Research in primary care over the last 20 years and its impact on the national health system – a view from the UK

Paul Wallace FRCGP, FFPHM
Emeritus Professor Primary Health Care, UCL
Former GP, Hampstead Group Practice
NIHR Clinical Research Networks Lead for Primary Care
## Grups de recerca

### Aparell Locomotor

<table>
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### Cardiovascular

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<tr>
<td>GRECAP</td>
<td>Grup de Recerca Cardiovascular</td>
<td>Miguel Ángel Muñoz Pérez</td>
</tr>
<tr>
<td>JCV Clínic</td>
<td>Cair Investigació en Salut Vascular de Ciutat</td>
<td></td>
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</tbody>
</table>
My research interests

Alcohol: screening & brief intervention (SBI) in general practice

Application of video technologies in delivering health care (joint tele-consultations)

Online applications for managing alcohol problems

Family physician delivery to patients of facilitated access to digital health applications
Scope of the presentation

Â To give a brief overview of the early development of research in primary care with special reference to the UK

Â To examine selected key UK primary care research studies over the last 20 years and their impact on practice

Â To examine research and its impact on care in the NHS with reference to the Quality & Outcomes Framework

Â To review the opportunities for integrating research into clinical practice with special reference to the NIHR Primary Care Research Network
Research in primary care

Research: an original investigation undertaken in order to gain knowledge and understanding

- Organised curiosity
  (Teviot Eimerl, 1960)

- The reflective practitioner
  (Donald Schön 1984)

- Research as education
  (Dominique Huas 1990)
Edward Jenner  
1749 - 1843

General practitioner in Berkley, Gloucestershire

Identified role of cowpox in protecting against small pox

Pioneered vaccination by inoculating James Phipps (8yrs) on May 14, 1796
UK primary care researchers

William Withering (1741–1799)
An Account of the Foxglove and some of its Medical Uses, (Digitalis)

James McKenzie (1853 -1925)
The Study of the Pulse 1902
Diseases of the Heart 1908
Symptoms and their Interpretation 1909

William Pickles (1885-1969)
Catarrhal Jaundice in Wensleydale 1929
Outbreak of Bornholm Disease 1933
Epidemiology in Country Practice 1939
UK primary care researchers

**Edgar Hope Simpson**
*(1908-2003)*

*Elucidation of the role of re-activated Varicella virus in the causation of Herpes Zoster (Island of Yell 1953)*

**Julian Tudor Hart** *(1927 - )*

Former GP in Glyncorrwg
Honorary Member of the Catalan Society of Family Physicians
Inverse Care Law 1971
A new kind of doctor 1988
The political economy of health care – a clinical perspective 2006
Why is primary care research so important?

- Centrality of primary care in health care provision
- Locus of triage and decision making
- The need for research findings to be generalisable to patients seen in primary care
- Lack of a comprehensive evidence base
Key contributions from primary care research*

- Epidemiology
- Health beliefs and expectations
- Screening and health promotion
- Diagnosis
- Treatment of acute conditions
- Care of patients with long term conditions
- Applied research methodologies

* With acknowledgements to Prof Roger Jones
Epidemiology: how do people change into patients?

• Morrell (1976) shows that only 1:40 symptoms experienced presents to GP
• Hannay (1980) "illness iceberg"
• Epidemiology of pathologies presenting in primary care:
  - Respiratory: (Howie 1980)
  - Gastrointestinal (Jones 1990)
  - Chronic Pain (Elliot 1999)
  - Cardiovascular (Hobbs 2001)
  - COPD (Hippisley-Cox 2010)
Health beliefs and expectations

• Pill and Stott (1982) patients’ attributions of health and illness: locus of control
• Britten (2000) expectations, misunderstandings, and concordance with management therapy
• Walters et al (2014) Patient preferences for cancer investigation
Screening and health promotion

- Russell et al (1979) Screening and intervention for smoking in general practice
- Hippisley-Cox (2008) Q-Risk screening and prediction of CHD
- Free et al (2011) Use of mobile phone messaging for smoking cessation
Diagnosis
Osler - diagnosis as the heart of the consultation

- Hin (1999) diagnosis of coeliac disease
- Arroll et al (2005) Screening questions for depression
Treatment of acute conditions

- Ritchie and Currie (1983) rule of halves
- Little et al (1997) deferred antibiotic prescription
- Delaney et al (2008) testing and treatment for Helicobacter pylori
- European studies:
  - Little et al (2007) ESAC trial on antimicrobials
  - Butler et al (2009) GRACE trial on antibiotic prescribing for acute respiratory infections
Early Treatment with Prednisolone or Acyclovir in Bell's Palsy

**BMJ Research Paper of the Year 2009**

Sullivan et al NEJM 2007 357:1598-1607

561 patients identified through the Scottish Primary Care Research Network (SPCRN)

In patients with Bell's palsy, early treatment with prednisolone significantly improves the chances of complete recovery at 3 and 9 months.
Hypertension research wins RCGP accolade

5 October 2015

RCGP Annual Research Paper of the Year Award presented to UK–Canadian collaboration led by Professor Richard McManus.

"It is a great honour for the TASMIN-SR trial team to have our work recognised by the RCGP - the award is testament to the efforts put in by all those involved, as well as the 56 general practices we worked with, to recruit and look after patients into this trial.

Professor Richard McManus, Nuffield Department of Primary Care Health Sciences, University of Oxford.

Research to show how beneficial it can be for people to measure their own blood pressure (BP) and adjust their medication accordingly from home has been awarded a Royal College of General Practitioners Annual Research Paper of the Year category award.

Published in the Journal of American Medical Association (JAMA), the research led by Professor Richard McManus in Oxford University’s Nuffield Department of Primary Care Health Sciences hypertension group involved researchers from across the Universities of Cambridge, Birmingham, Central Lancashire, Southampton and University College London in the UK, and from the Vancouver Coastal Health Research Institute and the University of British Columbia in Canada.

The international team demonstrated that older people at high risk of heart disease and stroke, who take control of measuring their own blood pressure and adjusting their medication, can improve their blood pressure control compared with those who don’t.

FIND OUT MORE ABOUT:

Richard McManus
Professor of Primary Care

Claire Schwartz
Research Fellow

Richard Hobbs
Head of Department

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February 2016 e-newsletter

PPI Pulse Newsletter - for patients and the public:

Spring 2016 (pdf)
Treatment of long term conditions

“The very core of general practice”

• Review of evidence and development of primary care guidelines for management of common long terms eg diabetes Greenhalgh (1994)


• The Quality & Outcomes Framework QOF
The Quality and Outcomes Framework (QOF)

2015/16 General Medical Services (GMS) contract Quality and Outcomes Framework (QOF)

Guidance for GMS contract 2015/16

March 2015
How the QOF works

QOF domains and indicators

The QOF has a range of national quality standards, based on the best available, research-based evidence covering three domains. Each domain has measures of achievement, known as indicators, against which practices score points according to their level of achievement. Practice payments are calculated on the points achieved and prevalence (see prevalence below).

The three domains are:

- **Clinical** - this domain has indicators across different clinical areas e.g. coronary heart disease, heart failure and hypertension.
- **Public health (PH)** - this domain has indicators across clinical and health improvement areas e.g. smoking and obesity.
- **PH including additional services sub domain** - this sub domain has indicators across the two service areas of cervical screening and contraceptive services.
How the QOF payments work

QOF points

For 2015/16, there are a maximum of 559 points available to practices across QOF, which in turn determine payments. The key payment dates each year are:

- On 31 March data is collected from practice systems for which practices are paid retrospectively for points achieved in the previous year. The pound per point for 2015/16 is £160.15. The value of a QOF point differs across Wales, Scotland and Northern Ireland.

- By the end of June - payments should be completed, although they can be made earlier when they have been agreed by the practice and commissioner.
## Domains for quality indicators in QOF

### Clinical domains (435 points)

- Atrial fibrillation
- Secondary prevention of coronary heart disease
- Heart failure
- Hypertension
- Peripheral arterial disease
- Stroke and transient ischaemic attack
- Diabetes mellitus
- Asthma
- Chronic obstructive pulmonary disease

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<th>Dementia</th>
<th>Cardiovascular disease – primary prevention</th>
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<tr>
<td>Secondary prevention of coronary heart disease</td>
<td>Depression</td>
<td>Blood pressure</td>
</tr>
<tr>
<td>Heart failure</td>
<td>Mental health</td>
<td>Obesity</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Cancer</td>
<td>Smoking</td>
</tr>
<tr>
<td>Peripheral arterial disease</td>
<td>Chronic kidney disease</td>
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<tr>
<td>Stroke and transient ischaemic attack</td>
<td>Epilepsy</td>
<td></td>
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<tr>
<td>Diabetes mellitus</td>
<td>Learning disabilities</td>
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<tr>
<td>Asthma</td>
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<tr>
<td>Chronic obstructive pulmonary disease</td>
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### Public Health domains (87 points)

- Stroke and transient ischaemic attack
- Diabetes mellitus
- Asthma
- Chronic obstructive pulmonary disease

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<th>Diabetes mellitus</th>
<th>Public Health additional services (27 points)</th>
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<tr>
<td>Chronic obstructive pulmonary disease</td>
<td></td>
<td>Blood pressure</td>
</tr>
</tbody>
</table>

### Public Health additional services (27 points)

- Cervical screening
- Contraception

- Dementia
- Depression
- Mental health
- Palliative care
- Rheumatoid arthritis

- Cardiovascular disease
- Blood pressure
- Obesity
- Smoking
- Cerebrovascular disease
- Primary prevention
- Blood pressure
- Obesity
- Smoking

- Depression
- Mental health
- Palliative care
- Rheumatoid arthritis
- Osteoporosis: secondary prevention of fragility fracture
- Rheumatoid arthritis
- Palliative care
Example of clinical domain

**Atrial fibrillation (AF)**

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<tr>
<td>AF001. The contractor establishes and maintains a register of patients with atrial fibrillation</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Ongoing management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AF006. The percentage of patients with atrial fibrillation in whom stroke risk has been assessed using the CHA2DS2-VASc score risk stratification scoring system in the preceding 12 months (excluding those patients with a previous CHADS2 or CHA2DS2-VASc score of 2 or more)</td>
<td>12</td>
<td>40-90%</td>
</tr>
<tr>
<td>NICE 2014 menu ID: NM81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AF007. In those patients with atrial fibrillation with a record of a CHA2DS2-VASc score of 2 or more, the percentage of patients who are currently treated with anti-coagulation drug therapy NICE 2014 menu ID: NM82</td>
<td>12</td>
<td>40-70%</td>
</tr>
</tbody>
</table>

For AF007, patients with a previous score of 2 or above using CHADS2, recorded prior to 1 April 2015 will be included in the denominator.
Evidence on health gains from QOF

- Better recording in QOF (but not untargeted areas)
- Modest gains in some areas, e.g. asthma, diabetes
- No definite improvement in CHD related to QOF
- No overall improvement in outcomes, except epilepsy

• Inequalities related to deprivation slowly narrowing
• Reductions in age-related differences for CVD/diabetes
• Variable effects for e.g. gender related differences in CHD

Lancet 2008; 372: 728ii 36
Primary Care Research Networks
Development of UK primary care research networks

- 1967 Weekly returns service - RCGP
- 1969 UK GP Research Club
- 1973 MRC General Practice Research Framework
- 1984 Midlands Research Network
- 1993 NoReN and WReN
- 1996 NHS R&D funds for primary care
- 1998 UK Confederation of PCRNs
- 2006 NIHR Primary Care Research Network for England (NIHR PCRN)
- 2013 Re-organisation of NIHR CRN with Primary Care as an NIHR CRN National Specialty Group
New health research strategy 2006

Vision: to improve the health and wealth of the nation through research

“To create a health research system in which the NHS supports outstanding individuals, working in world-class facilities, conducting leading-edge research, focused on the needs of patients and the public.”
Primary Care Research Network

Supporting research in primary care to make patients, and the NHS, better

The Primary Care Research Network is part of the National Institute for Health Research Clinical Research Network and is funded by the Department of Health. We provide researchers with practical support they need to make clinical studies happen in a primary care setting in the NHS, so that more research takes place across England, and more patients can take part. >>More about us

Primary care practitioners
Primary care researchers
Life-sciences Industry
Patients and public

Find out how we can support you to participate in research

News
Read the latest news from the Primary Care Research Network

More about us
Find out who we are, what we do and how we do it

Case studies
Hear how we're doing from those we've already supported

Our portfolio of research
Find out about research we're currently supporting

Please download Adobe Flash Player to see this content.
Click on your area to find out more about your Local Research Network. If you do not have flash player installed or cannot view this map go to a list of Primary Care LRN's and links to their websites.
NIHR Primary Care Research Network (PCRN)

Its purpose is to strengthen the evidence-base for prevention, diagnosis, treatment and management of illness and disease in primary care.
NIHR PCRN – key features

- Managed national network of research active general practices designed to recruit patients to studies on NIHR portfolio
- Portfolio of nationally approved and funded primary care research studies
- Provision of support of different kinds to facilitate practice involvement in research
- Involvement of patients and the public
Eight PCRN Regional Research Networks in England

- Central England
- East of England
- East Midlands and South Yorkshire
- Greater London
- Northern and Yorkshire
- North West
- South East
- South West
The PCRN portfolio of research studies

An extensive national PCRN portfolio with the principal focus on:

- Prevention
- Screening and early diagnosis
- Management of long term conditions
- Service organisation and delivery

>35% practices actively involved each year

>200 studies currently recruiting around 15% of all the patients in NIHR studies
Infrastructure support

• Carefully selected research studies with high quality design
• Dedicated network teams in 8 regional networks to provide information to practices and support for research activity
• Access to technical support (eg for database patient searches) and research nurse support
• Appropriate funds from NIHR to cover the real costs to the practice of involvement in research (mainly staff time) i.e. NHS Service Support Costs
10 good reasons for practices to work with us

CRN: Primary care supports and improves clinical research where the majority of patient contacts and episodes take place. We do this by bringing together a wide range of health professionals such as GPs, dentists, pharmacists and health visitors, and supporting them in the delivery of high quality research studies into areas such as disease prevention, health promotion, screening and early diagnosis, and the management of long-term conditions such as arthritis and heart disease.

In working with CRN: Primary care, you would join more than 2,500 other General Medical Practices, that are already experiencing the following benefits for their staff and patients:

1. Opportunities to be involved in important research across a broad range of specialities and interests
2. Peace of mind that clinical research studies offered to practices will be of high quality, and important to the NHS
3. Opportunities to be involved in commercial life-sciences contract work, which provides your practice with an additional funding stream
4. Access to NHS service support resources which can cover staff time and involvement in research
5. Opportunities to be part of a Research Sites Scheme with funding to develop research delivery infrastructure in your practice
6. Eligibility for sessional payments to provide protected time to recruit patients into research studies
7. Access to Clinical Research Network-funded staff to support studies conducted in your practice
8. Access to advice and assistance to identify suitable participants for studies
9. Support with planning and practical measures prior to a study commencing
10. Opportunities to undertake accessible training for the practice and its staff to become “research capable”
Our core offer to researchers working in primary care

1. Doorway to primary care research support
   - First of all we’ll advise if your study is eligible for Network support
   - If it is, we’ll provide your route in to primary care
   - We can provide you with a named contact for the duration of your study who will facilitate access to Network resources

2. Expert advice in primary care recruitment
   - We can advise on your primary care recruitment strategy at any point during the study lifecycle
   - We can pilot your recruitment strategy within the primary care environment to check for do-ability
   - Where necessary, we’ll advise on alternative recruitment strategies
   - We’ll use our local knowledge to help you plan your study delivery in primary care

3. NHS Support Costs advice and support
   - We can help you to identify and attribute these costs for your grant application
   - We can help arrange access to NHS support resources once your study is confirmed as eligible

4. Governance and NHS permissions advice
   - We’ll help you find your way through NHS governance processes
   - We’ll liaise with NHS R&D teams on your behalf to minimise delays with approvals

5. Site selection and set-up
   - We’ll use our local knowledge to identify and engage the right primary care sites for your study
   - We’ll promote your study to primary care sites
   - We can advise you on working with primary care sites
   - We can advise you on the materials which primary care sites will require to support your study

6. Recruitment
   - We’ll support both you and your primary care sites to deliver recruitment to time and to target
   - We’ll advise on database search strategies

7. Active performance monitoring
   - We’ll help you and your primary care sites to performance manage the progress of studies
   - We’ll help to identify and overcome recruitment barriers

8. Training
   - We’ll support primary care sites to access study-specific training where required
   - We’ll help the research community gain the necessary training which underpins research e.g. Good Clinical Practice training
Posters for practices

This pharmacy is research active

Conducting high-quality clinical research helps us to keep improving NHS care by finding out which treatments work best.

In this pharmacy, you might be asked to take part in a clinical research study. Alternatively, ask your pharmacist about clinical studies suitable for you.

Taking part in a clinical research study is voluntary and can be a rewarding experience.
Primary Care Research Recruitment Milestone

500,000

patients have taken part in Primary Care Research Network-led studies

Thank you to all patients, staff, networks and study teams

May 2013
More than 50% of practices supported PCRN studies in the period 2006-2011

In 2015/6, 3216 practices (41%) have been research active:

- 1 study: 55.6%
- 2-3 studies: 30.9%
- 4-5 studies: 7.8%
- >6 studies: 5.8%
What value does PCRN add?

Feedback from research study teams

Overall, the contribution of the PCRN to our study was critical to us achieving our recruitment targets (355 people). We recruited 30%+ of our participants required from GP surgeries, as a direct result of PCRN involvement.

We could not have reached our recruitment target without the help of the PCRN who rapidly recruited new practices when it became apparent that we were not on course to meet our target.
What key factors contribute to success?

- **GOOD STUDIES**
  Research portfolio of high quality studies relevant to primary care and attractive to patients

- **SUPPORT**
  High quality support for portfolio implementation and management

- **MONEY**
  Resources to support practice involvement

- **TEAMWORK**
  Enthusiastic capable local network teams able to support research active practices

- **TRAINING**
  Quality training and accreditation for research in primary care

- **CO-ORDINATION**
  National standards, tools & communication
Topics covered in this lecture

- Summary of the early origins of primary care research in the UK and examples of its subsequent contribution to the evidence base for clinical care

- Consideration of the Quality and Outcomes Framework (QOF) as an example of how findings from primary care research can produce major changes in clinical care

- Description of the NIHR Primary Care Research Network as an illustration of how research can be integrated into routine clinical practice
“Sticking my neck out”
- some predictions

Â Research will become increasingly integrated into the
day to day work of the primary care team

Â Research in primary care will involve an increasing
range of academic disciplines, including medicine,
epidemiology, statistics, sociology, anthropology,
health economics, mathematics.

Â Patients will play an ever greater role in the design
and delivery of research in primary care

Â The primary care electronic care record will become a
central resource for research in primary care
GP electronic records research in UK

- CPRD
- THIN
- Q Research
- Farsite

Epidemiological studies published on many topics:

- Arthritis, asthma, COPD, blood pressure, heart disease,
- depression, anxiety schizophrenia, diabetes, stroke, cancer,
- Parkinson’s Disease, liver and renal disease

Point of care studies*

* Van Staa, Health Technol Assess, 2014
Welcome to SIDIAP

The SIDIAP database was created in 2010 under the auspices of the Catalan Institute of Health (CIH) and the Primary Care Research Institute Jordi Gol (IDIAP). Its main aims is to promote the development of research based on data from primary care electronic medical records and other complementary databases. SIDIAP's main objective is, therefore, to generate reliable research databases from the computerized medical records (as registered using the e-CAPTM software), used in the Primary Health Care setting within the CIH.
Moltes gràcies
I bona sort!
Research and clinical practice make excellent bed-fellows!
Moltes gràcies!
Gracias!
Welcome to SIDIAP

The SIDIAP database was created in 2010 under the auspices of the Catalan Institute of Health (CIH) and the Primary Care Research Institute Jordi Gol (IDIAP). Its main aims is to promote the development of research based on data from primary care electronic medical records and other complementary databases. SIDIAP's main objective is, therefore, to generate reliable research databases from the computerized medical records (as registered using the eCAPTM software), used in the Primary Health Care setting within the CIH.

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SI DIAP overview  |  Services  |  Activities  |  Contact us
Background | Services  | Ongoing studies  |  Where are we
Aims  | Request  | Dissemination  | Login
Structure  | Assessment schema  | Conference 2013  |
## Examples of public health domains

### Cardiovascular disease – primary prevention (CVD-PP)

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| CVD-PP001. In those patients with a new diagnosis of hypertension aged 30 or over and who have not attained the age of 75, recorded between the preceding 1 April to 31 March (excluding those with pre-existing CHD, diabetes, stroke and/or TIA), who have a recorded CVD risk assessment score (using an assessment tool agreed with the NHS CB) of ≥20% in the preceding 12 months: the percentage who are currently treated with statins  
*NICE 2011 menu ID: NM26* | 10     | 40–90%                 |

### Obesity (OB)

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| OB002. The contractor establishes and maintains a register of patients aged 18 years or over with a BMI ≥30 in the preceding 12 months  
*NICE 2014 menu ID: NM85* | 8      |                        |
Exemplar of additional public health domain

### Contraception (CON)

<table>
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<th>Achievement thresholds</th>
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<tr>
<td>CON001. The contractor establishes and maintains a register of women aged 54 or under who have been prescribed any method of contraception at least once in the last year, or other clinically appropriate interval e.g. last 5 years for an IUS</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CON003. The percentage of women, on the register, prescribed emergency hormonal contraception one or more times in the preceding 12 months by the contractor who have received information from the contractor about long acting reversible methods of contraception at the time of or within 1 month of the prescription</td>
<td>3</td>
<td>50–90%</td>
</tr>
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</table>
Trends in risk factor recording in 315 Scottish practices 2001 - 2006

Figure 2 Recording of five risk factors for CHD patients

Excludes patients with diabetes.

Sutton 2007
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<tr>
<td>USV Capes</td>
<td>Grup Investiga en Salut Vascular de Capes</td>
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In 2013 the 8 PCRN local networks and the other topic networks were replaced by 15 integrated Local Clinical Research Networks, each with a Primary Care specialty.