meeting and these appear both to be of interest and of use to Council members.

One continuing problem for Council is ensuring continuity and experience of the secretariat. Rachel Moerman has been Secretary of Council for the last 12 months. She has been a power of good, organised and helpful. We thank her for all she has done and the way she has learned so quickly. Unfortunately for us she has been awarded a promotion within the University and so we will be without her services soon. We need to find someone who will give the same degree of organisational skills and involvement to replace her, and someone who will develop rapport with our Governors & Council.

It is possible that the other issue that is of importance may provide some help. The Senate of the University has decided that there should be a "standard" constitution for each of its Foundations. We have been discussing the implementation of this process over the last six months or so. Council of SUNRF is definite in its opinion that the aims of the Foundation need to be specific for the needs of the HNU rather than the generic ones suggested. We have been negotiating this. However the remainder of the rule changes are to ensure charitable status and help with financial reporting. It is my hope that the proposed "Foundations Officer" will be able to provide ongoing support and continuity for SUNRF.

Another issue we have to consider given the reorganisation of the University is the place and role of the HNU. The planned Institute of Obesity, Nutrition and Exercise would appear to be the correct grouping to encourage both our research and the work of SUNRF. It is pleasing to see the Faculty of Medicine have supported the new Chair of Metabolic Health which will be partly within the HNU.

Symposia

This year we have had two Symposia. Both were excellent and well received. The first was on "Vitamin D" and a series of speakers presented on modern aspects of this old hormone. It was a stimulating afternoon and we will publish the proceedings. The second Symposium was held later in the year "Nutrition in elderly, housebound Australians". Again this was a stimulating, in fact ground-breaking event. The presentations were excellent. The two Symposia demonstrated that we are the leaders in nutritional thought and research and we attracted increasing numbers to this shortened type of symposium. Therefore we plan to hold two similar meetings this year. The first, "Diet and Cancer" has been organised by our Vice-President, Bill Shrapnel. SUNRF has invited Graham Colditz to speak and this will be held on 10th May. We are delighted by the support we have received from MLA and from Unilever by their educational grants which will be used to support this symposium.

We continue to support the 10th International Congress of Obesity which will be held in Sydney in September.

Research.

Research and its support is a major role of SUNRF. Much of our funds now come to support specific research areas and this is shown by the increase in our salaries budget - all of which goes to research support. This has been a good year for research. The full list of publications will be made available at the end of the year. Jennie Brand Miller, Tim Gill and Stewart Truswell continue to be asked to speak and national and international organizations on their work, as do I. The Centre for Public Health Nutrition continues to be productive and has had increased funding provided until the end of 2007 by NSW Health. It and the Centre for Overweight and Obesity and the "Prevention Research Centres" of the University are important initiatives. The "Obesity in Asia Collaboration", with individuals in Asia as well as the George Institute, the International Obesity Task Force (London) & the International Diabetes Institute (Melbourne), has continued, has had data lock and has attracted NHF funding. This will be an ongoing involvement for SUNRF. We have also received funding from the Telstra Foundation for studies on communicating about obesity. We have maintained our involvement in clinical trials and this will be a major part of our income for 2006.

A number of our students have been awarded their PhDs including Alison Gosby, Kirsty Mehalski and Celia Walker. We have several new PhD students, including Kyra Sim and Suzanne Pearson who have both been awarded SUNRF scholarships.

The SUNRF grants for 2005 have been awarded to

a) Arthur Conigrave \$10000

Contribution to a microscope for basic research

b) Gareth Denyer \$8000

Is the Weight "Set Point" Mediated by Adipocyte Transcriptome Changes?

c) Kim Bell Anderson \$8000

Are BKLf knockout mice resistant to dietary-induced obesity?

d) Samir Samman \$7300

Determinants of vitamin B12 status in elderly subjects

e) Stewart Truswell \$5000

Admin support for the Nutrition in Older Australians project

Staff

This year Beth Rohrlach has rejoined us as a full time academic and her enthusiasm and experience is appreciated. She has already implemented innovations in the way we teach and this will add to our research. We are grateful for her enthusiasm. We are appointing a clinical tutor who will be based at Canterbury Hospital and this appointment together with the teaching clinics will enhance our ability to teach. The approach puts us at the forefront of nutrition & dietetics teaching

But, the staff of the HNU remain under very great pressure for the amount of teaching that is needed in the two courses we offer. I thank them all for their effort, professionalism, dedication & support. Samir Samman has been an admirable head of the HNU whilst I have been head of School. He has managed calmly, and has even managed to provide the DAA with the information they requested so our courses can remain accredited. It is reaching the stage where some of these professional demands on education are trespassing on academic initiative and freedom and this something that will have to be addressed in the next 12 months.

Visitors

We continue to support visitors from overseas. This is an important function of SUNRF and benefits the HNU greatly. This year we have supported

a) Prof Stephan Jacob from the University of Tübingen. He is an expert on the metabolic syndrome and provided lots of help for us.

b) Prof Philip James. Philip is a regular, welcome visitor and we should look to making him a member of the HNU.

c) Prof Mike Cawthorn from the University of Buckingham spent time helping the group working with experimental obesity

d) Prof Luc van Gaal. Luc is the Professor of Endocrinology, Diabetes and Nutrition at the University of Antwerp.

In the next few months we look forward to supporting Prof Graham Colditz from Harvard and Prof Stephan Rossner from the Karolinska in Stockholm.

Again the year has been very busy. We have spent more than our income as we have spent grants for specific purposes but we must continue to attract such research income. We will expand the HNU and its work and but we need SUNRF's help to do this.

Thank you all for your help and support, I look forward to working more closely and effectively together and to make sure that we do expand the influence and effectiveness of human nutrition in our University & community.

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