



Statistical Society of Australia Inc.

Victoria Branch Newsletter: August 2005

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1) August Meeting

The next meeting of the Victorian Branch will be held at 6:15 p.m. on Tuesday 23 August in the seminar room AR103, Graduate Research Centre, Swinburne University of Technology, Hawthorn campus. A map is available at

http://www.swin.edu.au/cwis/maps/maps_hawthorn.htm.

The meeting room is in building AR on that map. There is a similar (but better) map in the Melways (Page 581). There building AR is marked clearly as "The Graduate School of Research".

The meeting will be preceded by light refreshments at 5:45 p.m. Members and guests are invited to join the speaker for dinner at a nearby restaurant after the meeting. The speaker is:

Dr Lyle Gurrin
Senior Lecturer
Centre for Molecular, Environmental, Genetic and Analytic
Epidemiology
School of Population Health
University of Melbourne

TOPIC:

Relating HFE genotype to chronic diseases in an Australian cohort study of hereditary haemochromatosis

ABSTRACT

Hereditary haemochromatosis is a genetic disorder causing the body to absorb excessive amounts of iron from the diet and deposit it in various organs, potentially causing serious tissue damage. In 1996 the HFE gene was identified as the major gene affected in haemochromatosis. A single mutation (C282Y) is present in both copies of the gene in more than 90% of those diagnosed with haemochromatosis. There is, however, incomplete penetrance of the mutation in the sense that many C282Y homozygotes (who occur with a population frequency of 1 in 200) do not go on to show symptoms of the disease; two copies of the mutation is a necessary but not sufficient condition for haemochromatosis. Genetic and lifestyle factors may explain why only some people at genetic risk of haemochromatosis develop clinical manifestations.

The "HealthIron" study aims to examine environmental and genetic modifiers of HFE gene expression and to characterise the natural history of untreated iron overload. HealthIron is part of the Melbourne Collaborative Cohort Study (MCCS) of 41,500 people aged 40-69 years followed for about 12 years. Information on dietary and lifestyle factors was collected at baseline and a blood sample stored. HealthIron will recruit about 1250 people for follow-up based on genotyping of all Northern European participants for the C282Y and H63D HFE mutations. All C282Y homozygotes (expected n=150) will be invited plus a random sample of other HFE genotypes. Participants provide a medical history, a follow-up blood sample, cheek-brush for confirmatory genotyping and undergo a physical examination. Iron studies will be performed on both baseline and follow-up samples. Liver function tests (LFTs) and genotyping for variants in genes involved in iron metabolism will also be performed.

In this talk I'll discuss some of the challenges in the design of the study due to incomplete genotyping of baseline samples, and present some preliminary results on the association between HFE genotype and chronic diseases of adulthood, in particular cancer and type 2 diabetes.

2 July Meeting: Talk Summary

Paul Williamson, Department of Geography, University of Liverpool, UK

Topic: Synthetic Estimation of Sub-District Population Microdata



On Tuesday, July 19th, the Statistical Society of Australia, Victorian Branch, joined together with the Victorian Branch of the Australian Population Association to co-host a presentation by Dr Paul Williamson of The University of Liverpool, UK, on the topic '*Synthetic estimation of Sub-district Population Microdata*'. Approximately two dozen members of the respective associations (including a few who are members of other societies) attended this seminar held at Swinburne University of Technology. Dr Williamson addressed a problem confronting many researchers wishing to examine population and other trends at small (sub-national, regional or local) geographic levels. Census confidentiality requirements and/or small sample survey sizes mean that small area micro-level data are often not available. Yet population projections and many policy questions need to be investigated at a small area level. In Australia NATSEM (National Centre for Social and Economic Modelling) at the University of Canberra is developing a spatial microsimulation model to address such policy issues as local and regional demands for social security. Dr Williamson has been working with NATSEM during his visit to Australia to develop techniques for adding geographical information to NATSEM's currently non-spatial microsimulation model, DYNAMOD. Dr Williamson put forward an approach that he has developed in the UK and that he termed 'combinatorial optimisation'. He contrasted this approach with the conventional Australian Bureau of Statistics technique of reweighting data by age and sex. Combinatorial optimisation creates a set of synthetic microdata, shown by Dr Williamson to have a high degree of fit to estimation constraints and capable of producing good estimates for margin-constrained distributions. In fact, Dr Williamson argued that in many cases synthetically generated microdata offer better accuracy than real survey data and stated that 2% sample survey data are not as good as synthetic estimates. A lively discussion ensued and the evening concluded with dinner at a local restaurant.

Maryann Wulff

3. Belz Lecture and Dinner

The 2005 Belz Lecture will be held on Tuesday 25th October 2004 in Old Geology Theatre 1, University of Melbourne. A campus map can found at:

<http://www.pb.unimelb.edu.au/other/maps/>

The speaker is Professor Adrian Baddeley, the current Pitman Medallist. Details about the lecture will appear in the September newsletter. The lecture commences at the earlier time of 5.45 p.m., with dinner commencing shortly after the lecture, at approximately 7.15 p.m. The dinner will be held at the University Café, Lygon Street, Carlton. The cost for the dinner is \$50 per head for members and guests, for a three-course dinner and wine. A booking form is attached, and should be returned with payment by 7 October 2005.

Vegetarians, vegans, or others with special dietary requirements can be catered for. Please indicate any special requirements on the booking form. For further information please contact the secretary.

Secretary

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Statistical Society of Australia Inc.

Victoria Branch

Belz Dinner

Tuesday 25 October 2005

Names of persons attending:

Contact telephone number:

Total cost (\$50 per person):

Please debit my: Backcard
 Mastercard
 Visa

Name on card:

Card number:

Expiry date:

Signature of card holder:

OR

Please accept my enclosed cheque made payable to —Statistical Society of Australia
(Vic Branch)

Please indicate any special dietary requirements below:

Return this form by 7 October 2005 to:

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