Flinders UNIVERSITY

research pulse

FACULTY OF HEALTH SCIENCES

Volume 3, No. 1 March 2007

Lynne Cobiac, New Chair in Nutrition and Dietetics

Lynne Cobiac

Professor Lynne Cobiac commenced her Chair appointment as Head, Department of Nutrition and Dietetics in the School of Medicine in January 2007. Lynne completed both her Postgraduate Diploma in Nutrition and Dietetics as well as her PhD into the role of eating fish and taking fish oil on cardiovascular risk factors in humans through the School of Medicine, Flinders University. One of Lynne's PhD supervisors was Professor Lindon Wing, Dean of the School of Medicine. Since then Lynne has also completed an advanced MBA at Adelaide University and was awarded a prize in marketing.

Prior to taking up the current position at Flinders Lynne spent 20 years at CSIRO in a variety of roles ranging from research dietitian, PhD student, research scientist, project leader, and most recently as a business development manager and research leader for a range of food, nutrition and diagnostic-related projects. These projects focused on the prevention of the key chronic diseases of Australia, namely colorectal cancer (and conversely the promotion of gut health), Alzheimer's disease and cardiovascular disease as part of CSIRO's Preventative Health National Research Flagship. Lynne played a key role in the establishment of the Preventative Health Flagship. Her previous research interests took her into a wide variety of research areas including consumer science, iron deficiency, cross-cultural differences in nutritional intakes particularly in the Asia Pacific region, as well as research in ageing, and gastrointestinal health. Lynne has also worked in a variety of clinical dietetic positions in both Adelaide and Sydney.

Lynne's current research interests include the following:

- Nutrient intake assessment. Lynne is the nutrition manager for the National Children's Nutrition and Physical Activity survey *Kids Eat, Kids Play* being conducted by CSIRO and the University of South Australia. This is a landmark national survey and will measure the food, drink and nutrient intakes and physical activity patterns of 4000 children aged 2-16 years from across Australia. This will link into other work in her department that focuses on obesity and children.
- The role of nutrition in cancer prevention. Lynne is keen to establish links with others across the University who have an interest in nutrigenomics in the context of colorectal cancer but also in other areas as well. The science of nutrigenomics will help us identify those more in need, and those likely to respond to specific nutrients and will facilitate nutrition to become a more precise/predictive science. Lynne is a member of the Executive of the Flinders Cancer Control Alliance area of research focus and on the Organising Committee for the Nutrigenomics 2008 Conference.
- The role of nutrients in promoting gut health and potentially protecting against risk of developing colorectal cancer, particularly butyrate. This is an ongoing collaboration with CSIRO.
- Determining nutrient efficiency in a systematic manner to assist with developing appropriate clinical guidelines, in partnership with others internally within Flinders and externally, such as CSIRO.
- The role of nutrition in ageing. Lynne has had a long-standing association (since 1992) with the Australian Longitudinal Study of Ageing conducted by the Centre of Ageing Studies here at Flinders University.

Lynne is very interested in talking to a range of people across the University to identify potential opportunities for collaboration. She has been invited to join the Aboriginal Health Research focus area as well as be involved in projects associated with the Clinical Change to Health Care area of research focus. Contact Lynne at lynne.cobiac@flinders.edu.au

From the Executive Dean

It is grant writing and submitting time again and I know that many people in the Faculty of Health Sciences are pushing hard to make the various deadlines, despite the need to address the numerous other weighty matters that continue to form a part of their academic obligations. The fact that so many of you successfully complete the submission of outstanding grant applications, albeit sometimes with only hours or minutes to spare, remains impressive and the Faculty is again grateful for the effort.

The establishment of the cross institutional health economics critical mass to be located at the Repatriation General Hospital is even closer with the final contractual issues for the funding now resolved. The next step is to progress the appointment of the two new health economists to be co-located with Associate Professor Simon Eckermann (Flinders University, School of Medicine, Clinical Change ASRI).

The Research Quality Framework is at last taking some shape, although the details remain somewhat elusive. It seems very likely that this detail will soon be known. What is absolutely clear is that preparing Flinders University for the task of creating its research portfolio, describing both its research quality and impact, will be a formidable job for all of us. This is an extremely important University-wide project which will require our commitment as well as our patience.

Roy Goldie
Executive Dean
Faculty of Health Sciences

School of Nursing and Midwifery Annual Research Summit

The third annual School of Nursing and Midwifery (SONM) Research Summit was held on 5 December 2006. Sixty-two people attended including three distinguished guest speakers, the Faculty's Executive Dean and Deputy Registrar, academic staff, local nurse clinicians, and honours students. The guest speakers were: Professor Mary Palmer from the University of North Carolina Chapel Hill School of Nursing, USA; Professor Deborah van den Hoonaard of the Gerontology Department at St Thomas University, Canada; and Professor Barbara Hayes from the School of Nursing at James Cook University, Queensland. Their presentations are available on http://nursing.flinders.edu.au/research/index.php?id=311

The objectives of the Research Summit were to learn about current research trends in nursing and to raise awareness of the current research activities and opportunities for the School. The main research theme for the Summit was 'Translational Research'.

The Executive Dean of the Faculty of Health Sciences, Roy Goldie, gave a very interesting and informative overview of the Research Quality Framework and its future implications for research at Flinders. Four academic staff members then gave presentations on their existing research projects which arose through successful collaborations with ASRI members (Flinders Centre for Clinical Change and Health care Research, Health and Society, and Flinders Medical Devices and Technologies).

Lunch proved to be a good opportunity for academic staff to consult with colleagues within their research areas of interest, and to introduce themselves to the guest speakers. ASRI representatives were available to consult with SONM academic staff regarding their research mandates and opportunities for research collaborations within the University.

The afternoon session opened with a panel discussion about research issues raised by the audience. The panel members were Professor Paul Arbon, the three guest speakers, and Jan Paterson, with the Dean, Linda Saunders, acting as Chairperson. This was followed by a workshop on five key topic areas of nursing research that allowed opportunities for academic inquiry and consultation regarding current research trends.

Overall, the Research Summit was an enjoyable, productive, and educational experience. We look forward to seeing you all at the next SONM Research Summit which will be held at the end of 2007.



Snaps from the Summit

Recent grants

Research Pulse publishes details of significant (over $100,000 total) grants awarded to members of the Faculty of Health Sciences as we hear about them. New for this edition are the following:

- P Macardle, B Kuss, T Chataway: Defining subsets of CLL on the function of CD20. Cancer Council SA, $426,731 over 1 year.
- W Zhang: Bioactives production through in vitro culture of cells from organs sourced from the meat processing industry. Meat and Livestock Australia Ltd, $399,428 over 1 year.
- A Roche: The culture of drivers risk taking behaviour and their effects on low risk, risky and high risk use of alcohol among 14-24 year old Australian drinkers. DrinkWise Australia, $550,552 over 2 years.

Congratulations to Faculty staff who won six grants from the Cancer Council SA together worth $370,559.

Taking Neuroscience to the Community

South Australian Neuroscience Institute
SANI

Neuroscientists at Flinders University are engaging the South Australian community in an exploration of the significance of neuroscience to the modern world. As members of the South Australian Neuroscience Institute (SANI), Flinders researchers and clinicians have contributed to a wide range of public events in conjunction with *Science Outside the Square* (SOS). These popular SOS events, supported by the Government of South Australia and The Advertiser, are just one legacy of Oxford neuroscientist Baroness Susan Greenfield's appointment as an Adelaide Thinker in Residence. SANI is a cooperative organisation for all South Australians with a professional interest in the neuroscience disciplines.

The most recent SOS event, held in February at the National Wine Centre, addressed the topic *Happiness in a Wired World*. The panel that discussed the *Happy Part of Mental Health* included Jacky Dakin, a psychologist, Dr Margaret Peters, Senior Lecturer in Education, Arts and Social Sciences at the University of South Australia, and Flinders neuroscientists, Professor Dominic Thyagarajan, Head of Neurology at Flinders Medical Centre and Professor Laurie Geffen, Emeritus Professor of Human Physiology at Flinders University and Emeritus Professor of Psychiatry, University of Queensland. Professor Geffen steered the discussion by asking several poignant questions including: What is happiness? How can we tell if we are happy and if others are happy? What is the brain basis of happiness? What effect does the increasing dominance of screen culture have on our concepts of happiness? Finally, the question was raised: Is happiness the same as lack of unhappiness? As expected, the atmosphere was conducive to discussing the 'serious' matter of happiness in a light-hearted way. It was acknowledged that wired or unwired people could achieve happiness despite, or even because of, the internet and mobile phones. Relationships appeared to be most crucial to happiness, and good humour an essential component of human happiness.

Previous SOS events involving members of SANI, held at the Governor Hindmarsh Hotel (The Gov), include *The Science of Art* with Flinders neuroscientists Ian Gibbins and Marcello Costa and theatre director Teresa Crea, *Brain, Movement and Dance* with Ian and Marcello and the renowned choreographer, Leigh Warren. Marcello also participated as a neuroscientist in the SOS event *Veering for Viduka* at the opening of the soccer World Cup, interacting with an inquisitive public about what makes a good penalty kicker or goalkeeper. During Susan Greenfield's last visit in 2006, SANI also co-sponsored a SOS evening on *Believing or Not: the Science of Consciousness and Belief Systems*, facilitated by Robin Williams with discussants Susan Greenfield and Gerard O'Brien, a neurophilosopher from the University of Adelaide.

Together these events demonstrate how Neuroscience has matured as a discipline to address issues of everyday life in an increasingly meaningful way, perhaps slowly replacing other still popular but less scientific explanations. To find out more contact Marcello Costa, Professor of Neurophysiology at Flinders University, and Co-Chair of SANI at marcello.costa@flinders.edu.au or karen.price@flinders.edu.au

Marcello Costa

Placating Pancreatitis

Researchers from Flinders University and Flinders Medical Centre (FMC) have made a major advance in the treatment and relief of acute pancreatitis, a painful and potentially fatal condition.

Acute pancreatitis, or inflammation of the pancreas, is extremely debilitating and painful, affecting around 6,000 Australians each year and hundreds of thousands more around the world. The pancreas is a vital organ that produces enzymes necessary for digestion of food and hormones that affect carbohydrate metabolism. The main problem for sufferers and for clinicians treating acute pancreatitis is the absence of a therapeutic agent that can be administered to augment recovery.

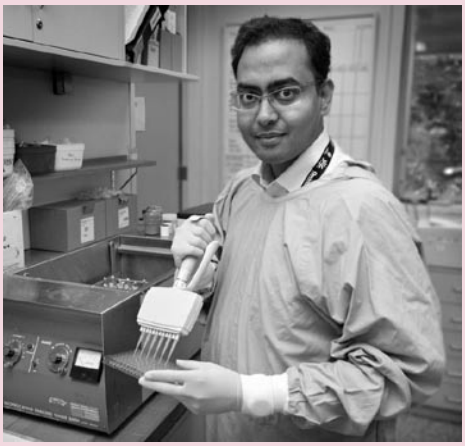
Thanks to recent efforts by the collaborative research team, the problem may soon be a thing of the past. Associate Professor Gino Saccone, Chief Medical Scientist in the Department of Surgery at FMC, and his group, including PhD student and surgical trainee Mayank Bhandari and collaborator Professor Jim Toouli, have teamed up with Associate Professor Colin Carati of the University's Department of Anatomy and Histology to develop a novel therapeutic intervention for this disease.

They have found an agent that has the ability both to increase blood flow to the affected organ and to obstruct damaging enzymes. 'We have discovered that administration of antagonists to a specific family of G-protein coupled receptors in the pancreas can increase blood supply to, and diminish the excessive and damaging enzymatic secretion from, the pancreas in two animal models of this disease', Professor Saccone said. 'This has led to a reduction in acute pancreatitis markers in the blood and an improvement in the condition of the pancreatic tissue.'

While still at an early stage, the research looks set to have profound effects on the eventual treatment of this disease. Associate Professor Carati said that most patients diagnosed with pancreatitis are admitted to hospital and stay there for three to five days before recovering naturally with the use of medications directed towards pain and inflammation management and intravenous fluid replacement. 'However, 20 per cent of patients do not recover and progress to the severe form of the disease and 20 per cent of these severe patients will not survive,' he said. 'What is needed is a medication we can give to all patients as soon as they are diagnosed that will significantly reduce their chances of progressing to the severe form of the disease, or in those patients who do develop severe acute pancreatitis, will reduce the damage to the pancreas and speed up their recovery,' Professor Toouli said.

Work by the team, using model systems, has shown that the antagonist agent can ameliorate the outcomes of the disease at a stage roughly equivalent to that of human patients who present with pancreatitis at a hospital emergency department. 'This is why we are so excited about these results,' Professor Toouli said.

Flinders University's commercialisation company, Flinders Technologies Pty Ltd, has commercial rights to the invention and is currently seeking a pharmaceutical partner to fund development of the technology into a therapeutic agent for world markets. Along with $50,000 funding from Flinders Technologies, intellectual property in the project has already been used to obtain financial support for the research from Bio Innovation SA through a Commercial Development Initiative grant of $50,000.



Mayank Bhandari

PRISM Activities for Postgraduate Research Students

Postgraduate Research Students in the School of Medicine (PRISM), founded in 1998, aims to facilitate social and academic interaction between postgraduate research students. Apart from our social functions, PRISM members also sit on many committees within the University, representing the interests of the postgraduate student body.

Following the success of last year's PRISM seminar series, another great year of fun and interesting presentations is planned for 2007. Our first function for the year was a welcome BBQ lunch held on 8 March on the lawns outside the lecture theatres on Level 5 at Flinders Medical Centre (FMC). At our annual general meeting at 12.00 noon on Wednesday 28 March in the PRISM room (Room 5D:228 at FMC) we will be supplying free pizza and drinks. Learn about the exciting life on the road in an ambulance at our first seminar to be presented by Intensive Care Paramedic Cindy Hein, held as always, on the last Wednesday of each month at 4.00pm in the Michael Berry Seminar Room (Room 6D:222 at FMC). In May, Catherine Hannan, Organ Donor Coordinator, will give an emotive presentation about organ donation following cardiac and brain death. Last year's presentation on clandestine drug laboratories was very popular and we hope to have another speaker this year from Forensic Science SA.

PRISM
Postgraduate Research students
Inthe School of Medicine

You do not need to be a student in the School of Medicine to join PRISM as staff and students across all disciplines are welcome. A $10.00 joining fee applies (since the introduction of voluntary student unionism), but this entitles you to free food and drinks (including beer and wine) at all of our seminars throughout the year.

Hope to see you at a function soon. Enquiries to Sandy Muecke, PRISM Convenor on muec0004@flinders.edu.au or Sarah Brice, Secretary on sarah.brice@flinders.edu.au

New Faculty Office at RGH

The Faculty of Health Sciences has opened a Faculty Office at the Repatriation General Hospital (RGH), Daw Park.

The establishment of the office recognises the very extensive engagement that the Faculty has with the RGH over a wide range of discipline areas. The office will provide a range of services to support staff and students of the Faculty of Health Sciences based at the RGH. It will provide a primary point of liaison for Faculty staff (including RGH staff who hold academic status) and students based at the RGH with the main University campus, and will represent the Faculty's interests at the RGH by acting as a point of information or referral about University policy and procedures, and by facilitating links between the University and RGH, and between academics, clinicians and students engaged in University programs.

The office is located on 1st Floor, A Block which has been recently refurbished for the purpose. The facility includes a student computing lab and rooms for academic staff to meet with students and/or colleagues.

The office is administered by Anthea Williams. Anthea has substantial experience as an administrator and research development officer. She knows the University and the Faculty well, having most recently been employed within the Flinders Human Behaviour and Health Research Unit.

Anthea will devote approximately half her time to the Faculty Office position. For the remainder of her time she is the Administrator and Research Development Officer (RDO) for the Flinders Centre for Clinical Change and Health Care Research (FCCCHR).

Anthea can be contacted on 8275 2882, anthea.williams@flinders.edu.au or in Room 55, First Floor, A Block, RGH.

Anthea Williams

Collaborative Proteomics Research

A grant of $300,000 from Variety Children's Charity of South Australia in collaboration with the Child Health Research Institute (CHRI) and Flinders University has provided the keystone for funding of a $0.5 million state of the art Linear Ion mass spectrometer. This instrument will be the centrepiece of the Flinders Proteomics Facility, established in 2002 at the School of Medicine by the Centre for Neuroscience and the Faculty of Health Science.

Proteomics is the study of the structure, function and interactions of the hundreds of thousands of different proteins expressed in each of our cells. The study of global patterns of protein expression and how these patterns change as a consequence of development or disease assists basic research in areas such as intracellular signalling and benefits clinical research in the identification of new drug targets and the development of new disease markers.

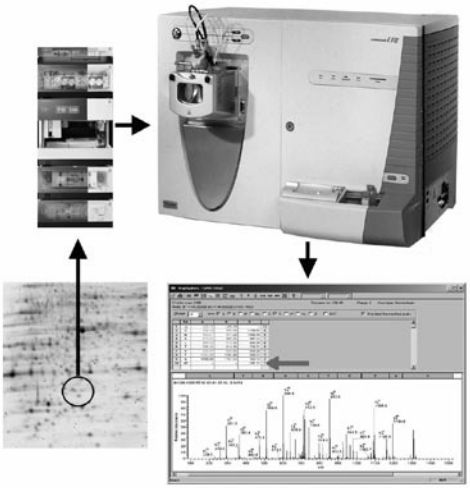
Proteomics will also provide one of the central themes to systems biology, an emerging technology where disease is studied simultaneously by many independent lines of enquiry including protein expression, gene analysis, bioinformatics, epidemiology and cell modelling to provide a comprehensive understanding of both normal cell function and pathological states.

Mass spectrometry is now the technique of choice for the complex challenges of protein identification. Substantial technological advances in both mass spectrometry and the fluid systems that introduce the sample into the instrument now allow protein analysis from less than 250 femtograms of protein (250 million billionths of a gram).

The new Thermo LTQ XL mass spectrometer will be used for protein analysis in a range of child health related research projects at Flinders and CHRI as well as supporting a range of other research projects throughout the Adelaide research community (see box). The mass spectrometer will complement the comprehensive suite of Proteomics technologies established in the facility, now totalling more than $1.25 million.

Dr Tim Chataway, who is the Sir Mark Oliphant Research Fellow, funded by the Flinders Medical Centre Foundation, heads the Flinders Proteomics Facility. For further information he can be contacted on 8204 3108 or at tim.chataway@flinders.edu.au

Dr Tim Chataway



Thermo mass spectrometer (top right) will allow us to identify proteins previously too low in abundance to sequence. Keryn Williams and her colleagues in the Department of Ophthalmology are investigating in a rat model why some premature babies receiving oxygen therapy are at risk of developing the serious eye disease known as retinopathy of prematurity, or ROP. Rat retinal proteins separated by 2-dimensional electrophoresis (lower left) will be injected into the nanoflow HPLC (upper left) and then into the mass spectrometer to identify proteins that are increased in ROP (lower right). This will increase our understanding of why some babies are at risk of ROP.

Introducing Richard Woodman, New Biostatistician

Richard joins the Department of General Practice as the University's new consultant biostatistician. Most recently Richard has worked as a consultant in both the Department of Epidemiology and Biostatistics at Curtin University in Perth and in the Department of Psychiatry at the University of Western Australia (UWA).

Richard graduated with a PhD from the Department of Medicine at UWA and also has a Master of Biostatistics from the University of Sydney and a Master of Sports Science from the University of Sheffield in the UK. His main recent area of research has been in the assessment of arterial structure and function, particularly in individuals with Type 2 diabetes. This was developed during his PhD, which included assessing new software aimed at improving the reproducibility of endothelial function, a recently developed research tool that aids in early identification of cardiovascular risk. This led to further study in the discriminatory value of a wider variety of non-invasive techniques for assessing arterial structure and function including several indexes of arterial stiffness, and carotid intima-media thickness. His PhD focused on the differential effects of EPA and DHA from fish oil on glycaemic control and cardiovascular risk factors in Type 2 diabetes.

More recently, Richard has worked on a range of projects involving the use of large linked databases such as the West Australian Data Linkage System. In 2005 he used these databases to examine the incidence and outcomes of anorexia and bulimia nervosa, and links with breast and cervical cancer during the past 25 years, and the associations between anorexia and bulimia with depression and mortality. He examined the incidence and prevalence of schizophrenia and its association with crime and socioeconomic disadvantage, and participated in the Pathways study which aims to identify the genetic and environmental risks for development of schizophrenia and affective psychoses. Last year he collaborated with researchers from SA Department of Health who linked records from the South Australian Immunisation Registry, the Women's and Children's Hospital and OACIS in order to examine the safety of childhood vaccines.

Richard is located in the Department of General Practice in Flinders Medical Centre and is available for Faculty of Health Sciences and FMC staff and postgraduate students to provide a range of statistical consulting services including study design, sample size calculation and advice on analysis. He will also be collaborating with Professor David Ben-Tovim and colleagues in the Department of Clinical Epidemiology and welcomes the opportunity to assist in study design and data analysis with other researchers.

Richard can be contacted on telephone 8204 5490 or email richard.woodman@flinders.edu.au

Richard Woodman

Improving Corneal Transplant Survival

Doug Parker is a PhD student nearing completion of his work in the Department of Ophthalmology. Under the supervision of Professors Keryn Williams and Doug Coster, Doug has been exploring a novel strategy to improve the survival of corneal transplants. The approach utilises a replication-deficient recombinant vector based on HIV-1 to deliver genes encoding immunomodulatory proteins to the inner lining of the cornea. It is being tested in a sheep model as well as in human corneas from the Eyebank of South Australia.

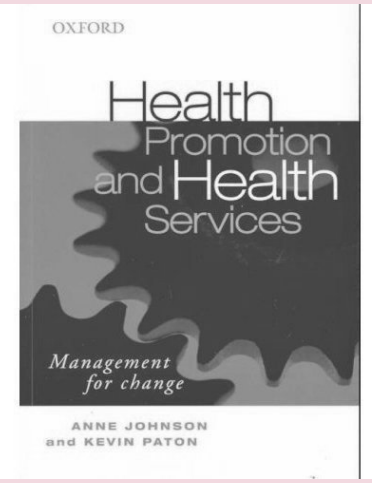
Over one thousand corneal transplants are performed each year in Australia, and the majority do very well. However, a subset of patients receiving grafts for diseases with an inflammatory component, do poorly. Since the potent immunosuppressant drugs routinely given to patients receiving vascularised organ transplants such as kidneys have serious side effects, it is difficult to justify their application in patients with a non-fatal illness like corneal opacification. Furthermore, these drugs are not as effective in preventing rejection when used in the eye.

The gene transfer approach shows promise for dampening down the host's immune response and prolonging graft survival in experimental models. Doug's work in the sheep has demonstrated that efficient and sustained production of a given protein in the anterior chamber of the eye can be achieved without provoking an inflammatory response or causing toxicity. Work in Eyebank corneas has demonstrated that protein production in the human tissue using the same technique is more rapid and even higher levels are achievable. In the light of these results, a clinical trial in patients suffering from blinding corneal inflammatory conditions may not be far off. Some of Doug's findings, and those of visiting Swiss ophthalmologist, Dr Claude Kaufmann, who worked in the Department in 2004-5, have recently been published in the journal *Gene Therapy*.

Doug Parker and friend

Health Promoting Hospitals

Associate Professor Anne Johnson from the Department of Public Health at Flinders University and Mr Kevin Paton from the Business School at Sunderland University in the UK have recently published a new book titled *Health Promotion and Health Services: Management for Change* with Oxford University Press, Melbourne.



Pressure on health services to become more responsive to the health needs of the broader population has led to greater demand for effective change management within the health sector. This book offers an innovative new framework for reorienting health services to become more health promoting. It is organised clearly in three sections: setting the context, providing the framework for change and the tools for change.

Health promotion and change management theory are integrated into a practical framework featuring a broad range of organisational development and change management techniques and clear descriptions of implementation plans. The text adopts the approach that there is no single best way to implement change, and provides resources in the form of 'tools' to assist in critically evaluating the role of change agents. The book draws on a range of Australian, Canadian and European examples of ways of creating health promoting health services, and illustrates how these services can be sustained.

Global Health in the 21st Century

The Health and Society Area of Research Focus at Flinders University is a partner in the residency of Professor Ilona Kickbusch in 2007 under the Adelaide Thinkers in Residence program.

Professor Kickbusch is known throughout the world for her contributions to innovation in public health, health promotion and global health. Following a distinguished career with the World Health Organisation and at Yale University, she now works as an independent global health consultant based in Switzerland. In February, Professor Kickbush presented a lecture, *Global Health in the 21st Century*, at Flinders Medical Centre under the auspices of the Health and Society Area of Research Focus. The lecture highlighted 'why national health policy is not sufficient' and examined a range of issues including global health dynamics, global health governance dynamics, the new borderless domains of action and global domestic politics and policies.

Professor Kickbusch began by showing how the growing health gap between and within countries, the return of infectious diseases and the chronic disease epidemic were set against the reality that health is both a central human right and a determinant of growth and productivity, wealth and quality of life. She also considered global inequality and poverty in terms of health, gender, demography, education, social disparities, information and security, as well as the 'globalisation' of everyday life. She cited as an example how the movement of people, goods and services, ideas and viruses leads to 'deterritorialisation'. Thus during the SARS epidemic in Toronto, 12,000 jobs were lost at a cost to the local economy of over $1 billion in 2003. In Asia the cost was $60 billion. A global influenza epidemic would cost the world more than US$800 billion and millions of dead.

Professor Kickbusch then went on to show how 'good global governance' is currently one of unstructured plurality, a result of the redirection of global health functions to a growing but fragmented group of actors. Major health issues and major health determinants are deliberated in fora to which the public health community has little or no access and, moreover, for which it is not prepared (such as the World Bank or International Monetary Fund). Public health policy has shifted from ministers of health through the WHO into a new political space that encompasses foreign, economic, trade and security policy and demographic geopolitics, becoming visible in global 'interhuman' ethics such as the *Make Poverty History* campaign. This redirection is continuing on to new constellations of power, from elites to ordinary people, as globalisation has provided opportunities for social movements including those of women, lesbians and gay men, disabled persons and indigenous people to mobilise to a degree that was generally unavailable to them in territorial politics.

With these changes, risks in the 21st century are transnational and all attempts to control them lead into the international arena, but global risk production is localised through the 'globalisation' of everyday life.

Professor Kickbusch concluded with the characteristics of a new global public health that include health as

- a global public good
- a key component of collective human security
- a key factor of good global governance
- responsible business practice and social responsibility
- global citizenship based on human rights.

For Professor Kickbusch, the ultimate goal is a global social contract on health.

Ilona Kickbusch

Better Sunscreen Through Research Collaboration

A recently released sunscreen developed with the help of medical scientists from Flinders University's School of Medicine offers users protection not only from the immediate, localised effects of exposure to the sun, but also resists the damage caused to the body's immune system by ultraviolet (UV) radiation.

The new generation sunscreen, Hamilton Optimal™, is the result of more than a decade of collaborative development between Hamilton Laboratories, former researchers in the Department of Microbiology and Infectious Diseases and the University's commercialisation company, Flinders Technologies Pty Ltd.

The immune system is the body's defence mechanism, and responds rapidly to protect the body should it detect foreign antigens in our systems, such as bacterial or viral infections, foreign proteins and some cancer cells. As well as the better known adverse affects of sunlight-borne UV radiation such as sunburn, skin ageing and skin cancer, studies have shown that UV exposure can cause a generalised, systemic weakening of the skin's immune response.

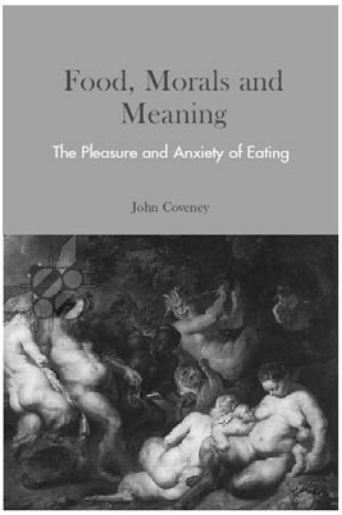
In order to combat this effect, a series of sunscreen formulations to protect the skin from UV induced immunosuppression was developed and tested as a long-term project by Hamilton Laboratories in conjunction with Flinders and the University of Sydney. Flinders researchers involved in the project included Professor John Finlay-Jones, Professor Frances Noonan, Associate Professor Prue Hart and Emeritus Professor Peter McDonald. They worked with Hamilton to establish a scientific basis for the capacity of the Hamilton Optimal™ product to reduce immune suppressive factors from UV that can lead to skin cancer. This research allowed Hamilton to gain marketing approval for the product from the Australian Therapeutic Goods Administration.

The broad-spectrum Hamilton Optimal™ sunscreen has a sunburn protection rating of SPF30+, with the added benefit of protection against potential UV damage to the immune system. The recently released product is available in pharmacies across Australia and sales of this product benefit research at Flinders University.

Food, Morals and Meaning

The second edition of *Food, Morals and Meaning: The Pleasure and Anxiety of Eating* (Routledge, London) by Associate Professor John Coveney of the Department of Public Health, Flinders University was published recently. It traces our complex relationship with food and eating and our preoccupation with diet and self-discipline. Using our current fascination with food and nutrition, it explores why our appetite for food pleasures makes us feel anxious, even guilty. The book explains how the rationalisation of food choice – so evident in current programs on nutrition and health – can be traced through a history of social imperatives and moral panics. Focussing on how food anxieties have stemmed from social, political and religious problems in western history, *Food Morals and Meaning* looks at early Christianity and the tensions between the pleasures of the flesh and spiritual perfection; food beliefs as a consequence of the European Enlightenment period; the role of food in workhouses and prisons in the Victorian era; nutritional and scientific developments in 19th and 20th century Europe; and overeating and its association with contemporary moral degeneration. The second edition (2006) includes an examination of how and why our obsession with body size, especially fatness, drives a national and international panic about an obesity 'epidemic'.

John Coveney



research pulse *is an initiative of the Faculty of Health Sciences at Flinders University. Comments and suggestions for future articles are welcome.*
Contact – karen.siegmann@flinders.edu.au
Editor – Inge Kowanko **Associate Editors** – Karen Siegmann and Judy Morris **Design** – Flinders Press
CRICOS Registered Provider • The Flinders University of South Australia • CRICOS Provider No. 00114A