PC-CRTU *in Contact*
Issue 17 – Autumn 2007

Editorial

Welcome to the *in-Contact* newsletter for Autumn 2007. Thank you for your support so far this year. Recent highlights have included completion on time and over target of recruitment for the MMP9 study with over 700 people screened for colorectal cancer.

The BAFTA study, which was presented at our research day in May, has now been published in the Lancet and shows that warfarin is safer and more effective than aspirin for people over 75 in AF. In the same week the results from the SAFE study were published in the BMJ, demonstrating that opportunistic screening of the pulse was the most effective way of identifying new cases of AF in primary care. Both of these studies involved massive amounts of input from practices – **thank you!** More details inside and let us know if you would like a reprint of either paper.

The Research Support Facility has an ongoing remit to identify and support those who wish to commence an academic career. The primary means of achieving this is to provide training and facilitation for those who wish to secure a fellowship to undertake a PhD. The usual route (after securing funding) is for people to spend half time in clinical practice and half-time in the University undertaking a research project that will lead to a PhD. Please get in touch with one of us if this opportunity interests you.

The new **Primary Care Research Network for Central England (PCRN-CE)** which is supported by PC-CRTU was launched in September. This will bring new investment to research in the West Midlands and represents a collaboration between ourselves and Primary Care Network colleagues in Keele/Stoke and Warwick/Coventry. It will mean new opportunities to participate in an even wider range of research – watch this space.

The National School for Primary Care Research has now been incorporated including Birmingham as one of the top five Departments of Primary Care in England. New studies arising from this include two in heart failure: rescreening the ECHOES population and using BNP in heart failure diagnosis as well as a follow on to the BETS study and work in Cancer and Electronic Trial Support. In February the Department was awarded an NHS Programme grant for our work on Stroke Prevention and this will encompass new trials in blood pressure lowering after stroke, cardiovascular risk reduction using a 'Polypill' and further work around self management of hypertension.

As you will be able to tell from this summary, we continue to be kept busy and are always on the look out for new practices to take part in studies. Many of you will have replied to our recent mailing asking for expressions of interest, but if not and something in the newsletter catches your eye then please get in touch.

Studies currently open to recruitment include:

- TASMINH2
- DESCARTES
- PRISM
- Doctor's decisions in diagnosing and treating hypertension
- E-Echoes
- Use of medical Self Tests by members of the public
- SCOOP: Screening of older women for the prevention of fractures.
- PSA and Prostate Cancer Linkage Study
- P.E.T. Study

Further information about all these studies are included within the newsletter.

Dr Richard McManus
Clinical Director MidReC
Email: r.j.mcmanus@bham.ac.uk

Professor Sue Wilson
Director, Research Support Facility
Email: s.wilson@bham.ac.uk

New studies and studies open to recruitment

Iron deficiency anaemia and delayed diagnosis of colorectal cancer

More than 30,000 new cases of colorectal cancer occur each year in the UK, with 16,000 deaths. The low survival rate is due to advanced stage at diagnosis. Time to diagnosis and treatment has not improved over the last decade. This study aims to determine the role of iron deficiency anaemia (IDA) in predicting those persons needing urgent investigation for colorectal cancer, and will contribute to the development of guidelines relevant both to GP referral and hospital investigations.

Funding has been awarded by Cancer Research UK to carry out a 6 month feasibility study to pilot and determine the feasibility of all stages of the research process. Feasibility study work is restricted to one haematology laboratory, one general practice and one cancer registry. The object of the feasibility work is to demonstrate that ethical committee and PIAG approval can be obtained for a study of routinely collected data without individual informed consent, and that record linkages can be made successfully, in order to undertake the 'full' study.

Phase 1.1: identify, from a haematology laboratory, a cohort of patients with IDA diagnosed in primary care to enable the prevalence and incidence of IDA to be estimated, care pathways to be described and the underlying diagnoses to be collated.

Phase 1.2: link primary care data with cancer registry and cancer waiting times data to enable the patients with IDA and a subsequent diagnosis of colorectal cancer to be identified, care pathways to be described and the incidence of colorectal cancer subsequent to IDA to be estimated.

Phase 1.3: develop user-group, develop and pilot user opt-out materials. Use a general practice database (THIN) to confirm power calculations, re-consider the cut-off for haemoglobin and clarify methods of handling haemoglobin in analyses. Pilot practice recruitment, recruit user group, develop and pilot opt-out materials and record linkage.

Should the feasibility work prove successful, then it is hoped to gain funding to undertake the 'full' three-year study which will include 60 general practices in three UK regions (Birmingham, Bristol and Sunderland). This observational study aims to identify a cohort of patients with a primary care diagnosis of IDA by linkage of haematology and primary care databases. We will establish which patients have a subsequent diagnosis of colorectal cancer by linkage with cancer registry datasets. This study will comprise all patients with a diagnosis of IDA during the six year period 2001 to 2006. Subsequent to data linkage, all personal identifiers will be removed from the data set. All analyses will be undertaken on anonymised data.

Chief Investigator: Professor Sue Wilson

For further details please contact:
Sally Warmington
Cancer and Chronic Disease Team
Tel: 0121 414 8589
Email: s.a.warmington@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/research/Screening/index.htm

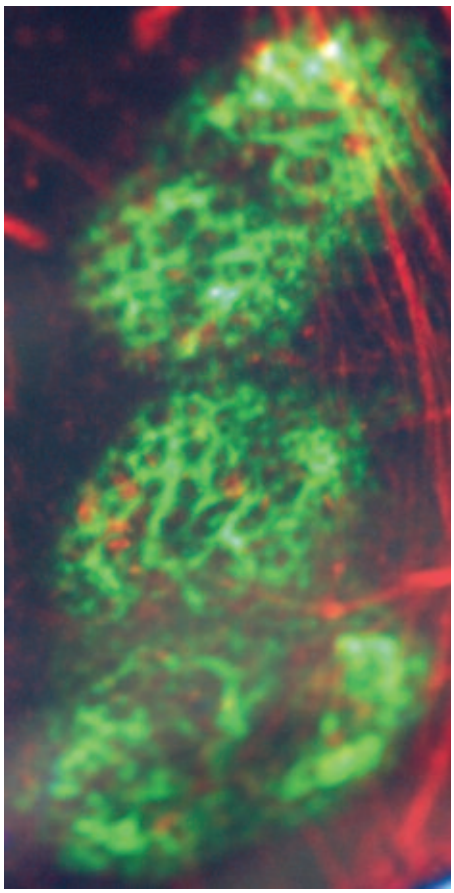
Are you interested in diagnosis and management of hypertension?

Do you want a chance to win £100? Do you have five minutes to take part in a website-based study of blood pressure treatment in primary care?

To take part in an RCGP funded study of doctor's decisions in diagnosing and treating hypertension, log on to: **www.clinicaldecisionresearch.org.uk** and follow the instructions.

The website engages doctors with a realistic clinical scenario, it only takes a few minutes to take part and you get the chance to win £100.

Further information from:
Dr Tom Marshall,
Dept of Public Health and Epidemiology,
University of Birmingham,
B15 2TT.
Email: research@clinicaldecisionresearch.org.uk



Use of medical self-tests by members of the public

The Cancer and Chronic Disease Team in the Department of Primary Care has a stream of research related to self-testing. Self-testing is where a member of the public buys a test from a shop or over the internet to see if they may have a condition without involving a doctor, nurse or other health professional. Examples include tests for chlamydia, prostate specific antigen and faecal occult blood. Although the range and accessibility of self-tests has increased dramatically over the last few years, there have been very few studies looking at who is using self-tests and why they are being used.

We are currently conducting a study, funded by the Department of Health, to get a precise estimate of the prevalence of the use of any self-test and to determine factors that are associated with using them. So far, we have sent a short questionnaire about the use of self-tests to around 2,500 people from general practice lists, we have interviewed 23 people who responded to that questionnaire and we have used those interviews to help us design a more detailed questionnaire about factors that may be related to using self-tests.

We are now approaching further general practices to ask them to take part in the study. The initial short questionnaire about the use of self-tests would be sent to a sample of adults from the practice's list, and the more detailed questionnaire would then be sent to people who had said that they were willing to receive another questionnaire and who had (cases) or had not (controls) used a self-test.

Your practice's involvement would be to provide a list of adults and check this list so that people who it would be inappropriate for us to send a questionnaire to, for example because of a terminal illness, severe mental illness or recent bereavement, could be excluded. We would then undertake the mailings of the questionnaires.

If your practice is interested in collaborating with this research, please contact:

Dr Angela Ryan
Cancer and Chronic Disease Team
Tel: 0121 415 8015.
Email: a.v.ryan@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/research/Screening/index.htm

MMP9 Wolverhampton

Study to establish the added benefit of measuring MMP9 after positive FOBt as part of the NHS Bowel Cancer Screening Programme

Colorectal cancer represents one of the most significant and preventable causes of death in the UK today. It is the second leading cause of cancer deaths in men and women, with over 16,000 people dying of the disease in 2005 (Cancer Research UK 2007a). The five-year survival rate for bowel cancer in the UK is only around 50%, which is poor in comparison to other western countries; this discrepancy is mainly attributed to people in the UK being diagnosed in later stages of the disease.

The first UK Bowel Cancer Screening Programme site (Wolverhampton) started screening in July 2006. The programme aims to screen men and women aged 60-69 using Faecal Occult Blood testing (FOBt). All those who are positive for FOBt will be offered a colonoscopy. FOBt testing has an approximate sensitivity of 50% and specificity of 50%, with a positive predictive value of 11% for cancer and 35% for adenoma (pre-cancerous lesions).

Although randomised trials suggest that FOBt screening will reduce mortality from bowel cancer by about 16%, there is a need to improve the predictive value of the test (since patients with a positive FOBt may go on to have a colonoscopy; both invasive and carrying a 1 in 1,000 risk of perforation). Acceptability of the test also needs improvement.

Our pilot work suggests that determination of serum matrix metalloproteinase (MMP9) levels is acceptable to more than 90% of the population and also has significant potential as a marker for both adenomas and cancers. Further investigation is warranted.

This study will aim to recruit patients who have had a positive FOBt and have been referred for colonoscopy to Wolverhampton Bowel Cancer Screening Unit. We will establish whether MMP9 estimation will enable the accurate identification of the people who do not have any bowel pathology (cancer or high risk polyp) and could therefore avoid the need for colonoscopy.

This study is funded by the NIHR School of Primary Care.

Chief Investigator: Professor Sue Wilson
Cancer and Chronic Disease Team
Tel: 0121 414 7397
Email: s.wilson@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/research/Screening/index.htm

PSA and Prostate Cancer Linkage Study

We will be carrying out a new descriptive study on PSA testing and prostate cancer over the next few months, recruiting practices in **Birmingham and Solihull**. The data required for the study will come from a simple search of patient records using the computer system in each practice.

This will provide information on PSA testing in primary care in the period before and after the introduction of the Prostate Cancer Risk Management Programme, the age and socioeconomic status of those being tested, and differences between general practices in their use of tests.

We will also obtain records of prostate cancer registrations from the West Midlands Cancer Intelligence Unit and link them to the data from each practice to prostate cancer.

If your practice would like to take part please contact:

Study Coordinator, Ronan Ryan
Cancer and Chronic Disease Team
Tel: 0121 414 2690
Email: r.p.ryan@bham.ac.uk

Study Research Nurse, Peter Bradburn
Cancer and Chronic Disease Team
Tel: 0121 415 8018
Email: p.bradburn@bham.ac.uk

www.pcpoh.bham.ac.uk/primarycare/research/Screening/index.htm

A pragmatic randomised controlled trial of the effectiveness and cost effectiveness of screening for osteoporosis in older women for prevention of fractures.

Screening of Older women for Prevention of Fractures (SCOOP)

Studies suggest that the prevalence of osteoporosis increases with age and more than 200,000 fractures occur in the UK each year as a direct result of osteoporosis. Osteoporosis increases the fracture risk and the consequent morbidity and mortality of the patient and has a major adverse effect on their quality of life in terms of pain and disability. Each year the estimated 70,000 hip fractures in the UK cost health and social services £1.7 billion. With an ageing population, the cost to society and individuals of treatment, rehabilitation and premature mortality is set to increase.

With this in mind the primary research question for the study is whether a community based screening program for osteoporosis reduces the incidence of fractures, and is cost-effective, in older women. The study is a UK 7 centre, unblinded, pragmatic, randomised controlled trial lasting 87 months with a minimum of 5 years follow-up. A total of 11,580 women (1,650 per centre), aged 70-85 inclusive and not currently on prescription medication to prevent osteoporotic fractures, will be consented to the trial by post via primary care.

The trial does not involve new medicinal procedures or any invasive or potentially harmful procedures to the participants. Upon receipt of valid baseline data, participants will be randomised to either a screening arm or control arm. Those in the screening arm will have a 10-year fracture probability computed from baseline risk factors together with bone mineral density measured via a DXA scan in selected subjects. Individuals above an age-dependent threshold will be recommended for treatment (typically an oral bisphosphonate) to continue treatment for the duration of the trial. The risk of fracture will not be calculated for subjects in the control arm, who will receive 'usual care'.

Inclusion criteria:

- ☐ Female
- ☐ Aged 70-85 inclusive
- ☐ Providing informed consent and necessary baseline information

It is anticipated that practice recruitment will begin shortly. To express your interest or for further information please contact:

Professor Jim Parle
Tel: 0121 414 6420
Email: j.v.parle@bham.ac.uk

Surveys of General Practitioners' attitudes and practices

a. The NHS Bowel Cancer Screening Programme (NHSBCSP) is being rolled out, with national coverage planned by 2010. The programme aims to screen men and women aged 60-69 using faecal occult blood testing (FOBt). The national screening programme will not provide FOB testing beyond this age range. There will inevitably be demands on GPs for information about the screening programme and for advice about screening outside the national programme, prompted by the national advertising of the NHS programme and by commercial companies that are specifically targeting those outside of the programme.

This cross sectional survey aims to establish the attitudes and practices of GPs to FOB testing and colorectal screening. The study is a nationwide survey of views which will inform the roll-out of the NHSBCSP. The survey is designed to accommodate a broad range of primary care GPs and practice settings.

This research is funded by the Primary Care Research Trust.

For more information please contact:

Professor Sue Wilson / Mrs Sue Clifford
Cancer and Chronic Disease Team
Tel: 0121 414 7397 / 0121 415 8725
Email: s.wilson@bham.ac.uk / s.clifford@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/research/Screening/index.htm

---

b. The growing awareness of the contribution of genetics to common diseases and the recognition that patients would benefit from early identification of genetic risk status has led to initiatives to bring genetic services to new clinical areas, including primary care. It has been suggested that primary care could take on a defined role in the delivery of genetic services for common disorders such as cancer and cardiovascular disease.

Nevertheless, little is known about primary care health professionals' views on the proposed extension of their role to include proactively identifying and referring patients at risk of common disorders with a genetic component.

This cross sectional survey aims to explore GPs attitudes and perceptions towards the provision of genetic services for common disorders in routine primary care. This study will establish the current level of GP support for genetics service provision in routine primary care, identify constraints to GP involvement and provide knowledge of any underlying diversity of opinion and practice.

This research is funded by the Scientific Foundation Board, RCGP.

For more information please contact:

Ms Debbie McCahon
Cancer and Chronic Disease Team
Tel: 0121 414 2954
Email: d.mccahon@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/research/Screening/index.htm

Design: Each survey will be sent to a stratified random sample of 3,000 GPs in England and Wales. GPs will be sent, by post, an Optical Mark Reader (OMR) compatible questionnaire with a covering letter and a freepost envelope.

TASMINH 2 – An RCT of Patient Self Management of Hypertension

TASMINH2 is a DH-funded RCT comparing self management of hypertension (self monitoring plus self titration of medication following pre-determined GP instructions) with normal care. We have now recruited 26 practices and over 205 patients. We still have room for a few more practices so if you are interested, please contact:

Dr Emma Vince
Tel: 0121 414 8071
Email: e.p.vince@bham.ac.uk

Heart Failure amongst the minority ethnic communities in Birmingham: The E-ECHOES (Ethnic – Echocardiographic Heart of England Screening) Study

We have finished the first year with over 1,500 subjects recruited. This is an excellent response from the South Asian and African-Caribbean communities.

Many thanks to all the practices for their help in achieving this and their continuing support.

We continue to screen in more practices within Heart of Birmingham teaching PCT and look forward to another successful year.

For further details please contact:

Dr Paramjit Gill
Tel: 0121 414 3758
Email: p.s.gill@bham.ac.uk

Sore throat study

DESCARTE – Evaluating management decisions in sore throat

This study aims to find out if it is possible to predict who gets complications or suffers prolonged symptoms following a sore throat. The study will help doctors in the future prescribe antibiotics to those most likely to benefit.

There are currently 155 GPs from 43 practices taking part from the West Midlands region, and recruitment will continue through this coming winter. We are recruiting16 year olds and over with sore throat as their main problem. Data entry is quick and simple via the website. Many GPs are really impressed with this system, as once data has been ticked into the boxes, it can then populate the patients medical records as a summary of the consultation. We also have paper versions if preferred. We can provide posters and information leaflets for the waiting area so patients with sore throats are alerted to the study.

Unusually this study can be done by any individual GP or all GPs in the practice. If you or your practice are interested and have not previously volunteered to host the study, please ring our administrator on 0121 414 8545, or email Razia Meer-Baloch (pcrtempuser44@adf.bham.ac.uk)

PRISM – Primary Care Streptococcal Management study

The purpose of the study is to find out which Rapid Streptococcal Antigen Deletion test and clinical scoring method of diagnosing sore throats is the most effective method of detecting those sore throats that really need antibiotics and those that do not. This study will run in two phases. Phase I, the validation and development phase, is currently running in 4 practices with another 2 to start soon.

We will be looking for practices who are interested in recruiting for Phase II, and practices who are recruiting for DESCARTE will also be able to recruit for PRISM. Data entry for PRISM is very similar to that for DESCARTE, the main differences between the 2 studies being that PRISM will recruit patients who are aged 5 years and above. All patients will be required to complete a diary and will have a throat swab taken. The swab will then be analysed by a device (NPT) and results can be given to patients.

If you or your practice are interested in hosting this study in the New Year, please ring our administrator on 0121 414 8545, or email Razia Meer-Baloch (pcrtempuser44@adf.ac.uk)

UNIVERSITY OF BIRMINGHAM

P.E.T. study
Personalised Extra Treatment

Help us, help you, help your patients – Stop Smoking!

We are looking for GP practices interested in setting up Free Stop Smoking Clinics where we can recruit people into the P.E.T. study. More information below:

Personalised Extra Treatment Study

Using genotype to tailor prescribing of nicotine replacement therapy: a randomised controlled trial assessing impact upon adherence.

The University of Birmingham in conjunction with Kings College London and the University of Bristol are looking for practices in the South Birmingham area who are interested in assisting their patients in giving up smoking.

We are looking for practices who would be able to accommodate us in the running of the Personalised Extra Treatment (PET) Study looking at adherence to prescribed doses of nicotine replacement therapy (NRT).

The uptake of cigarettes, the amount smoked and the ability of people to give up is under strong genetic control with up to 70 % of the variance in people's smoking habits explained by genes. Recent findings suggest that an opioid receptor gene variation called OPRM1 is linked to outcomes in attempts to stop smoking. People with the variant Asp allele were shown to be more successful in quit attempts with higher and more prolonged doses of NRT. In people with the more common Asn variant a standard dose of NRT was shown to be as effective as higher doses.

Genetic tests are often used to refine risk prediction and we want to use this to motivate people to make changes in their behaviour to reduce the likelihood of future disease occurring. Evidence suggests, however, that people who receive genetic feedback do not see the connection between biologically revealed risk and behavioural solutions such as stopping smoking. Rather they see that biologically conferred risk requires biological solutions, such as taking medication.

In the Personalised Extra Treatment (PET) study we have hypothesized that adherence to nicotine replacement therapy will be increased if smokers are aware that the dose has been calculated to suit genetic needs as compared to behavioural or psychological feedback. Therefore there are two arms to this study: In one arm the dose is worked out in accordance to a psychological test for nicotine dependence and in the other arm the dose is worked out based on a genetic blood test.

All participants will be prescribed a nicotine patch, and a top-up oral nicotine replacement, such as gum or inhalators, determined by whether they were Asp or Asn variant or by their score in the psychological test. There is clear evidence to suggest combinations of NRT are more effective than the patch alone and combination treatment has recently been licensed by the MHRA. In addition to NRT participants will receive standard smoking cessation support.

Practices who want to take part would be required to write to their list of registered smokers to invite them to the study and provide a room for use by our Research Nurses one day (or morning/afternoon) a week. Your costs would be reimbursed.

To discuss this please call:
Jennie Inglis or Jackie Ingram
on 0121 414 3105.

Recruitment completed – under analysis

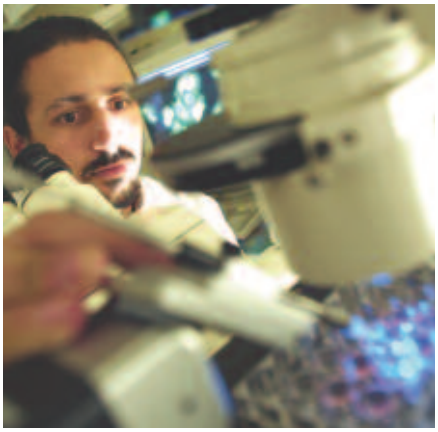
CP450 Variability in response to warfarin: a prospective analysis of pharmacogenetic and environmental factors

The purpose of the study is to define genetic and environmental factors that determine variability in response to warfarin. It is hoped this will lead to the development of an algorithm that takes into account patient's genetic and environmental factors enabling clinicians to tailor warfarin therapy to suit individual patient's needs.

Recruitment for the study was initially slow and 52 patients were recruited over the first 12 months. However, an amendment to the protocol in April 07 resulted in a simpler study design and led to patient recruitment rocketing over the summer months. By 5th September we had recruited a further 359 patients exceeding our overall recruitment target of 400. All the data is now being collated before analysis commences.

We would like to take this opportunity to thank all the participating practices and the Bank Nurses for their hard work and commitment over the duration of this study.

Katie Jarand
Tel: 0121 414 3099



MMP9 CR-UK

MMP9

Study to evaluate the suitability and acceptability of measuring MMP9 as a screening test for colorectal cancer

This Cancer Research UK funded study, completed recruitment in August 2007 having screened 748 patients (and met the recruitment target!). The aim of the study is to assess the accuracy and acceptability of MMP9 as a potential screening test for colorectal cancer. Participating patients provided a blood sample for MMP9 estimation and had a colonoscopy (gold standard).

Patients were sent a short symptom questionnaire by post. Responders who reported one or more lower gastrointestinal symptoms were asked to attend a research clinic (staffed by departmental research nurses) at the practice. Patients who provided informed consent had a blood sample and colonoscopy at the Wellcome Clinical Research Facility (QE Hospital).

Nineteen practices were recruited. Response rates to the questionnaire were 66% and 16.5% of these responders were invited to come for a Research Nurse interview. About half of those were considered fit for colonoscopy and provided informed consent.

Analysis is currently underway and we will include a summary of the results in a future newsletter.

We would like to thank all participating practices for their support of this study.

This study is funded by Cancer Research UK

Chief Investigator: Professor Sue Wilson
Cancer and Chronic Disease Team
Tel: 0121 414 7397
Email: s.wilson@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/research/screening/index.htm

Reported Studies

Lancet 2007 Vol. 370 p493-503. ***Mant J. et al on behalf of BAFTA Investigation Team and MidReC***

BAFTA Study Results

Summary

Background Anticoagulation is more effective than antiplatelet agents at reducing stroke risk in atrial fibrillation, but it is unclear whether or not this benefit is offset in elderly patients by increased risk of haemorrhage. We assessed whether warfarin led to a lower risk of major stroke, arterial embolism or other intra-cranial haemorrhage compared with aspirin in atrial fibrillation in an elderly primary care population.

Methods Patients aged 75 or over in atrial fibrillation were randomised to warfarin (target INR 2-3) or aspirin 75mg. The primary end-point was fatal or disabling stroke (ischaemic or haemorrhagic), intracranial haemorrhage or significant arterial embolism. End points were adjudicated by an independent committee blinded to treatment allocation. Analysis was by intention-to-treat.

Results 973 patients, mean age 81, were randomised and followed up for an average of 2.7 years. There were 24 (1.8% per annum) primary events in people on warfarin and 48 (3.8% per annum) primary events in people on aspirin – relative risk 0.48 (95%CI 0.28, 0.80, p= 0.003), number needed to treat for one year to prevent one primary event 50. Risk of major haemorrhage was similar in both groups: extra-cranial: 1.4% per annum (warfarin) versus 1.6% per annum (aspirin), relative risk 0.87 (0.43, 1.73); extra- and intra-cranial (including haemorrhagic stroke): 1.9% versus 2.0% per annum, relative risk 0.96 (0.53, 1.75). There were no significant differences in other vascular events: relative risk 0.97 (0.70, 1.35); or in all cause mortality: relative risk 0.95 (0.72, 1.26).

Conclusion **Warfarin is more effective than aspirin in stroke prevention in elderly people over 75 with atrial fibrillation and the risks of haemorrhage of the two treatments are similar. These data support a policy of anticoagulation for people aged over 75 in atrial fibrillation unless there are contra-indications or the patient considers the size of the benefit is not worth the inconvenience of treatment.**

BMJ 2007;335:383 (25 August), doi:10.1136/bmj.39280.660567.55 (published 2 August 2007)

Screening versus routine practice in detection of atrial fibrillation in patients aged 65 or over: cluster randomised controlled trial

David A Fitzmaurice, *Professor of Primary Care*[1], **F D Richard Hobbs**, *Professor, Head of Department*[1], **Sue Jowett**, *Research Fellow*[1], **Jonathon Mant**, *Reader*[1], **Ellen T Murray**, *Research Fellow*[1], **Roger Holder**, *Head of Statistics*[1], **J P Raftery**, *Professor of Health Technology Assessment*[2], **S Bryan**, *Professor of Health Economics*[3], **Michael Davies**, *Consultant Cardiologist*[4], **Gregory Y H Lip**, *Professor of Cardiovascular Medicine*[5], **T F Allan**, *Senior Lecturer*[6]

[1] Department of Primary Care and General Practice, University of Birmingham, Birmingham B15 2TT
[2] Wessex Institute for Health Research and Development, University of Southampton,
[3] Health Economics Facility, University of Birmingham,
[4] Selly Oak Hospital, Birmingham,
[5] University Department of Medicine, City Hospital, Birmingham,
[6] Health Care Research Unit, St Bartholomew's School of Nursing and Midwifery, City University, London

Correspondence to:
F D R Hobbs – f.d.r.hobbs@bham.ac.uk

Abstract

Objectives: To assess whether screening improves the detection of atrial fibrillation (cluster randomisation) and to compare systematic and opportunistic screening.

Design: Multicentred cluster randomised controlled trial, with subsidiary trial embedded within the intervention arm.

Setting: 50 primary care centres in England, with further individual randomisation of patients in the intervention practices.

Participants: 14,802 patients aged 65 or over in 25 intervention and 25 control practices.

Interventions: Patients in intervention practices were randomly allocated to systematic screening (invitation for electrocardiography) or opportunistic screening (pulse taking and invitation for electrocardiography if the pulse was irregular). Screening took place over 12 months in each practice from October 2001 to February 2003. No active screening took place in control practices.

Main outcome measure: Newly identified atrial fibrillation.

Results: The detection rate of new cases of atrial fibrillation was 1.63% a year in the intervention practices and 1.04% in control practices (difference 0.59%, 95% confidence interval 0.20% to 0.98%). Systematic and opportunistic screening detected similar numbers of new cases (1.62% v 1.64%, difference 0.02%, −0.5% to 0.5%).

Conclusion: **Active screening for atrial fibrillation detects additional cases over current practice. The preferred method of screening in patients aged 65 or over in primary care is opportunistic pulse taking with follow-up electrocardiography.**

BMJ 2007;335:380 (25 August), doi:10.1136/bmj.39227.551713.AE (published 29 June 2007)

Accuracy of diagnosing atrial fibrillation on electrocardiogram by primary care practitioners and interpretative diagnostic software: analysis of data from screening for atrial fibrillation in the elderly (SAFE) trial

Jonathan Mant, *Reader*[1], **David A Fitzmaurice**, *Professor of Primary Care*[1], **F D Richard Hobbs**, *Professor and Head of Department*[1], **Sue Jowett**, *Research Fellow*[2], **Ellen T Murray**, *Research Fellow*[1], **Roger Holder**, *Head of Statistics*[1], **Michael Davies**, *Consultant Cardiologist*[3], **Gregory Y H Lip**, *Professor of Cardiovascular Medicine*[4]

[1] Department of Primary Care and General Practice, University of Birmingham, Birmingham B15 2TT
[2] Health Economics Facility, Health Services Management Centre, University of Birmingham, Birmingham B15 2RT
[3] Department of Cardiology, Queen Elizabeth Hospital, Edgbaston, Birmingham B15 2TH
[4] University Department of Medicine, City Hospital, Birmingham B18 7QH

Correspondence to:
D A Fitzmaurice – d.a.fitzmaurice@bham.ac.uk

Abstract

Objectives: To assess the accuracy of general practitioners, practice nurses, and interpretative software in the use of different types of electrocardiogram to diagnose atrial fibrillation.

Design: Prospective comparison with reference standard of assessment of electrocardiograms by two independent specialists.

Setting: 49 general practices in Central England.

Participants: 2,595 patients aged 65 or over screened for atrial fibrillation as part of the screening for atrial fibrillation in the elderly (SAFE) study.

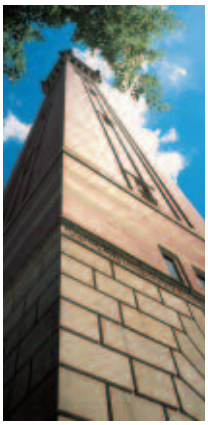
Interventions: All electrocardiograms were read with the Biolog interpretative software, and a random sample of 12 lead, limb lead, and single lead thoracic placement electrocardiograms were assessed by general practitioners and practice nurses independently of each other and of the Biolog assessment.

Main outcome measure: Sensitivity, specificity, and positive and negative predictive values.

Results: General practitioners detected 79 out of 99 cases of atrial fibrillation on a 12 lead electrocardiogram (sensitivity 80%, 95% confidence interval 71% to 87%) and misinterpreted 114 out of 1,355 cases of sinus rhythm as atrial fibrillation (specificity 92%, 90% to 93%). Practice nurses detected a similar proportion of cases of atrial fibrillation (sensitivity 77%, 67% to 85%), but had a lower specificity (85%, 83% to 87%). The interpretative software was significantly more accurate, with a specificity of 99%, but missed 36 of 215 cases of atrial fibrillation (sensitivity 83%). Combining general practitioners' interpretation with the interpretative software led to a sensitivity of 92% and a specificity of 91%. Use of limb lead or single lead thoracic placement electrocardiograms resulted in some loss of specificity.

Conclusion: **Many primary care professionals cannot accurately detect atrial fibrillation on an electrocardiogram, and interpretative software is not sufficiently accurate to circumvent this problem, even when combined with interpretation by a general practitioner. Diagnosis of atrial fibrillation in the community needs to factor in the reading of electrocardiograms by appropriately trained people.**

Challenge and develop your knowledge



The Department of Primary Care and General Practice has run post graduate MSc accredited and Continuing Professional Development (CPD) courses for over 10 years. They are aimed at all health care professionals, particularly GPs, practice nurses, specialist nurses, pharmacists and biomedical scientists. The National Centre for Anticoagulation Training (NCAT) was developed to meet the educational needs of all health care professionals involved in anticoagulation management. Courses have now extended to associated topics, for example, cardiovascular disease, point of care testing and pharmacology

Current courses

Accredited course in oral anticoagulation management
The course aims are to provide the theory and practical knowledge necessary for the management of oral anticoagulation. (NCAT)
5-7 November, 3-5 December 2007

CPD Update on DVT diagnosis and management
The course aims to produce awareness of the diagnosis and management of Deep Vein Thrombosis and its management within a primary care service. (NCAT)
6 December 2007

CPD Atrial Fibrillation – detection and treatment
The course aims to promote awareness of Atrial Fibrillation and its management. This includes epidemiology, anatomy and physiology, diagnostic and assessment criteria, performing and interpreting an ECG, current evidence for treatment and the management in line with national guidelines. (NCAT)
19 November 2007

CPD Thromboprophylaxis update day
Following the recently issued NICE guidelines for surgical thromboprophylaxis, the course aims to update healthcare professionals on current practice, including the extent of the problem and initiatives introduced to overcome them. (NCAT)
14 November 2007

CPD Chronic Kidney Disease in Primary Care
Driven by implementation of eGFR, the course will cover content such as the epidemiology of chronic renal problems, guidelines for referrals and the management of chronic renal failure focussing on the relationship between primary and secondary care providers.
9 November 2007

CPD Managing complex cases in Hypertension in Primary Care
The course provides an overview of effective and up to date management of hypertension. The course will inform on the practicality of investigating and managing hypertension in primary and secondary care and the most effective method for managing QOF.
22 November 2007

CPD Where to test? In the laboratory, the practice or the chemist
Aimed at healthcare professionals involved in both screening for disease and disease management, the course will provide an understanding of point of care (POC) and over the counter (OTC) devices. Focusing particularly on Diabetes, Cardiovascular Disease, Women's Health and Cancer, the course will also look at testing for drug abuse, osteoarthritis, allergies, menopause, osteoporosis and drink spiking.
7 December 2007

CPD Safe prescribing practice for non medical prescribers
In conjunction with Aston University the course will focus on the pharmacology of specific treatment groups in prescribing practice. The course aims to provide information and advice with relation to prescribing decision, influences that affect prescribing practice and use of medicines in a safe and effective manner with an appreciation of budgetary implications.
21 November 2007

CPD Diabetes updates
A series of six training days has been developed to allow health care professionals to undertake updates in diabetes management in the community. Each day covers one specific area of diabetes and can be attended as a one off or build towards a complete package in the management of diabetes. There is opportunity to receive MSc level accreditation (20 credits) by attending all six training days plus one day of revision and assessment as well as undertaking some academic case work.

1. Introduction to diabetes
Noon-6.30pm, Wednesday 6 February 2008

2. Treatment of diabetes
Noon-6.15pm, Wednesday 5 March 2008

3. Long term complications of diabetes
Noon-6.30pm, Wednesday 9 April 2008

4. Diabetes management of special cases
Noon-7.30pm, Wednesday 14 May 2008

5. Monitoring and management of cardiovascular complications of diabetes
Noon-5pm, Wednesday 4 June 2008

6. Diabetes – guidelines, protocols and costs
Noon-5.45pm, Wednesday 9 July 2008

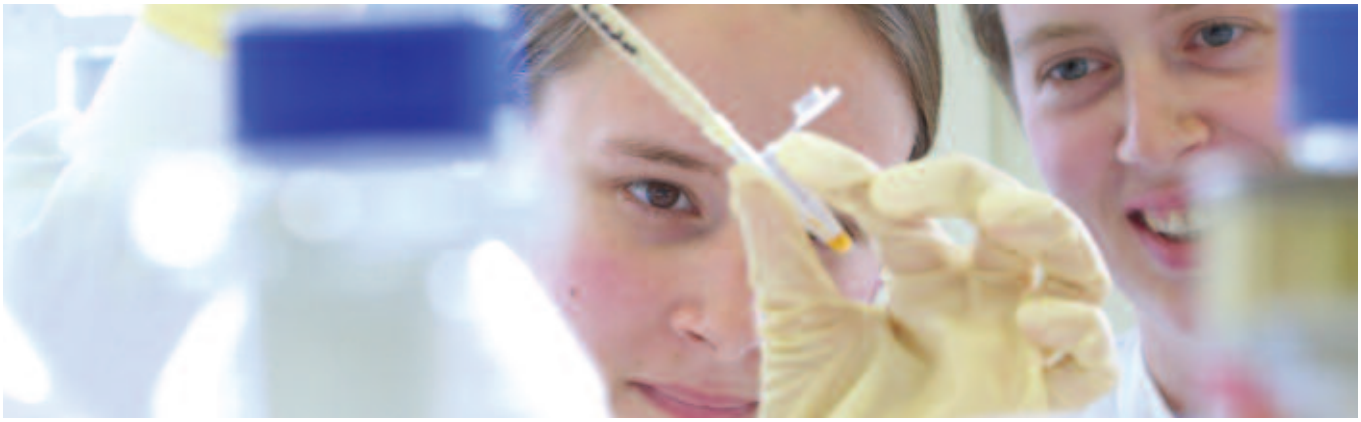
Faculty includes...

Department of Primary Care & General Practice, University of Birmingham, Department of Pharmacy Practice, Aston University and external specialists in the field.

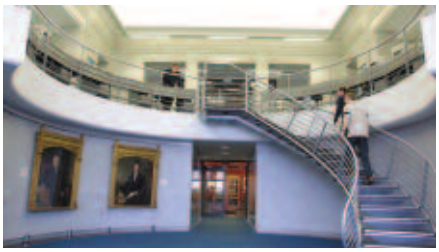
For further information or details on how to register contact
Rebekah Marshall
Tel: 0121 415 8017
Email: r.marshall@bham.ac.uk
www.pcpoh.bham.ac.uk/primarycare/
www.anticoagulation.org.uk/

National Centre for Anticoagulation Training

Postgraduate taught programmes at The Division of Primary Care, Public and Occupational Health



Developing your skills and enhancing your career has never been easier than now, with the flexible range of learning options available at the University of Birmingham. Full or part time degree programmes and tailor made courses are all delivered by the highest quality teaching staff with years of experience in their field.



We understand that pressures of work or home life in today's busy society can make it hard to find time for professional development, but we can help you find a training option to suit you.

To learn more about our courses, simply visit our website and get in touch, and let us help you reach your career goals.

Public Health
MPH/Diploma/Certificate
Full-time, part-time or over up to six years by flexible learning.

Evidence Based Healthcare and Health Technology Assessment
MSc/Diploma/Certificate
Full-time, part-time or over up to six years by flexible learning.

Health Protection
MSc/Diploma/Certificate, developed in conjunction with the Health Protection Agency. Full time or part time over a period of 2–4 years.

Learning and Teaching for Health Professionals
Postgraduate Certificate
Bursary available

www.pcpoh.bham.ac.uk/postgraduate.htm

Contact: Tricia Henley
Email: t.henley@bham.ac.uk

Health Economics and Health Policy MSc/Diploma
Full-time or part-time programme

www.pcpoh.bham.ac.uk/hef/postgraduate1.htm

Contact: Helen Evans
Email: h.e.evans.20@bham.ac.uk

Do you want to take part in research co-ordinated by Birmingham, Keele or Warwick Universities? If you did not reply to our letter earlier this year, here is another chance.

Reply slip

MidReC is now working in conjunction with the Primary Care Research Network for Central England (PCRN-CE). If you or your practice is interested in taking part in supported, remunerated, relevant research in Primary Care, please complete and return the form below. PCRN-CE is working with the following Topic Specific Networks. Please tick if you have a **particular research interest** in any of the following:

- ☐ Cancer
- ☐ Stroke
- ☐ Medicines for Children
- ☐ Mental Health
- ☐ Primary Care
- ☐ All of the above
- ☐ Other

Please let us know if you have a particular research interest not listed above.

Name:

Practice address:

Postcode:

Please note: You will always be able to choose the level of involvement your practice would like to undertake. Only studies which have been independently peer reviewed and funded through national competition and commercial research asking relevant questions will be adopted by the PCRN-UK.

Please fax back to: (0121) 414 2282

or post to: Mrs Sheila Bailey
Department of Primary Care and General Practice
Primary Care Clinical Sciences Building
The University of Birmingham
Edgbaston
Birmingham B15 2TT

PC-CRTU CONTACTS

Richard Hobbs Director
Richard McManus Clinical Director
Sue Wilson Trials Director
Ros Salter R&D Manager

Andrea Roalfe Statistician
Beverley Hancock Research and Training Facilitator
Darren Douglas IT Co-ordinator
Sheila Bailey Administrator
Beth Hinks Administrator
Juliet Ralphs Finance Officer
Suki Candler Secretary
Shauna Silvera Secretary

The Department of Primary Care and General Practice
University of Birmingham
Primary Care Clinical Sciences Building
Edgbaston, Birmingham B15 2TT
Tel: 0121 414 2845
Fax: 0121 414 2282
www.pcpoh.bham.ac.uk/primarycare/PC-CRTU/index.htm

UNIVERSITY OF BIRMINGHAM

B2303 Printed on paper made with wood fibre from sustainable forests.