



Mid Year Report

Mike Reid

A report to the Royal Society

Mike Reid: He Kianga Oranga – Health and Housing 2006

A report: My First 3 months of my Fellowship

I began at the Wellington School of Medicine Housing Research unit on 30th January 2006. The first few weeks were spent organising the computer facilities. I was housed in the office G3 which was a large glorified cupboard which I shared with Ee Lyn Au a 3rd year medical student who was working on a summer school studentship research project. One of my first endeavours was to interview her on her summer School research efforts. I recorded an interview and summarized her work as follows:

Summer Studentship
- Ee Lyn Au

Summer Studentship Project working with Michael Baker and Michael Keall and Philippa Howden-Chapman. Ee Lyn Au has been working on application of the New Zealand Time Use surveys (NZTUS - which goes down to aged 12) carried out by the New Zealand Statistics Department and the New Zealand Travel Survey NZTrS (which covers all age groups and was carried out by the LTSA). This is one of around 30 summer projects being carried out annually by Otago University. Ee Lyn also included in her analysis comparisons with the Australian and the United States Time Use surveys. This research project will be ongoing and provide useful data for the Public Health Sector on how and where the population spend their time. This will identify where populations are at risk in health issues and have significance to Public Health Policy Makers.

My computer caused a few problems, as did my contract. It was soon realised that I would not be able to use my own laptop with regard to the University, as this would involve conflicts with copyright of programs and software and work against the University in cases of developing resources. As a result, although I was able to use my laptop as a resource for learning Dream weaver, a Web building tool, I could not do anything on the site until my own Wellington School of medicine computer was issued. I had also hoped to be able to work from home, 1 day a week basis, as travel is a major undertaking of 3 hours per day. As a result, I awaited the arrival of my laptop, which eventually arrived on February the 20th 2006. (My contract although signed earlier did not arrive in my hands until the 3 April 2006.)

I shifted to a new office with two Research Fellows on February 17th and now have an office location, which also has window view of Wellington's Newtown hills.

My work and learning has been significant in these first few months. I have managed to learn Web basics and can design new web pages, add buttons and navigations bars and produce flash pages. Recently, (April 3), I have added 4 pages onto the Department's Housing website. This will be an ongoing task as I work through the different Research studies undertaken by the Housing and Health Research Department.

As well as working on the Web site I have used my time also to up skill on the statistical analysis I hope to be utilising in a research project. To date, I am learning to use a programme called SAS which is a powerful Statistical package recognized by Statisticians and Researchers as a well thought of statistical research package.

I also quickly realised my need to upskill on Multivariate analysis and “higher level” statistical analysis. As an introduction to this Kamelesh Venugopal, a Biostatistician in the Department introduced me to logistic regression. He introduced me to the famous case study of the titanic and I managed to produce a few resources in this area – although the logistic regression is above the requirements of secondary school. Trips to the medical library and relevant Internet searches are a regular part of my working week.

I also have been fortunate to observe several members of the Department and what they do and have attended meetings with Department members on a regular basis. Some of these meetings have involved high-powered research people from Government agencies like Ministry of Health and Statistical Department.

The Department also meets regular on Thursday and Fridays to report back to the group on their week of work. As a lot of the staff are involved in research and study these meetings are often helpful for sharing ideas and information between professionals. It also is a coming together for them as a Department. I partake in this activity as well reporting on what I have achieved in the week.

Highlights of my time so far are my reading (especially on the train), my skills on the site development and use of the computer suite Dream weaver. My reading has included – “Fermat’s last theorem,” “A brief history of time” and “Longitude.”

Every Friday there is also a talk given by professional in different medical fields but one very interesting one was by a Chilean post graduate student in his late 20’s. He was about to return home to Chile. He gave an excellent talk and photos of his home country and how similar parts of it are to New Zealand especially geographically.

I would really appreciate giving something back to the Housing Department and once I have put more into the Statistical research side of things I hope to get access to data that I can investigate and publish for them. This may or may not happen. There is a small project on Tokelau Health that may be ideal for me to undertake but it is politically sensitive at this stage. A visit to Tokelau may also be a possibility? The question of travel for me is unresolved, however, 6 of the Housing Department research fellows are going to Portugal to the Health and Housing Conference and most of these are invited guest who will present papers at this Conference in June.

Not long after I arrived, I attended the “The tenth Public Health Summer school,” University of Otago Stadium Centre Wellington 13-24 February 2006. This was a 2 week event for Health professional students and Government agencies to up skill their knowledge. I attended two sessions and have included a picture of the event.

The Summer School Programme Booklet For the 2 week long Annual event



The Summer School is held at the Stadium Centre. Underneath the Stadium stands. I discovered several businesses are run from there.

We also had a meeting at the “Brewery” the day before to publicly discuss the formation of the “Healthy Urban Housing Institute.” This was a steering group and they have met before. One interesting point is I spent Wednesday at the “Brewery on the wharf and Thursday at the Cake tin!

Can you believe that?



Where is Wally? Well “Mike” actually. Participants attending the 10th Public Health Summer School in Wellington 2006.

Other Events include

- Housing and Heating and Health Study request Housing staff to trial piko metres and peak flow metres o assist in identifying the areas of data variability in their Study.
- Dr Dilip Das. He presented his findings from a study with assistance from Kamelesh Venugopal on Tuberculosis in New Zealand.
- Meeting with Architect BRANZ re-progress report on the Tokelau Housing project.
- Bob Lloyd and Maria Callau present their report on housing entitled “Monitoring of Energy Efficiency Upgrades in State Housing in southern New Zealand.” to the Housing Department.

I look forward to developing my skills in the area of statistics and producing something of value to the Housing and Health Department before I leave.

P.S. I am also using the programme “Windows Movie maker” to produce a movie journal of my time on this fellowship.

Part 2 - Mid Year Report.

I sit down to write this reports knowing that the mid year examinations are over at school, reports are done and the July holidays are about to begin. It is amazing to think that the school year is halfway through and the teachers and students are now on school holiday. As for me I have had a busy few months. My contract was officially delivered to me on Monday 3rd April I guess it came from Otago University! I will continue this report from where I left off in my April report. The travel to the hospital is still a major part of my day taking me approximately three hours each day to get to and from work. My reading has continued on this journey. Because of my interest in mathematics, I seem to be reading a large amount of historical data, which ironically also deals with the history of the Royal Society and the famous scientists and astronomers that are associated with this organisation in the 18 and 19 centuries. To give you some idea of the extent of my reading, I will include a list the books, which I have read since the start of this year. This has been an exciting and unexpected benefit from my Fellowship. The chance just to sit back relax and learn a lot of the background to the subject that I teach and to give me the chance to back up my subject knowledge with the rich history in which it has been developed.



Title	Author
A brief History of Time	Stephen Hawking
Angels and Demons	Dan Brown
Conquering Calculus	Jefferson Hane Weaver
Einstein's Universe – the Layman's guide	Nigel Calder
Fermat's Last Theorem	Simon Singh
Isaac Newton	James Gleick
Lovely Bones	Alice Sebold
The Big Bang –the most important discovery of all time and why you need to know about it	Simon Singh
The Code Crackers	Simon Singh
The Da Vinci Code	Dan Brown
The Illustrated Longitude	Dava Sobel and William J H Andrews
The Man who loved only Numbers	Author not recorded (About Erdos the Mathematician)

The meaning of Everything – the story of the Oxford English Dictionary	By Simon Winchester
The Measure of All things – 7 year odyssey and error that transformed the World	Ken Alder
The Men who measured the Universe	John and Mary and Cribbon
The Penguin History of New Zealand	Michael King
The Sequence – Inside the race for the human Genome	Kevin Davis
The Transit of Venus	Peter Aughton
Toast –the story of a boy’s hunger.	Nigel Salter



The reading department...



The staff pictures...

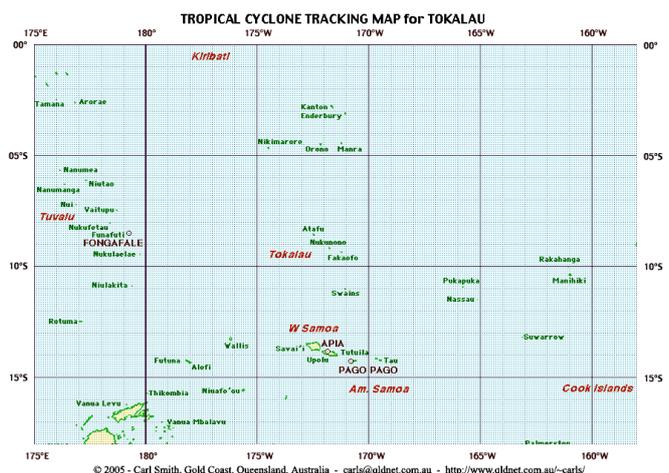
SAS

Probably the biggest area of my development in the last few months has been the access I have been given to data collected from a survey of the Tokelau Islanders in Wellington region. In order to analyse the data using statistics I wanted to learn to use a new program called SAS. I spent many weeks trying to use the program. I could see it was a very powerful program and that it has the ability to perform many statistical calculations and investigations with great speed and efficiency. The difficult part about learning the program is that it is basically a computer programming code. There are many “procedures” that control what the program

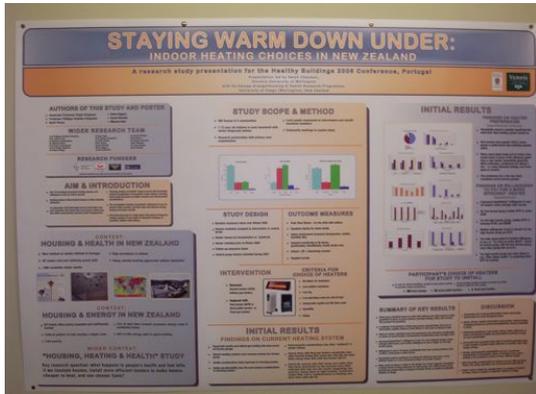
does. You have to be very careful and particular about syntax of the programming language. In my endeavours to use the program, I tried to get the computer to perform statistical calculations that I could do on Excel quite easily. Things like producing a histogram, and a table of values and being able to change these values in order to get a different histogram of the same data. I was fortunate enough to be able to attend a training program by one of the department members, June Atkinson. This three-hour session attended by about 12 people was an immense help to me in making sense of this program. I also resorted to sending an email to the help-desk in Australia. In the last few weeks I seem to have reached a plateau with the program and can now make it work for me. There is still a vast amount of work to learn about it as the computer package has many statistical processes and can perform many calculations, a lot of which I do not know how to use yet.

An extraordinary thing has come out of this endeavour for me. This powerful computer package can output directly to the Internet (HTML). Therefore one can use Dreamweaver to layout any output. This means that my other area of interest, which is the Internet, and the Internet program Dreamweaver, can be used alongside SAS. These are the same tools that can also be used to modify or alter the output that the SAS programme produces. For this reason CSS “cascading style sheets” is the next area that I need to up skill my knowledge on.

I am hoping to produce a full report on the Tokelau Island survey and may also be able to present it to a “Conference” before the end of the year.

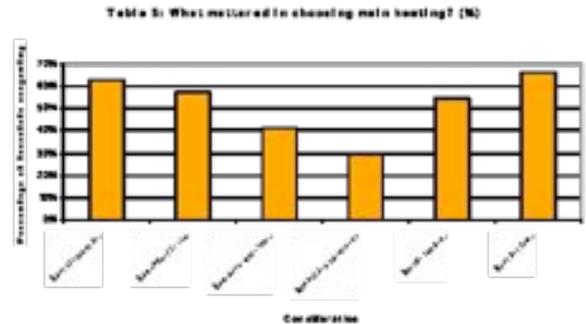


Heating and Health study



As part of my job I was also fortunate enough to help with most recent data coming out from the Housing, Heating and Health study. This data was analysed by Nevil Pierce, Ralph Chapman and myself. In doing so I was able to learn how to use Excel Pivot tables and produced a spreadsheet template to calculate various tables of “Chi- Square testing” combined with other information and made into a slideshow and poster. The data was presented by Professor Ralph Chapman at the Lisbon Conference in

Portugal, June 4-6, 2006. Here is a graph I produced. While I was not able to attend this Conference I did apply for funds from the fellowship and I was exceedingly grateful for the \$2500 that the Fellowship granted me for the opportunity to attend. Unfortunately I was not able to raise the remaining \$3000-\$4000 that I would have required to attend. However, I do hope to go to an Australian Conference before the Fellowship is completed. Once again I must thank the Fellowship for their most generous sponsorship. The data coming out from this study also made the National radio in June as a morning news item. (I have added this as a voice over to my slideshow.) I also hope that the Tokelaun study will be on the news before 2007.



The Website.

My job also involves keeping the Website up to date for the Housing Department. This amount of work on this job has settled down a bit as there is now a formatted page, and I have updated all pages as of June 3, 2006. I have used the Dreamweaver suite to produce flash files and photos for the web. I have increased my knowledge of the internet writing suite Dreamweaver, Fireworks and Flash and feel confident in their use. My next endeavour in this area is to produce a model of how “buttons” would work on the site as I feel this could



be an improvement in the overall visual impression of the site.

I have written quite a few small flash programmes which whilst they helped me to understand how flash works will not be used on the internet site. I am however proud of these achievements and will include some in my final report in December. I have also made a power point/(movie) of my time at the Wellington School of Medicine and this will be presented with my Report at the end of the year (on advice from Allison Taranchocov.)

One other highlight of my week is that I am able to attend Friday lunchtime sessions of invited speakers all of whom have been inspirational and interesting. These range from 5th Year Medical students projects to visiting speakers. These Friday session have become a highlight of my week as I get introduced to various interesting topics. (I have included a list of these talks and highlights of some of the more notable sessions.)

Date	Presenter	Topic / Description
31 March 2006	David Stewart Education Researcher Ministry of Education	<i>'The scope of food related School-Business relationships in New Zealand Primary Schools & Education Management of these relationships'</i> There is increasing public scrutiny of the food-industry presence in schools on grounds of child health. This presentation outlines my PhD research into school-business relationships in New Zealand schools including the case of food. It covers the types of relationships available to schools from the food industry, and the ways primary schools adopt, adapt and sometimes resist these relationships. It assesses these responses against the evidence for contemporary business motives and strategies in their dealings with schools. Looking at the educator motives for food industry relationships is a good starting point for considering how things could be made different in school environments beyond the often-discussed tools of regulation and more nutrition education.
7 April 2006	Dr Simon Hales, Senior Research Fellow, Department of Public Health	'Climate change: an update' This talk will summarize recent advances in climate science based on presentations from the recent climate change conference in Wellington. Climate is one of the fundamental influences on human health and well-being, through the direct impacts of weather extremes, effects on the disease-causing and disease-transmitting organisms that share our environment and effects on the ecosystems that shelter and feed us. Climate variation has its greatest impact on those populations with few resources to protect themselves. Some argue that human adaptation and economic progress will avoid most of the harm caused by a changing global climate. This view ignores the historical reality of increasing inequality and an expanding global underclass of vulnerable people. It is also inconsistent with recent evidence that climate change is already shortening lives and causing illness, even in rich countries. There is a new urgency to policy debates about climate change. How can health professionals contribute? Simon Hales is a Senior Research Fellow with the Housing and Health Programme, Wellington School of Medicine. He has published numerous epidemiological studies on climate variability, climate change and health and has co-authored reports on the health impacts of climate change in New Zealand and Australia.
21 April 2006	George Thompson, Research Fellow,	'Health sector approaches to using the law for tobacco control: Three English-speaking jurisdictions.' Legislation and legal action provide powerful tools for reducing the harm

		<p>caused by tobacco. Tobacco control in New Zealand has traditionally focused on a relatively narrow range of interventions - smokefree policies, marketing restrictions, and tobacco taxation. There is potential to use the law more directly to limit the harm caused by tobacco companies.</p> <p>This study examines health sector approaches to the use of law for tobacco control in New Zealand, Australia and Canada. These three jurisdictions are compared in terms of public and official assumptions about how the law should be used, and legal action taken against tobacco companies by the governments in each country.</p> <p>George Thompson is a Research Fellow in the Department of Public Health. His research interests are in tobacco control, health policy and health politics.</p>
26 April	Rod Lea	Genetic variation in nicotine metabolism: is it important for ethnic disparities in smoking?
28 April	Richard Edwards	Environmental epidemiology: does living close to heavy industry increase the risk of lung cancer?
5 May	5th Year Public Health Project Presentation Public Health Seminar Room	<i>The Flu Eperdemc of 1918 in New Zealand, The students outlined the spread of the flu eperdemc in Wellington and Trentham in flu eperdemc.</i>
12 May 2006	Kevin Dew, Senior Lecturer, Department of Public Health	<p>‘Public Health and the Cult of Humanity’</p> <p>Public health uses a number of concepts derived from early sociologists such as Emile Durkheim, who developed the ideas of anomie and social capital. One of Durkheim’s concepts that has not been used in public health discourses is that of the ‘cult of humanity’ – a social practice combining elements of religion and science, with humanity at the centre of worship. This presentation will explore how Durkheim’s idea can be applied to public health, providing insight into its dual advocacy and academic functions, the tension between individual choice and constraint and the buffering role of public health in relation to other social institutions.</p> <p>Kevin Dew is a sociologist in the Department of Public Health with a longstanding interest in the sociology of public health, considering the role public health plays in contemporary society. Kevin’s other research interests include health communication and interaction, health inequalities, and complementary and alternative medicine. A linking thread in his various research interests is the legitimation of knowledge claims in health.</p>
19 May 2006	Professor Philippa Howden-Chapman, Director, <i>He Kainga Oranga</i> Housing and Health Research Programme, Department of Public Health	<p>‘The New Zealand Values Survey: How have our values changed in the last decade?’</p> <p>There have been four Values Surveys carried out in New Zealand, most recently in 1998 and 2004/5. These surveys enable us to see how our values have changed over time and how our values compare with those in other countries. This seminar will summarize some of the key results and describe the rich dialogue process that has been set up to canvas the opinions of community and policy leaders and Maori using the BRISS network.</p>
	will present a lunchtime seminar entitled:	Professor Philippi Howden-Chapman is Director of <i>He Kainga Oranga</i> /Housing and Health Research Programme in the Department of Public Health, University of Otago (Wellington) and has an interest in the link between attitudes and behaviour, particularly in relation to reducing inequalities in the determinants of health.
23 May	5th Year Public Health Project Presentation Public Health Seminar Room	The Health Impacts of City Transport: Wellington Western Corridor case study

26 May 2006	Dr Rod Lea, Senior Scientist, Institute of Environmental Science & Research (ESR)	<p>‘Genes, Tobacco Dependence and Māori’</p> <p>Tobacco dependence is a complex condition influenced by genetic and environmental modifiers. Researchers at ESR are investigating the genetic basis of tobacco dependence in smokers with a particular emphasis on nicotine metabolic and neurotransmitter genes in Māori. The research is geared toward developing more personalized smoking cessation therapies.</p> <p>Dr Rod Lea has a PhD in genetic epidemiology and is published in the fields of human molecular genetics and human disease. He currently heads the Envirogenomics programme at ESR which is geared toward understanding the complex relationships between molecular, environmental and societal factors and how these influence common diseases.</p>
2 June 2006	Iris Pahau, Te Aupouri me Ngati Kahu and National Development Manager for the Community Sector Taskforce	<p>‘The Community Sector Taskforce’</p> <p>The Community Sector Taskforce is an independent body of community representatives, established in 2003 to develop the relationship between Government and the community and voluntary sector. Iris Pahau will talk about the history and role of the Taskforce, its aims and objectives and its work programme over the next 18 months. She will also present ‘A New Way of Working’ - a concept that recognizes cultural uniqueness and culture diversity.</p> <p>Iris Pahau is Te Aupouri me Ngati Kahu; married for 36 years, a mother of four and a grandmother of five. She is a Company Director for AWE Consultants Limited and has worked with multiple community groups in the preparation of their Strategic & Business Plans. She has recently worked as the Valley PHO Co-ordinator and is currently contracted with the Community Sector Taskforce as a National Development Manager. Iris has twenty years experience in Information Technology and Management with the Department of Social Welfare and Electronic Data Systems (EDS), and thirty years experience working within the Tangata Whenua, Community & Voluntary Sector at local, regional and national level.</p> <p>Her personal mission statement is “<i>Kotahi te hoe, ka u te waka ki uta</i>”</p>
9 June 2006	Dr Avril Bell, Senior Lecturer,	<p>‘Relating Māori and Pākehā: mapping the meanings and penalties of identity’</p> <p>Defining cultural identities is a process fraught with difficulty, particularly within the context of conflictual colonial relationships. Processes of definition inevitably involve struggles within and between groups over who counts as what type of person. In this paper I will map the terrain of identity struggles over who and what is ‘Māori’ and what is ‘Pākehā’. My aim in this process is to highlight the ways in which colonialism imbues the identities of both peoples with particular meanings and penalties.</p> <p>Avril Bell is a senior lecturer in Sociology at Massey University in Palmerston North. Her major research interests are: 1) the colonial relationship between indigene and settler in New Zealand and prospects for its contemporary transformation, and 2) the place of race and colonialism in the discursive construction of Pākehā identities.</p>
16 June	Libby Plumridge	Interactions between nurses and parents in tamariki vaccination
22 June 2006	Jenny Nathe	<p>Trisomy 21 in Oman: A case control study"</p> <p>Trisomy 21 is a main cause of human prenatal and postnatal morbidity and mortality. There is good evidence that maternal meiosis is an error prone process, susceptible to predisposing genetic and to exogenous factors. In this</p>

		<p>respect, the extremely high frequency of trisomy 21 among Omani newborn is of special interest. Moreover, all diagnoses are recorded at one institution only (ascertainment > 80%) which is a most favorable setting for an epidemiological study.</p> <p>Here, we have performed a case_control study based on a structured questionnaire. It covers socio_demographics, family history of the woman and her partner, and work place history so that all suspected confounders and risk factors are covered. The cases" are the mothers (parents) of the trisomy 21 children (100 cases), the controls" are mothers chosen at random from the same clinical department (100 cases). In addition, the parental origin of the extra chromosome 21 as well as the number and chromosomal distribution of recombinational events have been analyzed.</p> <p>The annual incidence of trisomy 21 in Oman with 1:454 newborn is, perhaps, the highest reported so far. There is a clear maternal age effect. This, however, is less expressed than in Berlin and does not explain the high mutation rate. All cases were due to maternal non_disjunction (> 70% are MI errors), the chromosomal distribution of crossing_over events differed between younger and older women. There was no difference between trisomy 21" and control mothers with respect to reproductive behavior and the high frequency of consanguineous marriages, however, the education levels differed significantly.</p> <p>Jenny Nathe is a 6th Year Medical Student who is with us for just four weeks from Berlin to do her Medical Elective.</p>
30 June	Yelena Thomas (MPA Day)	<i>"Develop, pilot and evaluate a model for improved access to ACC's medical misadventure services for Maori and Pacific people"</i>
30 June	Ruth Cunningham (MPA Day)	<i>"Developing a primary care tool for monitoring the strength of achievement of Alma Ata principles in national health systems"</i>
30 June	Charissa Makowharemahihi (MPA Day)	<i>"Nga hiahia oranga niho o nga mama Maori" - Oral health needs of Maori mothers"</i>
30 June	Jennifer Langton (MPA Day)	
30 June	Susan Laurence (MPA Day)	<i>"Community Engagement by MoH and the 2 DHBs with a focus on the Development and Implementation of the Healthy Eating, Healthy Action Strategy"</i>
30 June	Alison White (MPA Day)	<i>"Investigation of pesticide poisoning at Kohupatiki"</i>
30 June	Leona Wilson (MPA Day)	<i>"Compensation of Medical Disciplinary Processes in New Zealand and New South Wales"</i>

I have found these seminars to be informative and at times thought provoking and inspiring. It is one of the benefits in working inside a Research Institution that has teaching and research as its primary functions.

On administration matters, the Department has a Thursday meeting 9:30 to 10:30 am and I am able to talk to others and listen to what they are working on and how their week is going. These are very interesting sessions, which have helped me to see the depth of the Department and the range of topics, covered by the team. Everyone speaks (in a circle rotation) whilst having coffee and muffins.

A similar but slightly larger group meets on Friday at 10 am for a "muffin meeting" in the "red room". This is similar to the Thursday Housing Department meeting except that it has members of the whole Public Health Department at Wellington

School of Medicine. Again it has enabled me to hear about the research undertaken by other groups outside the Housing Department at the Wellington School of Medicine. Also this group have a Department monthly meeting, which I am able to attend. At the last meeting the issue of back up of data was discussed as well as the fourth coming "Department research evaluation" which as far as I can see is a similar process to an ERO visit! Everyone is anticipating a visit from a team of "people" who will "assess" their efforts in research and running of a Public Health Department! As far as I can gather this is a cyclical programme and this is the year. I am now able to operate from home 1 day a week, which I have taken as Tuesday. This means I have less travel and can achieve just as much as if I went into the Department. I also enjoy being able to work from home.

As a small aside the Department is also undergoing a \$25 million rebuild. With the new hospital being built the School of Medicine is also having its premises upgraded and re-designed. The net result of all this activity is the spread of the Department will eventually be relocated into a unit that operates more geographically closer than it has been able to at present. Although my office is in H1 some of my Department are situated in the G level and the J level. Long term this situation will change and the Departments will get more space as the Hospital relocated to its new buildings.

What next?

Well it is mid-term and I am looking forward to using my newfound skills on SAS to produce data on the tokelaun community. I feel I can utilise the data in a meaningful way for the Department and take things to the next level with producing mathematical data and resending to professional. I would also like to investigate other statistical procedures like logistical regression and multivariate analysis, which seem to be the buzzwords in biostatistical work and epidemiology.



I am grateful to Dr Philippa Howden-Chapman for her efforts on my behalf, for my new work colleagues and ultimately for the Royal Society Fellowship. At the present time the trains are running slow - but then I get more reading time!

Mike Reid
July 06.