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General Practice RESEARCH NEWS

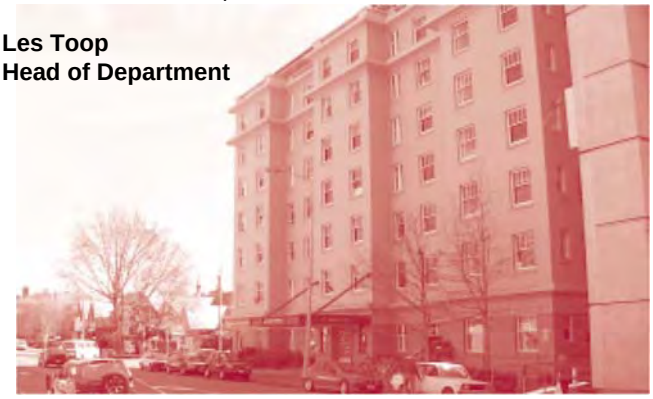
Editorial

I was surprised to see two years have passed since the last newsletter. Reading through our activities in April 2004 it is gratifying to see the studies then in progress and many of the new studies we were planning have largely all been successfully concluded. In particular the pneumonia and cellulitis studies have been published in the Medical Journal of Australia and the BMJ respectively. Both have received considerable attention and correspondence and are already being cited widely. The results from both projects have been presented internationally, and Dee Mangin (Richards) was recently an invited keynote speaker at an international conference on "Hospital in the Home". The dipstick negative study produced some surprising results (read on) and was also published last year in the BMJ. It has excited considerable international interest and been reported in several other international specialist journals. As with all good studies these results have left us with another series of interesting questions.

Looking forward we continue with our investigation on community acquired antibiotic resistance and further studies to explain our previous findings. The sentinel network study on MRSA (Geraldine Wilson) has been completed as has the complementary and alternative medicines in childhood study (Kris Wilson). Both are in the final stages of writing up. A paper on the diabetes care in rest home project carried out by Emily Gill has just been published in the November issue of Diabetes Medicine. As a number of projects have finished we are gearing up to look at some new ideas and preparing grant applications. New ideas are always welcome.

Special thanks to Dee Mangin for continuing to direct the research unit so ably and Toni Stewart and Alison Parsons for their hard work, not only in carrying out the research, but assisting in the preparation of numerous grant and ethics applications for a growing number of projects. Thanks also to all who help in recruiting subjects and otherwise assisting. We cannot do it without you and we are very grateful. We remain a small team however we are proud of our output. We will continue to remain focussed on the important questions, the answers to which inform our day-to-day clinical practice. Anyone interested in becoming more involved in research please contact us.

Les Toop
Head of Department



The Great Bug Hunt: Dipstick Negative UTIs

You will remember the results of the RCT the Sentinel GP network carried out – women with dipstick negative, MSU negative dysuria and frequency still got better more quickly on antibiotics than on placebo.

There are several new questions this poses: Is it bacteria we can't see using normal methods? Is it a different disease process that we are missing by not taking the right specimens (a urethritis or female prostatitis?). Or alternatively, do the antibiotics have some other therapeutic effect? To shed some light on the first of these questions we are carrying out a small pilot study collecting first pass and midstream urine specimens on a small group of women (about 10) with dipstick negative UTI symptoms. The microbiology laboratory at Canterbury Health Laboratories is then going to have a very detailed look at these urines – culturing larger volumes of urine than usual, looking at bugs previously considered to be non-pathogenic, performing anaerobic culture, and matching DNA fragments with known bacteria to look for any patterns. If there are any indications of likely causal organisms we can then explore this in a study with a larger number of dipstick negative patients.

Contact: Dee Mangin

Chlamydia Testing on MSUs

Wouldn't it be nice to be able to test for Chlamydia and UTI on the same urine sample?

We have just started a project in conjunction with the Sexual Health Clinic at the CDHB, Family Planning and Youth Health.

The aim of this study is to determine whether chlamydia testing on a mid stream urine specimen is equivalent to testing the traditional first pass specimen. The hypothesis is that with the very sensitive PCR techniques, it is. If this is found to be the case it will make life a lot easier when women present with risk factors for both urinary tract infection and chlamydia. It will also enable us to have a good look at any link between sterile pyuria and chlamydia infection. We are recruiting 100 women who have a positive chlamydia result but have not yet started on treatment, to provide a first pass and a midstream urine specimen for comparison. Any specimens from GPs are also welcome. If you have a patient who is positive for chamydia and is willing to provide a first pass and MSU before starting antibiotics – give Toni a call on 027 419 9065 and she will come out and pick up the specimens.

Funded by: The University of Otago, through an Otago Research Grant

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Antibiotic Resistance Research

Antibiotic resistance of *Staphylococcus aureus* is an increasing global concern.

This can result in previously simple skin infections becoming more difficult to treat and subsequent increases in morbidity and mortality for serious infections such as pneumonia, septicaemia and osteomyelitis. Previously almost all MRSA was hospital acquired however new strains of MRSA have developed de novo in the community and in some countries this community acquired MRSA is now causing significant morbidity and mortality in patients presenting to primary care. International studies of carriage rates range from 0.2-3% prevalence of MRSA in community samples.

The current Christchurch Hospital MRSA rate is 3%, but there has been no information on the rate of MRSA infection or carriage in community patients.

In addition, recent evidence suggests that topical treatments currently discouraged because of concerns about the development of resistance, are still the most effective first line agents for treatment of impetigo, a commonly seen General Practice condition. This creates a dilemma for the practitioner. In the most recently completed Sentinel Network study funded by the Canterbury Chair of General Practice Trust, Dr Geraldine Mackle a GP Research Fellow, explored the prevalence, epidemiology and resistance patterns of *S. aureus* in nasal swabs and wound or likely sites of infection in a representative sample of 2271 consecutive patients attending Sentinel Network GPs. Staphlococcus nasal carriage was 30%. There were no MRSA carriers in this sample of 2771, and one positive MRSA swab from an active lesion. This patient had attended hospital one month prior, so it is unclear whether this is a true community acquired MRSA. Overall low resistance rates were found for fusidic acid, and mupurocin in these samples.

What does this mean?

It is likely that at some point community strains of MRSA will arrive via migration in Christchurch. However these findings support that methods to decrease MRSA transmission should remain focussed on healthcare facilities at present. Measures to reduce contact spread of any infection should be maintained in General Practice. Flucloxacillin remains the first line agent for simple soft tissue infections likely to be caused by *S. Aureus.* Acquiring this baseline data for Christchurch provides a unique opportunity for further study to look at the relative contribution of prescribing to the development of community acquired MRSA.

Funded by: The Canterbury Chair of General Practice Trust and the Canterbury Medical Research Foundation

Contact: Dee Mangin

Members of the Research Team Department of General Practice

From Left to Right
Anne Delwynen (Assistant Research Fellow), Dr Claire Dowson (Senior Research Fellow), Toni Stewart (Research Nurse) and Dr Dee Mangin (Senior Lecturer)

Bouquets: The Sentinel Network

The Sentinel Network is a group of just under 90 General Practitioners and Practice Nurses in Christchurch who participate in General Practice research that feeds directly into clinical practice. We would like to formally recognize and acknowledge the contribution of these Christchurch General Practices. Their unpaid contribution is much appreciated. The network runs on funding from project to project with a series of public good grants from organisations such as the Health Research Council, Canterbury Medical Research Council, Lotteries Health, and the Chair of General Practice Trust. The efforts of these GPs and Practice Nurses have provided data that has fed directly into national prescribing recommendations for general practice. This has made an important contribution to stemming the tide of antibiotic resistance by providing the information necessary to avoid changing first line antibiotic prescribing recommendations when such a change seemed unavoidable. The dipstick negative RCT provided some answers for the problematic clinical situation of how to treat dipstick/MSU negative cystitis. We would also like to acknowledge the excellent work and unfailing enthusiasm (in the face of year to year job insecurity) of Toni Stewart our Research Nurse, and Alison Parsons our Research Secretary. Toni is a practice nurse who came to us from Murray Wackrow's practice in Ashburton while Alison came from a non-medical background bringing with her a practical and commonsense approach to organisation.

"Half the modern drugs could well be thrown out the window, except that the birds might eat them"
Martin Fischer 1879-1962

Update: Infant Iron Study

We are now approximately two thirds of the way through our cohort of nearly 500 children looking at cognitive, psychomotor and behavioural indicators at age six, so we can relate them to the early iron status tests done at 15 months.

Anne Delwynen (Assistant Research Fellow) continues to put maximum energy into recruitment and follow-up of these families, as well as conducting nearly all of the psychometric testing that is required for the study. This includes assessments of intellectual functioning, psychomotor proficiency and behaviour. Blood tests for anaemia, iron status and lead are also part of the current assessment as they may affect test performance.

Curtis completing a motor skills test

Questionnaires are also posted to each child's teacher to help us gain an independent insight into their current behaviour and progress at school. We have been overwhelmed by the support we have received from the school community which to date, has resulted in a 100% return rate of our questionnaires.

When assessments on each child are completed a brief letter outlining the general results of the psychometric and blood testing is sent to the parents, along with an invitation to contact Claire Dowson (Clinical Psychologist) if they wish to gain more detailed feedback. A number of parents have phoned Claire requesting additional information. If there has been an area of concern she has often been able to suggest a suitable course of action or a more specialised assessment, linking back with the family's GP. Similarly, we inform the parents and the child's GP if there is an abnormal blood test result and refer the family back for clinical follow up if there are any reasons for concern.

Chelsea balancing on the beam

Our cohort families have shown great enthusiasm and support for this project, resulting in a very high response rate for this current phase of the research.

Funded by: The Health Research Council of New Zealand

Contact: Dee Mangin

All screening programmes do harm. Some do good as well and some do more harm than good.

Sir J A Muir Gray CBE

Use of PSA Tests by GPs

Prostate cancer screening is one of the more controversial areas in medicine today.

Charlotte Duncan, Paul Corwin

In summer 2005-2006, Charlotte Duncan, a 5th year medical student looked at PSA testing in a group of Pegasus GPs. We selected GPs who were either high or low users of PSA tests (the top and bottom 20% based on PSA tests/male aged 50 and above). Testing rates in the high use group were double that of the low use group. These GPs were sent a questionnaire to explore their own beliefs and testing practices. We also looked at these GPs' usage of other screening and preventive health tests.

The results of our survey were interesting. Almost all the high users were male (30/32) while most of the low use GPs were female (17/22). Both groups of GPs were equally likely to raise the issues of PSA testing, but 87% of low users discouraged men from being tested whereas 63% of high users were likely to recommend it. Both groups of GPs were well aware of the problems associated with prostate cancer screening but high users said their own clinical experience and local specialist advice was the most important influence on their PSA testing. Low users said that the Pegasus Health education programme was the most important influence on their PSA testing practice.

There was little difference in usage of other preventive health practices (flu vaccination, cervical smears, lipids or faecal occult bloods) between the two groups but low users had higher rates of mammography usage than the high users. Neither group made much use of available pamphlets about PSA testing.

These doctors practised what they 'preached' with 87% of high users having had a PSA test themselves (if male older than 50) vs 0% in the low user group.

Charlotte's project won the prize for the best oral presentation in the Community category, awarded by the Lions Club of Selwyn Lioness for her presentation of the project*, 'What are the drivers of PSA testing in Pegasus General Practitioners?'*

Sponsored by: The University of Otago, A Summer Studentship

Contact Paul Corwin

Walking is man's best medicine.

Hippocrates (460 BC - 377 BC)

Complementary and Alternative Medicines (CAM) Use in Children: A Comparison of Parental Attitudes

Kris Wilson, Summer Student
Supervisors: Claire Dowson & Dee Mangin

During 2005 Kris Wilson, Psychology student at the University of Canterbury, completed a summer research studentship, comparing parental attitudes towards CAM use in children between two populations (ie general practice and paediatric outpatients). The aims of this study were to establish prevalence rates, disclosure rates and potential demographic and psychological predictors of CAM in these two populations.

Fifty participants were recruited from six general practice surgeries and 50 from a paediatric outpatient diabetes clinic. After gaining informed consent parents answered a structured questionnaire especially developed for the study, either in the surgery/clinic or later by telephone. Questions included demographic characteristics, prevalence and patterns of CAM use, prescribed medicines use, as well as previously validated questionnaires measuring holistic outlook on healthcare and patient centred consultation style.

There were few significant differences between the two sample populations. Significant differences were found in the age of parents (younger in GP sample) and the age of children using CAM (younger in the GP sample). Lifetime CAM use was high (70%) among both populations sampled when compared to previous estimates of adult community samples. Of those using CAM with their children only 23% informed the doctor of CAM use. Eighty nine percent of parents in this group had also used prescribed medicines with them. Differences were found in univariate analyses between CAM and non-CAM users in parental sex, income, education level, parent use of CAM and beliefs about general harm of medicines. When these factors were entered into a regression model, one predictor was significant. Parents who used CAM with their children were 4.73 times more likely to use CAM themselves.

The frequent use of CAM in conjunction with prescribed medicines found in this study has implications for clinical practice. The pattern of high usage and low disclosure suggest that health professionals need to directly ask parents about CAM use with their children, particularly those that report CAM use themselves. These results have been submitted for publication. We are very grateful to the GPs who allowed Kris to interview parents.

Funded by a CMRF Summer Studentship
Contact: Claire Dowson or Dee Mangin

Papers published from the Department since Issue 4

Self-management plans in the primary care of patients with chronic obstructive pulmonary disease. Graham RB McGeoch, Karen J Willsman, Claire A Dowson, George I Town, Christopher M Frampton, Julie M Cook and Michael J Epton. Respirology 2006;11:611-618

Diabetes care in Christchurch, New Zealand Rest Homes. Emily A Gill, Paul A Corwin, Dee A Mangin, Margaret G Sutherland. Diabetes Medicine 2006; 23(11):1252-1256

Management of uncertainty. Dee Mangin BMJ 2006; 333:693, doi:10.1136/bmj.38978.491667.68

The impact of advertising prescription medicines directly to consumers in New Zealand: lessons for Australia. Toop LJ, Mangin DA Australian Prescriber 2006 April;29(2):30-32

Complementary and alternative medication and alternative therapy use by nursing home residents. Paul Corwin, Kalo Lalahi NZ Fam Physician 2006;33:101–103

Increased rates of trimethoprim resistance in uncomplicated urinary tract infection: cause for concern? D Mangin, L Toop, S Chambers, R Ikram, B Harris NZ Med J 2005 Nov 11; 18(1225):U1726

Home management of mild to moderately severe community-acquired pneumonia: a randomized controlled trial. DA Richards, LJ Toop, MJ Epton, GR McGeoch, GI Town, SM Wynn-Thomas et al Med J Aust 2005 Sep 5;183(5):235-8

Response to antibiotics of women with symptoms of urinary tract infection but negative dipstick urine test results: double blind randomized controlled trial. D Richards, L Toop, S Chambers, L Fletcher. BMJ 2005 Jul 16;331(7509):143

Response to Maubach and Hoek's paper on GP attitudes to DTCA. NZ Med J 2005 Jun 24;118(1217):U1543. L Toop, D Richards, T Dowell

Randomised controlled trial of intravenous antibiotic treatment for cellulitis at home compared with hospital. P Corwin, L Toop, G McGeoch, M Than, S Wynn-Thomas, JE Wells et al, BMJ 2005 Jan 15;330(7483):129

Direct to consumer advertising (Editorial). BMJ 2005 Jan 1;330(7481):5-6 PR Mansfield, B Mintzes, D Richards, L Toop

Physicians' negative views of direct-to-consumer advertising (DTCA): the international evidence grows. NZ Med J 2004 Jun 4;117(1195):U905. L Toop, D Richards

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