Welcome to our first report.

It is designed to celebrate the fact that Primary Care is important at Keele. It is now:

- The largest clinical academic group in the School of Medicine.
- A leader of undergraduate education and postgraduate studies in the School of Medicine.
- Underpins an innovative community-focused undergraduate medical education
- Provides an innovative Masters-based academic vocational training scheme for all GP registrars
- Multidisciplinary, with strong links to the Schools of Nursing, Health and Rehabilitation and Pharmacy, and to Gerontology in the Faculty of Social Science.

Nationally, Primary Care at Keele:

- Was the second largest UK primary care research group returned in the 2008 Research Assessment Exercise
- Had 85% of its research judged as internationally recognised for its originality, significance and rigour in the 2008 Research Assessment Exercise
- Hosts the Arthritis Research Campaign’s UK National Primary Care Centre
- Is the academic partner in the largest NHS Primary Care Research Network in England

Primary care teaching and research activities at Keele University have enjoyed huge support from the people and health professionals of North Staffordshire. This support for our teaching and research is being rewarded by Keele graduates often choosing to stay and practice, teach and research locally in what is an under-served area. This is key to building and consolidating our community impact, which is a central ambition of the Medical School.

Take a little time to read our report. And then take the time to come and visit us and see a University which has made a genuine investment in primary care and is now reaping the rewards.

RK McKinley
General practice education at Keele: a brief history

Although the Undergraduate Medical School is a new arrival, academic general practice has a long and honourable history at Keele University. The nearby Stoke-on-Trent conurbation, an industrial town set apart from traditional big centres of medical education, populated its general practices in post-war decades with bright young doctors who, with specialist colleagues, created a lively postgraduate educational scene in the North Staffordshire Medical Institute, an early example of purpose-built postgraduate medical education facilities. These doctors helped to nurture the birth of the first University Postgraduate Department of Medicine in the country at Keele in 1979.

One general practice in particular was at the centre of this activity. Wolstanton Medical Centre in Newcastle-under-Lyme, sitting on the edge of the conurbation, was home to Alistair Ross (the first Senior Lecturer in General Practice at Keele) and Mike Fisher, whose joint vision created a novel academic framework for GP vocational training based on Masters modules delivered at Keele.

Brian McGuiness came to Keele in the late 1980s as the first Professor of Primary Care and started a new degree (Masters in Medical Science), designed to introduce trainee specialist doctors to aspects of general practice. A subsequent success of the degree has been its attraction for trainee GPs. It became the vehicle for the delivery of the academic vocational training programme, led by Mike Fisher and by Vince Cooper, Senior Lecturer in General Practice. By 2005 this programme provided the basis for Keele’s successful application for the National Institute of Health Research Academic Fellows and Clinical Lectureships in General Practice.

In 2001 Keele was awarded an undergraduate medical school in partnership with Manchester University. The appointment of the first Senior Lecturer in General Practice at the Undergraduate Medical School (Andy Bartlam) was followed by the Foundation Chair of General Practice in the School (Bob McKinley). Bob came from Leicester to take up the post, joining another GP tempted by the challenges and the delights of North Staffordshire, Richard Hays from Australia, who became the second Head of the Medical School, and Kay Mohanna, a GP who directs Postgraduate Studies at the School.

As Keele Medical School develops its own curriculum and moves to independent status, general practice and primary care continue to play a prominent and important role.
Primary Care Research at Keele University: an introduction

Researchers appointed to Keele in epidemiology, community rheumatology, physiotherapy, and medical statistics, joined forces in 1995 with the academic primary care group based at the University, and with local general practices and the District Health Authority, to develop a research programme focused on joint and muscle problems in primary care. These researchers formed the largest group within the Research Institute for Primary Care and Health Sciences when Keele organised its research into Institutes in 2002.

Professor Dame Janet Finch, appointed as Vice Chancellor at Keele in the mid 1990s, strongly and consistently supported primary care, and led a major drive for funding by the University’s development trust. This resulted in the purpose-built Primary Care Sciences building on campus.

The Research Institute for Primary Care And Health Sciences (iPCHS) is one of two Research Institutes in the Faculty of Health, and has three research groups. The largest group continues its focus on common painful joint and muscle problems seen in primary care, and has now evolved to become the Arthritis Research Campaign (arc) National Primary Care Centre. The second research group in the Institute is focused on Education and Evaluation research, and is a collaboration between academic leads from the Schools of Medicine, Nursing, Pharmacy, and Health and Rehabilitation. Researchers within the Education and Evaluation Group provide academic leadership and support to NHS Stoke PCT’s newly initiated Primary Care Development Unit. The third and most recently formed group is a health services research group, who have a specific remit to develop and grow clinical research capacity in the NHS, and include the Keele Hub of the National Institute of Health Research - Research Design Service for the West Midlands.

The Institute is committed to:

- University-NHS partnerships – through the National Institute of Health Research Networks and through longstanding collaborations with local hospitals and primary care trusts. These partnerships play a critical role in developing and delivering a joint research programme.
- multidisciplinary research - a range of clinicians, allied health professions, non-clinical researchers from both biomedical and social sciences backgrounds, and experienced managers and administrators, collaborate on our programme.
- mixed methodologies - in-depth qualitative research which describes the experience and viewpoint of individual patients and health professionals is embedded within large epidemiological studies and trials, and results from each approach are used to enhance and inform the other.
• user involvement - at all levels, users of research results (public, patients and health professionals) help to develop and oversee the whole programme and specific studies.

• career development – through our Masters training programme, research degree supervision and long experience of joint working with clinicians and health professionals wishing to pursue research as part of their career.

Peter Croft
SECTION 1

GENERAL PRACTICE EDUCATION AT KEELE

Staff

Professorial

Robert K McKinley
Professor of Academic General Practice.

Chantelle Todd
Lecturer in Academic General Practice (Part time)

Associate Dean

Mike JY Fisher
Associate Dean West Midlands Deanery

Simon Gay
Lecturer in Academic General Practice (Part time)

Senior Lecturers

Vince Cooper
Senior Lecturer in General Practice until 31.08.07

North Staffordshire VTS

Peter Coventry
Senior Lecturer in Community Medical Education, Shropshire (Part time)

Alwyn Ralphs
Director, MMedSci

Clive Gibson.
Senior Lecturer and Director of Academic Staff Development

Honorary Senior Lecturer in General Practice

Janet Lefroy
Senior Lecturer in Community Medical Education (Part time)

Kevan Thorley,
Higherland Surgery, Newcastle, Staffs.

Clive Gibson
Honorary Lecturer in General Practice

Janet Lefroy
Academic Vocational VTS and Academic Clinical Fellow

Kay Mohanna
Senior Lecturer in Primary Care Medical Education and Director of Postgraduate Programmes.

Joseph Hapuarachi,
Harley Street Practice, Hanley, Stoke-on-Trent

Lecturers

Sheena Gibson
Lecturer in Community Medical Education (Part-time)

Uday Pathak,
Cobridge Medical Centre, Stoke-on-Trent
Honorary Clinical Teachers

Napoleon Acquah,
Loomer Road Surgery, Chesterton

Michael Adilih,
Furlong Medical Centre, Tunstall, Stoke-on-Trent

Karen Burger,
Cumberland House Surgery, Stone

Barry Edwards,
Madeley Surgery, Nr. Crewe

Alison Foster,
Moorland Medical Centre, Leek

Kishor Gohil,
Goldenhill Medical Centre, Stoke-on-Trent

Margaret Jones,
Penkridge Medical Practice, Staffs.

Robert Jones,
Brinsley Avenue Surgery, Trentham, Stoke-on-Trent

Chandra Kanneganti,
Goldenhill Medical Centre, Stoke-on-Trent

Paul Middleton,
Caxton Surgery, Oswestry

Prasad Rao,
Belgrave Medical Centre, Dresden, Stoke-on-Trent

Leavers

Vince Cooper

Vince Cooper was Senior Lecturer in General Practice at Keele for seven years until August 2007. Vince had a multi-stranded portfolio career in medical education. He first worked with Mike Fisher in developing and then leading the academic General Practice vocational training scheme and the Masters in Medical Science through which it was delivered. He developed and led the Certificate, Diploma and Masters in Medical Education. Vince

Ashik Salim,
Drayton Road Medical Practice, Longton, Stoke-on-Trent

Nicholas Tindall,
Wellington Road Surgery, Newport, Shropshire

Sharon Turner,
Audley Health Centre, Stoke-on-Trent

Administrative and clerical:

Undergraduate

Marie Bowen
Academic General Practice Coordinator

Sue Cartwright
Academic General Practice Administrator

Ann Clowes
Academic General Practice Administrative Assistant

Postgraduate

Karen Delay
VTS Administrator

Lin Clark
Secretary to Dr MJY Fisher
managed the staff development programme for undergraduate and postgraduate teachers from primary and secondary care.

After the departure of Andrew Bartlam in Feb 2006, Vince became Acting Director of the Undergraduate Community Team (later to become the Academic General Practice Team). He did this until March 2007 on top of all his other roles. The team shrank, at one point to just three - Vince, Janet Lefroy and Peter Coventry, but survived a difficult nine months. Vince was a wise and supportive leader. The communication skills programme under the umbrella of this team owes much to the training of tutors and simulated patients by Vince and Andrew.

Janet Lefroy

Undergraduate Education in General Practice

The last 2 academic years have been a time of enormous change for the Academic General Practice Group in the Medical School. It has more than doubled in size from three part time academic staff with two support staff who managed ‘placements’ in May 2007 with the appointment of an additional two lecturers in Academic General Practice and an additional part time administrator following my appointment as the Chair of Academic General Practice. We have also increased our cohort of GP sessional tutors from 14 to 33. These tutors play an important part in all aspects of the curriculum from skills and personal development to the teaching of the scientific basis of medicine. With this increase in size has come the consequent increase in role from managing the communications skills programme, the GP placements for the Problem Based Learning (PBL) course in the 3rd and 4th years, and the 5th year community placement, to becoming core to the new Keele 2007 Curriculum.

Development of the Keele 2007 Curriculum has been led by our Head of School Professor Richard B Hays. Its central aim is ‘Graduating excellent clinicians’. One fifth of the new curriculum will be delivered in the community.

Members of the Academic General Practice team have major leadership roles in the curriculum currently as co-leads of one Module (or year) and three (of five) vertical themes;

**Peter Coventry** co-leads Module One ‘Challenges to Health’ and the ‘Individual, Community and Population Health’ vertical theme,

**Janet Lefroy** and **Sheena Gibson** co-lead Communication skills. Whilst SG has been on maternity leave, JL has also co-led the theme group ‘Clinical, Communication, and Information Management Skills’ theme with Val Williams (Consultant Anaesthetist)

**Chantelle Todd** co-leads the ‘Ethics, Personal; and Professional Development’ theme.
Alongside these leadership roles, each of the Module (year) planning groups has at least one GP team member who plays a key role in Module development.

We have also contributed to the development of the assessment of clinical skills in the new curriculum which will be based on the research of our group. Alongside these academic roles are our contributions to management of the curriculum. Most notably, Simon Gay leads a new Placements Group which oversees the increasingly complex placements programme required to support the curriculum. He has also been instrumental in the setting up and running of an effective and valued appraisal system based on student portfolios in the new curriculum.

Alongside this activity across the course, we have been developing our plans for teaching in General Practice. We believe these to be innovative with a spiral approach to skills development, closely integrated with the rest of the curriculum and with secondary care. The distribution of GP placements throughout the curriculum has been planned to ensure that limited resources are used effectively and efficiently across the five year course. The major components of general practice teaching are:

- At the end of Module 3 each student will have a four week ‘Clinical skills consolidation block’ in general practice, in which they will have serial educational assessments supported by intensive clinical skills practice, concluding with a formal formative assessment which will set their initial learning agenda for Module 4.

- In Module 4, students will take one week out of each of their five major firm placements to undergo an intensive week of teaching on Higher Consultation Skills. They will spend one day a week in the classroom and a further three days in their teaching practice. The teaching will be tightly integrated with the firm teaching. Each will have an educational assessment at the end of the week which will help direct their learning when back in their firm.

- While plans for Module 5 are still fluid, we aim that students will spend 16 weeks based in general practice consolidating their Higher Consultation Skills, considering health care from the patient’s perspective and developing leadership and teamwork skills.

I would like to thank the Academic General Practice administrative and academic team in the Medical School for the support they have given me since my arrival at Keele. We have achieved a great deal in the last 22 months but we have much left to do.

RK McKinley
We have been recruiting from across Staffordshire and Shropshire since 2002. 84 practices currently contribute to our teaching. These have been recruited from existing postgraduate training practices; practices which had been providing placements for neighbouring medical schools and who now take Keele students, either in addition to or instead of students from their pre-existing affiliation; and new teaching practices – approximately 20% of the total. Currently 35% of practices in Shropshire and Staffordshire teach our students, somewhat less than the 50% achieved by some UK medical schools (table 1). This is due in part to the geography of the two counties and the inaccessibility of some rural practices. We are currently developing a "Rural campus" in Shropshire with John Wynn Jones and the Institute for Rural Health in Gregynog Hall, Tregynon, Powys, with the aim of establishing a ‘Rural Campus’ (see below).

### Primary Care Trust Numbers of practices (end 2008)

<table>
<thead>
<tr>
<th>Primary Care Trust</th>
<th>Total</th>
<th>Undergraduate</th>
<th>Postgraduate</th>
<th>Undergraduate and postgraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Staffordshire</td>
<td>35</td>
<td>18</td>
<td>14</td>
<td>13</td>
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<tr>
<td>Stoke</td>
<td>58</td>
<td>23</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>South Staffordshire</td>
<td>107</td>
<td>9</td>
<td>31</td>
<td>10</td>
</tr>
<tr>
<td>Shropshire</td>
<td>67</td>
<td>34</td>
<td>40</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>267</td>
<td>84</td>
<td>98</td>
<td>61</td>
</tr>
</tbody>
</table>

Historically, one of the strengths of our placement programme has been the variety of teaching to which practices can contribute. Placements could be one-off half days, one day a week for 13 weeks or every day for a number of weeks. Practices could take a single student or a group of up to 12. GP tutors have shown their adaptability in coping with a single student studying a selected clinical topic for 3 weeks once a year, providing regular clinical days to support the topics of Manchester's problem based learning, and delivering the longer final year community block. While we have consulted closely with our practices about the general practice contribution to the new curriculum, we know that one challenge we face is to continue to provide a variety of ways in which our very different practices can contribute. More placements will be in blocks to foster more apprentice-style learning of clinical skills, integration of learning, understanding of patient pathways and development of teamwork and leadership skills, but we still offer opportunities for practices to contribute in other ways. For example, in first year, practices contribute to public health teaching with small, half-day placements and student-selected components of the course.

Quality assurance is by two routes: student feedback at the end of each placement is submitted to the school and copied back to the teaching practice, and educational audit visits are carried out by the GP academic team at the end of one year's teaching and at intervals of up to three years thereafter.
Student feedback is generally very satisfactory and only 4 or 5 times per year have concerns been raised, triggering an educational audit visit.

Janet Lefroy

Premises Development

With the establishment of Keele University School of Medicine, SIFT funding was committed to the development of teaching practice premises. In previous rounds of premises development (2003 to 2006), investments were made in 6 practices (4 in North Staffordshire PCT and 2 in Stoke on Trent PCT) which have since provided an invaluable placement ‘core’ in Stoke and North Staffordshire. While we have now reached our enrolment target of 135 students a year, the clinical cohort will continue growing until 2011-12. We therefore need more teaching practices and to increase their teaching capacity.

As of the start of the 2007 academic year, some £1.4m in premises development funding was unspent. A decision was made to appoint a project manager David Bostock who, under the leadership of RK McKinley, would act as the link between the practices, the School of Medicine and the SHA. David’s brief was to streamline communication between the practices, School and SHA, to support the practices in developing their proposals so that they matched the Schools needs, and to negotiate the various levels of approval with the NHS and local planning.

All practices in Staffordshire and Shropshire have been given the opportunity to bid for premises development support. We have had initial expressions of interest from 17 practices, of which 4 subsequently withdrew. As of the 31 December 2008, three projects have been completed, one is under construction and a further 9 proposals were at various stages of development which, when they come to fruition, will make a key contribution to our teaching capacity.

The success to date of this project is very much due to David and the relationships he has been able to foster with the practices and the SHA.

Completed Projects:

- Stirchley Medical Practice
- Stirchley Health Centre
- Stirchley
- Telford

- Limes Walk Surgery
- 27 Limes Walk
- Oakengates
- Telford
Higherland Surgery  
3 Orme Road  
Newcastle  
Staffordshire

Project under Construction:  

Belgrave Medical Centre  
116 Belgrave Road  
Dresden  
Stoke on Trent

RK McKinley

Rural Campus

The Medical School has commissioned a research project by the Institute of Rural Health (led by Dr John Wynn Jones) to explore the opportunities and barriers to developing a rural element in the new curriculum. The results of this research are informing planning of a South Shropshire “rural campus” potentially involving 14 practices. We are also exploring a rural “accommodation node” to reduce the problems of travel for students placed in the rural campus. This model may be used in the future in other rural areas of Staffordshire and Shropshire.

Peter Coventry

Postgraduate Education and Training in General Practice

Vocational Training

The North Staffordshire and Keele University General Practice Academic Vocational Training Scheme (AVTS) is now 10 years old. This is based on the pre-existing Masters in Medical Sciences (MMedSci, see below) programme. The drivers for developing the scheme were a desire to provide an opportunity for academic primary care career development and the need to resolve the tensions between service commitments, training needs and curriculum compliance which all VT schemes face.

The objectives of the AVTS are:

- To recruit good applicants
- Provide core skills and knowledge of the role of a GP
- Provide University accredited training
- Provide shared learning environment
- Provide experience in research
- Improve recruitment and retention to support practice development, research and teaching.
Pre-existing MMedSci modules were mapped onto the MRCGP curriculum and more recently the postgraduate GP curriculum, to ensure fit. Where necessary additional modules were developed.

The AVTS is managed using the Deanery study leave budget to partially fund trainees to attend masters modules in ST1 (credits gained to level of certificate) ST2 (additional credits to diploma level), and the opportunity in ST3 to complete the masters by dissertation. This offers a unique opportunity for GP VTS Trainees. Whilst they continue the traditional experiential learning from day to day contact with patients and their specialist colleagues, the MMedSci modules teaching enables trainees to gain a wide and scientific framework, which supplements and underpins the experiential learning.

In an ever changing and evolving NHS, high quality education and training provides doctors with the competitive advantage they need for success in the twenty-first century. We believe the Keele model is one whose time has come.

Mike Fisher

Postgraduate Taught Programmes

The MMedSci is one of the two most popular Masters awards in Postgraduate Medicine with 25 students enrolled for the 2008 session. It contributes 23% of the income from tuition fees in the School from home students and 6% of overseas income. The RCGP has recognised the MMedSci as the only programme which fulfils the criteria for RCGP accreditation for Higher Professional Education. The award has been mapped against the RCGP Curriculum and Good Medical Practice for GPs (Revised) to show how it can help GPs demonstrate excellence for revalidation.

The West Midlands Deanery is a key partner in the successful integration of the MMedSci award as the basis of the North Staffordshire Academic VTS. Trainee general practitioners who have selected North Staffordshire as their base make up the vast majority of each cohort, although other specialties and doctors from other regions are regularly represented. Five MSc dissertations will be submitted to the 2007/8 examination board, including two from local GPs and one from a local ENT surgeon. In 2007 and 2008, 4 students have been awarded a MMedSci, 9 students a PGDip and 19 a PGCert. We continue to build on the links with the West Midlands Deanery. In Spring 2009, this will include 24 fully sponsored places on the PGCertMed for GP trainers.

Delivery of the academic VTS through the MMedSci has helped to bridge the gap between the VTS and undergraduate teaching and the School of Medicine, and has provided benefits for both. The Communication Skills module has this year been delivered by undergraduate and postgraduate staff. This year for the first time we have used the Keele Virtual Learning Environment to deliver modules. A Medical Education VLE module has been written and proved popular with students. A new VLE module on rational prescribing has also been introduced, which will run for the first time in 2008/9.
Healthcare ethics has also had input from the undergraduate school and we are making very interesting links with Yale Medical School. We hope this will lead to exciting opportunities for exchange projects for those on the academic VTS. The Medical Informatics module has previously been run for the School by University College London. Richard Emes will take over as module leader and bring delivery within the School of Medicine for 2008/9. We welcome Dr Chris Buttanshaw as module leader for Management and Leadership for Healthcare Professionals. The West Midlands Deanery, via funding for the RCGP Midland Faculty Leadership Programme, will be funding ten students to take this as a free standing module in 2008/9.

We continue to develop the academic VTS and MMedSci. This year we plan a combined academic VTS/university induction evening. We hope this will ensure students are fully aware of the pathway through the award and the distinction between the VTS and the Masters programme.

For the future we will encourage more students to continue to the full Masters. There is scope for a variety of types of dissertation to complement more traditional research opportunities, so well supported by the Research Institute for Primary Care and Health Sciences (iPCHS). These include teaching projects, practice based projects and a new modular structure that the university hopes to introduce. Dr Christian Mallen and others in the Research Institute for Primary Care and Health Sciences offer fantastic support to these budding researchers and we hope to formalise these opportunities, and build on the excellent research training opportunities, to ensure more students realise their potential to achieve a full masters.

Kay Mohanna

Continuing Professional Development

Keele University School of Medicine is committed to the current and future development of the skills of academic staff. This is multilayer, from peer observation of teaching (which was pioneered in the ‘Skills’ theme by the academic GP group), PBL Tutor, Appraiser and Examiner, to support for all clinical teaching staff to complete the Certificate in Medical Education. Many staff who are involved in developmental work, such as curriculum design and review, assessment development, and strategic planning, progress to complete the Diploma and Masters in Medical Education.

Research

All academic and teaching staff are encouraged to undertake clinical or educational research. A number of appointments have been made to facilitate this. All members of staff are supported in planning, implementing and publishing their research.

Clive J Gibson
Evidence-Based Practice at Keele: the development of the One-Day Workshops and Journal Club

In 2004 while on sabbatical leave at Keele I rather belatedly discovered evidence-based medicine: reading Sackett’s book “Clinical Epidemiology: A Basic Science for Clinical Medicine” in between research interviews. The following year I attended the one-day workshop on evidence-based practice (how to do EBM) at the Centre for Evidence-Based Medicine in Oxford (where Sackett had worked) and came away with the thought that this was the ideal way for a general practitioner to keep up-to-date.

The approach is that of “just in time learning”: using questions that arise from day-to-day clinical practice as the main focus for continuing professional development. EBP gives you the tools to search for, and interpret, the evidence to answer these questions. So, instead of “what am I going to learn today” being determined by the organizer of the local lecture series or update course, you decide. And the learning is more memorable as it is directly relevant to your clinical practice and how you are going to better manage the problems with which your patients present. This is the “pull” of learning (pulling in evidence that you need) rather than the “push” (what other people think you need to know, or what is in this week’s BMJ) and so practising EBP helps redress the traditional balance of more push than pull in post-graduate education.

If this was a good idea for me, why not for other GPs? We needed a local course, and with a generous grant from the Associate Sub-Regional Dean (Dr Mike Fisher), I was able to be trained myself and to train three others (Mark Shapley, John Bedson and Christian Mallen) to deliver a one-day workshop at Keele. The first workshop took place in July 2006, with Prof. Paul Glasziou (present director of the CEBM) leading it, and to date we have run another six workshops, with more planned for 2009. So far over 90 clinicians (GPs, physios, nurses) have attended the workshops and about 15 regularly come to the monthly EBP journal clubs (a collective seeking and debating of evidence to answer questions of mutual interest).

In the future we are planning to introduce this format into undergraduate teaching, help set up and support EBP journal clubs in a number of the research practices allied to Keele (together with a parallel Keele group for allied health professionals), set up a website to record and advertise our work, and continue running workshops and the journal club for local clinicians.

Mark Porcheret
SECTION 2

PRIMARY CARE RESEARCH AT KEELE:

The Research Institute for Primary Care and Health Sciences

Overview of academic output

The main research focus of the primary care group at Keele is on chronic pain and musculoskeletal diseases. Under this banner, the group was awarded centre of excellence status by the Arthritis Research Campaign to have the ARC National Primary Care Centre, and has been awarded two National Institute for Health Research Programme grants to tackle the optimal treatment for osteoarthritis in primary care, and to investigate ways to enhance the treatment of low back pain in primary care. The ARC Centre has also gained Research for Patient Benefit awards, hosts one of the three spokes of the West Midlands Research Design Service, and supports a range of cohort, qualitative and intervention studies focused on the problems of common pain syndromes and funded by, among others, the Medical Research Council, Wellcome Trust, Health Foundation, as well as National Institute for Health Research and the Arthritis Research Campaign. Findings from our studies have informed clinical decision making about treatments for low back pain and joint pain in primary care by general practitioners and physiotherapists, and provided evidence about the natural history of these conditions in the community, the level of health care use associated with them, and the perspective on living with and treatments for these problems among patients, the public, and health care professionals. The pain and musculoskeletal research programme draws on a multi-disciplinary team of clinicians, research methodologists, and support staff, from a range of disciplines. We are particularly proud of our strong collaborative work with local NHS organisations, which supports the research and the delivery of care within pain management and musculoskeletal treatment programmes. We are also beginning to grow a more general Health Services Research group, linked to strong education and evaluation research groups in the Schools of Pharmacy, Medicine and Nursing.

Overview of Publications

We publish in a range of journals, which reflect both our research focus and our broad disciplinary background. Our main trial results have been published in the leading general medical journals, such as the Lancet and the BMJ, whilst many of our epidemiological and qualitative studies are published in the leading rheumatological and musculoskeletal care journals, such as the Annals of Rheumatic Diseases, Rheumatology, and Arthritis Care and Research. We publish regularly in the leading primary care journals (British Journal of General Practice, and Family Practice among others), and our social scientists and epidemiologists publish in social science and medicine
and quality of life research among others. Our interest in medical education is reflected in regular publications in Medical Education.

**Staff**

**Director**

Peter R Croft  
*Professor of Primary Care Epidemiology & Director*

**Director of the NHS Primary Care Consortium**

Rhian Wyn Hughes  
*Director, North Staffordshire Primary Care Research Consortium and Head of Research Management*

**Professorial Staff**

Elaine M Hay  
*Professor of Community Rheumatology*

Peter Jones  
*Professor of Statistics*

Chris J. Main  
*Professor of Clinical Psychology*

Bie Nio (Pauline) Ong  
*Professor of Health Services Research*

Julius Sim  
*Professor of Health Care Research*

Danielle van der Windt  
*Professor of General Practice Epidemiology*

**Reader**

Roger Beech  
*Reader in Health Services Research & Director, Keele*

**University Hub, West Midlands Research Design Service**

Kelvin Jordan  
*Reader in Biostatistics*

Elaine Thomas  
*Reader in Biostatistics*

**Senior Lecturer**

John Belcher  
*Senior Lecturer in Biostatistics*

Kate M Dunn  
*Senior Lecturer in Epidemiology Wellcome Trust Career Development award holder*

Krysia S Dziedzic  
*ARC Senior Lecturer in Physiotherapy*

Nadine E Foster  
*NIHR Primary Care Career Scientist and Senior Lecturer in Therapies*

Clare Jinks  
*Senior Lecturer in Health Services Research*

Umesh T Kadam  
*Senior Lecturer in General Practice (Epidemiology) / NIHR Post-doctoral Fellow*

Martyn Lewis  
*Senior Lecturer in Statistics*

Christian Mallen  
*Senior Lecturer in General Practice and arc Primary Care Research Fellow*
George M Peat
Senior Lecturer in Clinical Epidemiology

Jane C Richardson
Senior Lecturer in Health Service Research

Research staff and students

Majid Artus
ARC Primary Care Research Fellow/PhD student

Julie Ashworth
Consultant in Anaesthesia and Pain Medicine

John Bedson
NIHR Clinical GP Lecturer

Ruth Beardmore
Research Fellow: Programme Manager (Spinal Pain)

Annette Bishop
Research Physiotherapist

Milisa Blagojevic
Lecturer in Statistics

Paul Campbell
Research Associate

Pam Carter
Research Fellow in User Involvement

Linda Chesterton
Lecturer (TENS for Tennis Elbow trial)

Nadia Corp
Research Assistant: Systematic Reviews

Jemma Cowen
Research Assistant: Systematic Reviews

Carol Doyle
Clinical Liaison Research Physiotherapist

Rachel C Duncan
Clinical Lecturer in Rheumatology

John Edwards
GP Research Fellow

Andrew Finney
West Midlands Nursing, Midwifery and AHP Research Training Support Award holder

Martin Frisher
Senior Lecturer (Medicines Management)

Janet Grime
Research Fellow

Alison Hall
Consultant Sonographer/Research Fellow

June Handy
Research Associate: Clinical Studies Co-ordinator

Kirstie Haywood
Honorary Senior Research Fellow

Richard Hayward
GP Research Fellow (NIHR In-Practice Fellow)

Emma Healey
Research Fellow

Samantha Hider
Lecturer in Clinical Rheumatology and Honorary Consultant Rheumatologist

Jonathan Hill
arc Lecturer – Allied Health Professional
Sue Hill  
Research Associate

Melanie Holden  
arc Allied Health Professional  
Training Fellow/PhD student

Lucy Huckfield  
Research Physiotherapist

Jo Jordan  
Research Information Manager

Meenee Khanna  
GP Research Fellow

Kika Konstantinou  
Spinal Physiotherapy Specialist

Rosie Lacey  
Research Associate

Katie Maddock  
Lecturer in Pharmacy Practice

Gemma Mansell  
Research Assistant: Health  
Services Research

Michelle Marshall  
Research Associate: Imaging/PhD student

Liz Mason  
Research Physiotherapist

Andrew Morden  
Research Assistant: Health  
Services Research/PhD Student

Hannah Morphy  
GP Research Fellow

Sara Muller  
Research Assistant: Biostatistics /PhD student

Ricky Mullis  
Research Fellow

Helen Myers  
Research Fellow: Clinical Studies  
Co-ordinator

Barbara Nicholl  
Research Associate

Elaine Nicholls  
Research Assistant: Biostatistics /PhD student

Jon Packham  
Consultant Rheumatologist /  
Honorary Clinical Senior Lecturer

Zoe Paskins  
Clinical Lecturer in Rheumatology  
& Honorary Specialist Registrar

Mark Porcheret  
Director of the Keele GP Research  
Partnership & GP Research Fellow  
(NIHR In-Practice Fellow)

James Prior  
Research Assistant: Health  
Services Research / PhD student

Diane Roberts  
Research Assistant (Qualitative)

Tope Roberts  
GP Research Fellow (NIHR In-Practice Fellow)

Ed Roddy  
Clinical Lecturer and Honorary  
Consultant in Rheumatology

Mark Shapley  
GP Research Fellow

Simon Somerville  
GP Research Fellow

Gail Sowden  
Consultant Physiotherapist
Siobhan Stynes  
Research Physiotherapist and  
West Midlands Nursing, Midwifery  
and AHP Research Training  
Support Award holder

Martin Thomas  
Research Associate, Research  
Physiotherapist and West Midlands  
Nursing, Midwifery and AHP  
Research Training Support Award  
holder

Catherine Thwaites  
Lecturer in Rheumatology Nursing

Kevin Vowles  
Clinical Psychologist

David Whitehurst  
Research Assistant: Health  
Economics

Ross Wilkie  
Research Council UK Academic  
Fellow

Laurence Wood  
Postdoctoral Research Fellow

Gwenllian Wynne-Jones  
Research Associate (NIHR Post  
Doctoral Fellow)

Irena Zwierska  
Programme Manager:  
Primary/Secondary Care Interface

Research Nurses

Deborah D'Cruz  
Research Nurse

Catherine Warlow  
Research Nurse

Chan Vohora  
Research Nurse

Julie Young  
Research Nurse

Informatics

Ashley Ford  
IT/AV Support

Samantha Hunt  
GP Research Facilitator

Zoe Mayson  
Health Informatics: Applications &  
IT Support

Natalie Smith  
GP Data Audit Facilitator

Ian Thomas  
Informatics Systems Developer

Jennifer Titley  
GP Research Facilitator

Simon Wathall  
Informatics Systems Developer

Tracy Whitehurst  
Informatics Manager

Management,  
administration and clerical

Claire Ashmore  
Research Institute Manager

Joanne Bailey  
Operations Manager

Ann-Marie Barker  
Administrative Assistant

Kelly Barnett  
Assistant Administrator

Alicia Bratt  
Assistant Administrator
Claire Calverley  
*Research Projects Administrator*

Charlotte Clements  
*Clinical Research Support Co-ordinator*

Debbie Cooke  
*Administrator*

Jacqueline Gray  
*Research Governance and Projects Officer*

Hilary A Jones  
*Research Administrator*

Julia Marriott  
*Administrative Co-ordinator*

Tracy Reynolds  
*Administrative Assistant / Data Entry Clerk*

Carol Rhodes  
*Support Worker – User Involvement in Research & Development*

Sue Weir  
*Administrator*

**Honorary Research Staff**

Kirstie Haywood  
*Honorary Senior Research Fellow*

Carol Jagger  
*Visiting Professor in Epidemiology of Ageing*

Jon Packham  
*Honorary Senior Lecturer in Rheumatology*

**PhD students**

Basem Al-Omari  
*PhD student*

Paul Buckley  
*PhD student (Medicines Management)*

Mandy Corbett  
*PhD student*

Domenica Coxon  
*PhD student*

Kathryn Davidson  
*MReS and PhD student*

Rebecca Daniel  
*NIHR Clinical Academic Fellow and MPhil student*

Mirto Dounavi  
*PhD student (School of Health & Rehabilitation)*

Bolaji Egbewale  
*PhD student*

Julie Green  
*Lecturer in Nursing / PhD student*

Yeliz Greenhill  
*PhD student*

Kerry Jones  
*PhD student*

Manoj Kumar  
*PhD student*

Jennifer Pearson  
*PhD student*

Vicky Peng  
*PhD student*

Magdalena Rzewuska  
*PhD student*

Rav Sandhu  
*PhD student*

Mujahed Shraim  
*PhD student*
Sharlene Ting  
*PhD student (School of Health and Rehabilitation)*

Sarah Wadsworth  
*PhD student*

Pauline Walsh  
*PhD student (Nursing)*

Kathleen Watts  
*PhD student*

David Whitehurst  
*PhD student*

Philip Woodvine  
*PhD student (Medicines Management)*

Jerome Wulff  
*PhD student*

Sarah Yardley  
*PhD student (Medical Education)*

Natalie Zadurian  
*PhD student*

**GP ACFs**

Syed Bukhari  
*NiHR Academic Clinical Fellow*

Lizzie Cottrill  
*NiHR Academic Clinical Fellow*

Rebecca Daniels  
*NiHR Academic Clinical Fellow*

Fionala Lynch  
*NiHR Academic Clinical Fellow*

Jenny Scott  
*NiHR Academic Clinical Fellow*

Vicky Welsh  
*NiHR Academic Clinical Fellow*
The Arthritis Research Campaign National Primary Care Centre

In March 2008 the Arthritis Research Campaign (arc) awarded Centre of Excellence status to Primary Care Sciences at Keele.

The Centre researches the causes, consequences and management of common musculoskeletal problems seen daily in primary care. Its programme is a joint venture between the University and partners from local health care organisations. It is committed to involving patients and health professionals in the development and delivery of the research programme, and to developing primary care research capacity in a wide range of clinical and non-clinical disciplines.

Painful conditions of the bones, muscles and joints have a major impact on the health of our population. Together they are the commonest cause of disability in developed countries such as Britain, a major reason for work loss, the single most costly area of personal expenditure on health, and the most frequent chronic illness for which people seek help from health professionals, such as general practitioners, who work in primary care.

The Centre is dedicated to changing this picture. Our view of primary care covers all health care professionals, as well as self-care, and includes routine general practice consultations and complementary therapies. The major clinical themes are joint pain and osteoarthritis in older people, back pain, and regional musculoskeletal pain. The research programme embraces trials and observational studies, epidemiology and qualitative studies. Users of research (patients, public and health care professionals) play a prominent role in the development and management of our research programme.

The Observational Programmes

An MRC programme grant (2000-2005) supported the creation and long-term follow up of three population-based cohorts of persons aged 50 and over (total number 26,694), in which survey data has been linked to GP consultation databases. A renewed MRC research grant (2006-2010) supports follow-up of these cohorts to identify the causes and course of lower limb disability in older persons, and the impact of consultation and treatment on this problem. Dr Ross Wilkie (RCUK Research Fellow 2006-2011) is exploring the effect of joint problems on social participation; with Carol Jagger (Visiting Professor of the Epidemiology of Ageing) and Professor Chris Phillipson (Centre of Social Gerontology), this includes work participation and retirement decisions. The NCCRC/CD Public Health Initiative (Dr Clare Jinks; 2005-2007) supports development of linked public health research, which identifies targets for health policy and preventive interventions at the community level.

We have established two of the largest clinical cohorts of knee and hand pain sufferers in Europe, evaluating pain and disability alongside clinical and
radiographic assessment to develop a simple classification of clinical osteoarthritis for primary care research and practice. The usefulness of this as an aid to prediction and prognosis in the general practice consultation are being investigated (Christian Mallen, arc Primary Care Fellowship; 2004-2008; arc Career Development Award 2008-2010), as is the problem of the low priority of osteoarthritis in the consultation (John Bedson, Doris Hillier Award and NIHR Clinical Lecturer). In 2008 we were awarded an arc programme grant (Dr George Peat; 2008-2012) to extend these cohorts to long-term follow-up and to study foot pain.

An NIHR post-doctoral fellowship awarded to Dr Umesh Kadam (2007-2010) will investigate the link between osteoarthritis and cardiovascular disease, continuing his earlier work (MRC Health Services Research Fellowship) which showed how co-morbidity in general determines poor health status in patients with clinical osteoarthritis.

We have developed new ways to classify low back pain and used these to chart the course and range of back pain patterns seen in primary care over time. In 2008 a new programme (Kate Dunn; Career development award; Wellcome Trust) is extending this work to long-term and family influences on back pain experience.

A major focus of our work is on patient perceptions about their low back pain, and their link with outcome and their potential use in clinical settings (Dr Jonathan Hill arc Allied Health Professional Lectureship 2007-2011). We have established health practitioner cohorts (physiotherapists and GPs) to explore how their interpretations and perceptions of low back pain interact to influence decisions about care (Dr Nadine Foster, NIHR Career Scientist Award).

**Intervention Studies**

A series of linked trials concentrate on how joint pain is managed in primary care and how we can improve on traditional GP-led models of care for knee pain and osteoarthritis in older people in primary care.

The ‘TOPIK’ trial (Arthritis Research Campaign) showed significant short-term benefits for both pharmacy advice and exercise advice delivered by physiotherapists, when compared to usual advice only, including reduction of pain and reduction in consumption of potentially harmful non-steroidal anti-inflammatory drugs. Our trial of acupuncture for osteoarthritic knee pain, delivered by community physiotherapists, showed that acupuncture adds to what was achieved by the exercise advice delivered by physiotherapists (the ‘APEX’ trial, Arthritis Research Campaign), but so did “sham” acupuncture. The active principle here is yet to be discovered.

Current trials evaluate whether occupational therapists in primary care can help people to cope with the restrictions in daily living of hand osteoarthritis (the SMOOTH study Arthritis Research Campaign) and whether advice targeted at specific joint movements improves outcome in knee osteoarthritis (NIHR Research for Patient Benefit programme 2008-2010) We have been
awarded a National Institute of Health Research Programme (2008-2012) to study optimisation of OA treatment in primary care, targeting routine consultations, better exercise advice, and comorbid depression.

Clinical trials for back pain often show similar improvement in symptoms regardless of the type of treatment. We are exploring how factors other than the intervention itself can influence the outcome of treatment (such as the quality of patient-therapist contact) (arc Primary Care Research Fellowship; Majid Artus, 2007-2011). The lack of difference in effect between common primary care interventions may lead to the assumption that all back pain is the same. The Startback trial (arc) links a novel sub-grouping approach to targeted intervention to see if it will enhance the effect of treatment.

We continue to perform RCTs comparing the effectiveness of treatments available in practice. In 2008 we have been funded by NIHR Research for Patient Benefit (2008-2011) to investigate the effectiveness of treating tennis elbow with TENS machines. A different sort of intervention study, funded by the Health Foundation under its Quality in Healthcare programme, builds on our StartBack trial, to investigate how outcomes from complex trials may be implemented in practice. In this linked study, we investigate the methods of embedding evidence-based approaches to primary care management of low back pain in practice. In 2008 our second NIHR programme was awarded to develop studies designed to improve effectiveness of primary care for back pain.

**Qualitative Research and User Involvement**

We are committed to multi-disciplinary and mixed methods research, including qualitative research methods embedded in both our intervention and observational programmes, to provide insight into the experience and process of illness, disability and treatment, and to gain an understanding of patient experiences of living and coping with musculoskeletal pain, their beliefs and perceptions – and those of health professionals - and how these influence treatment choices and outcomes. In 2008, Pauline Ong, Clare Jinks, Mandy Corbett and Mark Porcheret were awarded a NIHR Research for Patient Benefit grant (2008-2009) which will fund a qualitative exploration of patients’ health priorities and use of health services.

This group also leads our strategy of user collaboration and involvement in research. A User Forum has been established, which advises on research questions and design. Each major programme of work in the Centre has a Steering Group which also involves users directly to comment on the research process, advise on study documentation and proposed outcome measures, help interpret results and advise on dissemination of findings. Another novel approach involves the creation of a Knee Pain Forum of patients, health professionals, social care and health policy representatives, which meets regularly to review and shape our research on public health initiatives for joint pain. The group will lead on User Involvement for Regional Research Design Service.
Partnership with the NHS

Our partnership with the NHS has been achieved through the North Staffordshire Primary Care Research Consortium. This is the organisation that co-ordinates the explicit links between Keele’s research strategy in relation to its programme of musculoskeletal research, and the NHS. The Consortium has ensured that clinicians and service managers engage with and help to shape our research programme, to ensure that our research remains important, relevant and useful to the NHS, and that our research plans are feasible and can be supported by and delivered within the NHS. The Consortium Board includes representation from each of our partner Primary Care Trusts across North Staffordshire, Stoke and Cheshire, and from the main professional groups (particularly General Practice and Physiotherapy), who contribute to and are concerned with our research area. The Consortium was the largest Primary Care NHS R&D organisation in the UK, under the previous research funding regime within the NHS. Under the direction of the Board, its budget was used to develop the infrastructure within Primary Care in the NHS to support our musculoskeletal research. Examples of the Consortium’s work includes the Keele GP Research Partnership — a group of 30 practices committed to recruiting patients, contributing routine anonymised consultation data for research, and supporting development of innovative computerised patient recruitment and follow-up methods to the Centre’s trials and epidemiological studies. Ten of these practices also contribute data to the Centre’s frozen database of GP consultations (CiPCA). In the past three years, all GP practices in North Staffordshire have participated in the Centre’s research, through recruiting patients or contributing anonymised clinical data for studies, and delivering interventions such as joint injections in our shoulder trial. The Keele GP Partnership forms the basis for our support and leadership of the Central England Primary Care Research Network and the West Midlands Comprehensive Research Network (see below).

A similar approach has been adopted in our work with Allied Health Professionals to become engaged in research. 104 physiotherapists from 43 physiotherapy centres across the West Midlands have participated in our trials, undertaking complex interventions such as delivery of extended scope practice, applying cognitive behavioural principles in our low back pain trials, and providing acupuncture in our knee pain trial. Research nurses and other health professionals based in the Consortium have recruited just under 3,000 participants to our trials, and have achieved follow-up rates averaging 93%.

Finally, under the leadership of our Professor of Community Rheumatology (Elaine Hay), we have developed strong links with the Haywood Rheumatology Centre, a local hospital centre of excellence in the care of musculoskeletal conditions, located within Stoke Primary Care Trust. The Haywood Hospital provides clinical research facilities for much of our clinical studies. Four clinical academic rheumatologists now hold dedicated research sessions at the Centre and clinical sessions in the Haywood, and this group underpins and promotes our research across the primary/secondary care interface.
Alongside our work of developing the infrastructure within the NHS to deliver research, we have developed strong research governance systems and working relationships with our NHS partners through Rhian Hughes, Director of the local Primary Care Research Consortium and Head of Research Management at the Centre, who also contributes nationally to development of the Department of Health’s governance procedures.

Clinical advisory groups support every major project or programme of work within the Centre, and clinicians have been able to develop a long-term relationship with the research centre through these clinical advisory groups. This activity in turn has fostered other research development, such as clinicians becoming interested in becoming researchers themselves. The Consortium has provided pump-priming research fellowships to 14 GPs. Ten of these have gone on to win national Research Fellowships at doctoral and post-doctoral levels, or to gain substantive research posts within the Keele Research Centre. Seven physiotherapists have also been supported by the Consortium to undertake doctoral research in the Centre, and most of these have continued to post-doctoral research positions within the Centre. The Consortium has also initiated new joint clinical academic posts for GPs, Rheumatologists and Physiotherapists. Importantly, we have expanded the concept of clinical academic posts to Physiotherapy, and three of these posts are now well-established. They take research sessions within the programme, whilst also leading and contributing to musculoskeletal services locally, and demonstrate how our strategy of making joint clinical academic appointments has promoted recruitment, engagement and retention of doctors and therapists in the local community. For example, our team of academic GPs play a crucial role in enhancing links with service general practice, and providing academic role models and mentorship for GPs in training.

More recently, the Consortium has advised the research centre through the transitional phases of the NHS R&D strategy, *Best Research for Best Health*, ensuring that our research strategy was developed to meet the criteria set for the new NIHR funding streams. One indicator of the effectiveness of the NHS / research partnership at Keele has been the success we have experienced in gaining two new NIHR Applied programme grants, and 5 Research for Patient Benefit Project grants. The Consortium’s new role is now to ensure that the funding stream for the Research Centre’s applied programme of research can be secured in the longer term, through providing the embedded links with the clinical service that are essential to this type of work.

**Expertise Groups**

Expertise groups include a Clinical Trials Unit and Surveys Management Unit, which benefit from the support of dedicated statisticians, and multi-disciplinary input from population and clinical epidemiologists, qualitative researchers, health economists, health informatics, systematic reviewers, underpinned by strong research governance and management expertise.

Six statisticians lead on design and analysis, and supervise clinical and non-clinical junior researchers. A full-time specialist Systematic Reviewer (Jo
Jordan) leads on reviews in the Centre and advises Centre researchers performing reviews. A Health Economist (David Whitehurst) provides support to the research programmes as part of a formal collaboration with Health Economics Department at the University of Birmingham.

The Centre has five dedicated Research Nurses who utilise their specialist nursing knowledge and skills in providing high quality information to study participants as part of gaining their informed consent, and in recruitment, follow up and retention of both participants and clinicians to Centre studies.

The Health Informatics team support the research of the Centre by recruiting general practices from North Staffordshire and Cheshire to the Keele GP Research Partnership, and identifying potential participants for research. They are involved in the collection, analysis and interpretation of primary care clinical records, prescription, referral and demographic data, and occupational and social class coding. They ensure practices belonging to the Partnership meet the required quality of electronic recording of primary care activity through a novel system of assessment, training and feedback.

Research Capacity Development

Our Masters in Medical Science supports the North Staffordshire Academic GP Vocational Training Scheme (see above). This programme supports our National Institute of Health Research Clinical Academic Fellowship programme in general practice, clinical epidemiology and rheumatology.

We offer funded PhD studentships linked to a structured training programme, either through MMedSci modules or the newly established Faculty of Health Masters in Research Methods. PhD projects are embedded within the Centre’s core programme, and students are encouraged to publish during their studentship, and to present their work at relevant national and international meetings. The Centre has supported PhDs in a range of expertise areas in clinical and non-clinical research, including general practice, rheumatology, physiotherapy, occupational therapy, health psychology, epidemiology and health services research. Currently we have 33 postgraduate students.

We support retention of excellent young career researchers and their continuing academic development. Of 15 people who completed Keele PhDs, 12 have continued their postdoctoral careers at Keele, and one has been promoted to a Lectureship (Pharmacy) at Nottingham. Of these 12, four have won external post-doctoral fellowship awards, two are funded through Centre grant income as post-doctoral researchers, seven have been promoted to Senior Lectureships at Keele, and two to Lectureships. We have supervised eight general practitioners to gain their Masters degrees in the Academic Vocational Training Scheme. Three have continued on to gain external fellowships based at the Centre. The Centre has attracted seven post-doctoral researchers from other Universities, three of whom have been promoted to Senior Lectureships at Keele, one to a Lectureship at Sheffield University and
three hold Research Fellow positions at Keele, funded from external grant sources.

Peter Croft

Research Design Group

During the year a team of health researchers from Keele, Birmingham and Warwick Universities secured a five year grant from the National Institute of Health Research - the R & D arm of the Department of Health and the NHS – to establish a Research Design Service (RDS). The Keele Hub of the RDS, based in Primary Care Sciences, offers NHS and social care professionals from Staffordshire and Shropshire, who have a research background or interest, access to research specialists from a range of disciplines which include statistics, health economics and the social sciences. RDS specialists will then work with these professionals to help them turn their research ideas about how to improve the care of their patients or clients into research proposals that are strong enough to be submitted to one of a range of NIHR programmes.

To contact the RDS log onto [www.rds-wm.nihr.ac.uk](http://www.rds-wm.nihr.ac.uk) and follow the links.

Roger Beech

The Education and Evaluation Group

**Alison Blenkinsopp**  
*Professor of the Practice of Pharmacy: lead elect*

**Richard Hays**  
*Professor of medical education and Head of Medical School*

**Stephen Chapman**  
*Professor of Prescribing Studies*

**Julius Sim**  
*Professor of Health Care Research*

**Rebecca Jester**  
*Professor of Nursing*

**Andy Hassell**  
*Senior Lecturer in Rheumatology Education*

**Robert McKinley**  
*Professor of Academic General Practice*

The Education and Evaluation (EE) incubator group has been formed to provide a home for health education and evaluation activity in the Research Institute for Primary Care Health Sciences and across the Health Faculty’s Schools of Medicine, Nursing and Midwifery, Pharmacy and Physiotherapy. Keele has considerable strength in health professional education. Alison Blenkinsopp, Andy Hassell, Richard Hays, Rebecca Jester and Robert K McKinley have conducted and published randomised controlled trials, evaluations of novel educational interventions and developed and evaluated novel measures of clinical skills in medical, nursing and midwifery and pharmacy undergraduate education postgraduate training and continuing
professional development. Their work has bridged the gaps between educational development and implementation and health services research.

Under the leadership of Alison Blenkinsopp, the Group aims to capitalise on the breadth of health professional education at Keele and provide a foundation for multidisciplinary educational research and healthcare evaluation. It has already established a group of education PhD students in medicine and nursing and is developing further PhD proposals. Its next goal is externally funded multi-professional research.

The group is concerned to support and evaluate service development initiatives. The concept of a Primary Care Development Unit (PCDU) was first raised in the Director of Public Health’s (DPH) report for 2006/7. The report explained in detail the health problems facing the population of Stoke-on-Trent and emphasised the poor life expectancy compared to similar areas in the UK.

As a consequence of the DPH report, a Primary Care Strategy was developed and endorsed by the PCT. That strategy recommended that a Primary Care Development Unit (PCDU) was an important component of a systematic approach to support the development of a high quality primary care system in Stoke-on-Trent.

As a result, NHS Stoke on Trent is developing the PCDU in partnership with Keele University School of Medicine. The Unit will be a key element in supporting a systematic approach to the development of a high quality primary care system in Stoke-on-Trent. This includes the development and implementation of a local Quality Improvement Framework for General Practice.

The PCDU will both support the setting of clear standards (providing academic rigour and clinical credibility) and support practices in achieving and moving beyond those standards, and provide a framework for investigating and evaluating the effects of innovation to achieve the standards.

NHS Stoke is now moving to appoint a Medical Director for the PDCU. The post holder will spend 6 sessions leading the PCDU, 2 sessions based at Keele University within the Medical School and Institute of Primary Care and Health Sciences. We look forward to this becoming a key element of a strengthening collaboration between the PCT and the Academic Primary Care group at Keele

RK McKinley
## SECTION 3

### Research grants and other income

#### 2007: current and new grants

<table>
<thead>
<tr>
<th>Title</th>
<th>Grant holders</th>
<th>Funding agency</th>
<th>Dates</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of pain in primary care among older patients with joint problems</td>
<td>C Mallen, G Peat, P Croft</td>
<td>Arthritis Research Campaign – Primary Care Fellowship</td>
<td>1 September, 2004 to August 31, 2008</td>
<td>£143,672</td>
</tr>
<tr>
<td>Development of a National Physiotherapy Network</td>
<td>A Moore, D Newham, J Sim, M Simmonds</td>
<td>Chartered Society of Physiotherapy</td>
<td>30 November, 2004 to November 29, 2009</td>
<td>£20,000</td>
</tr>
<tr>
<td>Primary care physiotherapy for common musculoskeletal conditions: providing the evidence base for effectiveness</td>
<td>N Foster</td>
<td>NHS R&amp;D National Co-ordinating Centre for Research Capacity Development – Primary Care Career Scientist Award</td>
<td>1 December, 2004 to 30 November, 2009</td>
<td>£433,147</td>
</tr>
<tr>
<td>NHS R&amp;D support to support research in new Medical Schools</td>
<td>P Croft, R Hughes</td>
<td>Department of Health</td>
<td>1 October, 2005 to 30 October, 2008</td>
<td>£608,715</td>
</tr>
<tr>
<td>A randomised controlled study of outcome and cost effectiveness for RA patients attending nurse-led rheumatology clinics</td>
<td>J Hill, S Ryan, H Bird, C Hale, AM Lewis, P Emery, H Quinn</td>
<td>Department of Health</td>
<td>1 October, 2005 to 30 October, 2008</td>
<td>£608,715</td>
</tr>
</tbody>
</table>
Funding agency:  Arthritis Research Campaign  
Dates:  2006 to 2009  
Amount:  £200,746  
Title:  The epidemiology of back pain in the workplace  
Grant holders:  P Croft, C Main  
Funding agency:  North Staffordshire Medical Institute  
Dates:  1 January, 2006 to 31 December, 2008  
Amount:  £93,666  
Title:  Implementation of the New Contractual Framework for Pharmacy  
Grant holders:  A Blenkinsopp  
Funding agency:  Pharmacy Practice Research Trust  
Dates:  1 January 2006 to 31 July 2010  
Amount:  £120,000  
Title:  Predictors and prognosis of locomotor disability in primary care: the North Staffordshire Osteoarthritis Project follow-up study  
Grant holders:  P Croft, E Hay, C Jinks, P Jones, K Jordan, U Kadam, BN Ong, G Peat, C Phillipson  
Funding agency:  Medical Research Council  
Dates:  1 October, 2006 to 30 September, 2010  
Amount:  £934,676  
Title:  Epidemiological study of the impact of osteoarthritis on participation restriction and work limitation  
Grant holders:  R Wilkie, P Croft  
Funding agency:  United Kingdom Research Council  
Dates:  1 October, 2006 to 30 September, 2011  
Amount:  £125,000  
Title:  Musculoskeletal Pain Clinical Studies Group  
Grant holders:  E Hay  
Funding agency:  Arthritis Research Campaign  
Dates:  2007 to 2010  
Amount:  £97,588  
Title:  Allied health professional academic posts in rheumatology
Grant holders: K Dziedzic, K Dunn, N Foster, E Hay, J Hill
Funding agency: Arthritis Research Campaign -
Dates: 1 January, 2007 to 31 December, 2011
Amount: £289,841

Title: Integrated Clinical Arthritis Centre Grant
Grant holders: A Hassell, P Dawes, E Hay, K Stevenson
Funding agency: Arthritis Research Campaign -
Dates: 1 January, 2007 to 31 December, 2008
Amount: £111,033

Title: The influence of non-specific effects of primary care interventions on outcome in patients with back pain
Grant holders: M Artus, D van der Windt, K Jordan, E Hay
Funding agency: Arthritis Research Campaign – Primary Care Research Fellowship
Dates: 1 April, 2007 to 31 March, 2011
Amount: £266,335

Title: StartBack: Screening and Targeted Treatment for Low Back Pain
Grant holders: E Hay, K Dunn, M Lewis, N Foster, K Dziedzic, S Bryan, C Main
Funding agency: Arthritis Research Campaign – Research Project grant
Dates: 1 April, 2007 to 31 March, 2010
Amount: £183,659

Title: IMPACTBACK: Implementing evidence based primary care for back pain
Grant holders: E Hay, N Foster, K Konstantinou, G Sowden, R Hughes, AM Lewis, BN Ong, K Dziedzic, C Main, S Bryan
Funding agency: The Health Foundation
Dates: 1 April, 2007 to 31 March, 2010
Amount: £412,025

Title: Self management, joint protection education and exercise in hand osteoarthritis
Grant holders: K Dziedzic, A Hammond, E Thomas, E Hay
Funding agency: Arthritis Research Campaign – Research Project Grant
Dates: 1 June, 2007 to 31 May, 2010
Amount: £196,369
Title: Co-morbidity of cardiovascular disease in osteoarthritis
Grant holders: U Kadam
Funding agency: NIHR – Postdoctoral Award
Dates: 1 August, 2007 to 31 July, 2010
Amount: £369,066
Title: Improving outcomes from exercise for older adults with knee pain in primary care
Grant holders: M Holden, N Foster, E Hay
Funding agency: Arthritis Research Campaign – Allied Health Professionals Training Fellowship
Dates: 1 September, 2007 to 28 February, 2010
Amount: £76,458
Title: Future quality management strategies for pharmacy pre-registration training
Grant holders: A Blenkinsopp
Funding agency: Royal Pharmaceutical Society
Dates: 1 November 2007 to 31 December 2009
Amount: £60,000

2008 new grants

Title: Investigating patient’s health priorities and use of health services
Grant holders: BN Ong, C Jinks, M Corbett, M Porcheret
Funding agency: NIHR – Research for Patient Benefit
Dates: 1 January, 2008 to 31 December, 2009
Amount: £139,274
Title: The course of symptoms over time and the influence of the family on patterns of chronic pain
Grant holders: K Dunn
Funding agency: Wellcome Trust Research Career Development Fellowship
Dates: 1 January, 2008 to 31 December, 2012
Amount: £586,110
Title: A prospective observational study of patient outcome following referral to a primary-secondary care musculoskeletal interface service
Grant holders: R Hughes
Funding agency: Stoke on Trent PCT
Dates: 2008
Amount: £13,284

Title: Determining prevalence and incidence of schizophrenia, including prevalence treatment from the GPRD
Grant holders: M Frisher
Funding agency: Home Office
Dates: 1 January 2008 to 31 March 2008
Amount: £6,000

Title: The evaluation of nurse and pharmacist prescribing
Grant holders: A Blenkinsopp
Funding agency: Department of Health
Dates: 5 January, 2008 to 4 August, 2010
Amount: £138,249

Title: Sickness certification in primary care
Grant holders: G Wynne-Jones, C Mallen, C Main, K Dunn
Funding agency: North Staffordshire Medical Institute
Dates: 1 February, 2008 to 31 May, 2008
Amount: £4,969

Title: Evaluation and development of enhanced pain management programmes
Grant holders: R Hughes
Funding agency: Stoke on Trent PCT
Dates: 1 March, 2008 to 28 February, 2010
Amount: £160,000

Title: To develop and facilitate a PCT accreditation system
Grant holders: A Blenkinsopp
Funding agency: NHS Executive West Midlands
Dates: 1 March 2008 to 28 February 2010
Amount: £160,000
Title: Centre in Primary Care Musculoskeletal Science
Grant holders: P Croft, E Hay, BN Ong, C Main, R Hughes, N Foster, K Dziedzic, G Peat, E Thomas, M Lewis, K Jordan, C Jinks, D van der Windt
Funding agency: Arthritis Research Campaign
Dates: 1 March, 2008 to 28 February, 2013
Amount: £2,500,000

Title: Development of a framework for the evaluation of the Occupational Health Physiotherapy Pilot project
Grant holders: C Phillips, C Main
Funding agency: Swansea University
Dates: 1 April, 2008 to 31 October, 2009
Amount: £7,847

Title: Systematic review of symptom presentation and subsequent cancer diagnosis and mortality in primary care
Grant holders: M Shapley
Funding agency: Stoke on Trent PCT and North Staffordshire PCT
Dates: 1 April, 2008 to 31 March, 2010
Amount: £100,000

Title: Evaluation of the Occupational Health Physiotherapy pilot project
Grant holders: C Main
Funding agency: Welsh Assembly Government
Dates: 28 April, 2008 to 27 October, 2009
Amount: £7,847

Title: The meaning of wellness and resilience for older people with osteoarthritis
Grant holders: J Richardson, BN Ong, J Grime
Funding agency: ESRC
Dates: 1 May, 2008 to 30 June, 2010
Amount: £72,947

Title: Evaluating the impact of back, neck and upper limb pain on work performance and absence
Grant holders: C Main and G Wynne-Jones
Funding agency: BOHRF
Dates: 1 June, 2008 to 31 May, 2009
Amount: £79,387
Title: A pragmatic randomised controlled trial of PhysioDirect telephone assessment advice services for physiotherapy
Grant holders: C Salisbury, S Bryan, M Calnan, N Foster, S Grove, J Hall, E Hay, S Hollinghurst, A Montgomery, T Travers
Funding agency: Medical Research Council
Dates: 1 June, 2008 to 31 May, 2011
Amount: £976,799 (Keele’s share = £231,553)
Title: TENS for the management of tennis elbow
Grant holders: E Hay, L Chesterton, D van der Windt, AM Lewis, C Mallen, J Sim
Funding agency: NIHR – Research for Patient Benefit
Dates: 1 June, 2008 to 31 May, 2012
Amount: £259,989
Title: Clinical osteoarthritis and joint pain in older people: optimal management in primary care
Grant holders: P Croft, R Hughes, H Duffy, BN Ong, D van der Windt, S Bryan, E Thomas, G Peat, J Bird, E Hay, M Porcheret, K Dziedzic
Funding agency: NIHR Programme Grant
Dates: 1 July, 2008 to 20 June, 2013
Amount: £2,055,000
Title: Clinical epidemiology of joint pain and osteoarthritis in older people
Grant holders: G Peat, D van der Windt, K Dziedzic, E Thomas, E Roddy, D Mattey, K Jordan, E Hay, P Croft
Funding agency: Arthritis Research Campaign programme grant
Dates: 1 August, 2008 to 31 July, 2013
Amount: £788,479
Title: The prognosis of musculoskeletal pain in primary care
Grant holders: C Mallen, G Peat, P Croft
Funding agency: Arthritis Research Campaign Career Progression Fellowship
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SECTION 4
Publications

2007

Peer Reviewed Journal Articles and Letters.


S. Hill, K. Dziedzic, E. Thomas, S.R. Baker and P. Croft. The illness perceptions associated with health and behavioural outcomes in people with musculoskeletal hand


H. Morphy, K.M. Dunn, A.M. Lewis, H. Boardman and P.R. Croft. Epidemiology of insomnia: a longitudinal study in a UK


P.S. Woodvine, R. Pate and S.R. Chapman. Using IMS hospital drug issue data to enable secondary care prescribers to assist primary care organisations with their objectives and targets Pharmacoepidemiology and Drug Safety 2007: 16;S100-S100.

P.S. Woodvine and S.R. Chapman. Using structured audits to increase the percentage of patients achieving an agreed lipid lowering target. Pharmacoepidemiology and Drug Safety 2007:16;S236-S236.


Books.

R. Chambers K. Mohanna and P


**Book Chapters.**


**Book Chapter – In press**


**Reports.**


P. Clarkson, S. Crompton, D. Challis, M. Donnelly and R. Beech. The design and use of local metrics to evaluate performance: a comparative analysis of social care organisations. Literature review and planning document produced as part of a study within the ESRC Public Services Programme (Quality, Performance and Delivery). Personal and Social Services Research Unit, University of Manchester, Discussion Paper M159. 2007.


2008

Peer Reviewed Journal Articles and Letters.


Blenkinsopp and C. Bond. The potential and pitfalls of medicines management: what have we learned so far? *Disease Management and Health Outcomes* 2008;16:79-86.


L.S. Claydon and L.S. Chesterton. Does transcutaneous electrical nerve stimulation (TENS) produce 'dose-responses'? A review of
systematic reviews on chronic pain
Physical Therapy Reviews
2008;13:450-463
doi:10.1179/174328808X373998.


C.E. Dionne, K.M. Dunn, P.R. Croft and a panel of 28 international experts on back pain. A consensus approach towards the standardisation of back pain definitions for use in prevalence studies. Spine 2008;33:95-103
doi:10.1097/BRS.0b013e31815e7f94.


doi:10.1016/j.pain.2007.05.001.


N.E. Foster, A. Bishop, E. Thomas, C. Main, R. Horne, J. Weinman and E. Hay. Illness perceptions of low back pain patients in primary care: what are they, do they change and are they associated with outcome? Pain 2008;36;177-187


M. Marshall, K.S. Dziedzic, D.A. Van der Windt and E.M. Hay, A


PREFERENCE COLLABORATIVE REVIEW GROUP. Patients’ preferences within randomised


Books.


Mohanna K (Ed) Looking after Children and Young Adults in Primary Care RCGP (in Press).

Book Chapters.


Reports.


Other.

N.E. Foster. Physiotherapy added to GP care results in lone-term improvements for sciatica. Invited


## Appendix

### Teaching practices

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<td>Trinity Health Centre</td>
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| Wolstanton Medical Centre             | Nero

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