



*National Institute for  
Health Research*

**Introducing  
Collaboration for Leadership in  
Applied Health Research and Care  
West Midlands**

**January 2014 – December 2018**



# Welcome



## Welcome from Prof Richard Lilford

**Director of NIHR Collaborations for Leadership in Applied Health Research and Care West Midlands  
Chair in Public Health, University of Warwick**

The National Institute of Health Research Collaborations for Leadership in Applied Health Research and Care West Midlands (NIHR CLAHRC WM) aims to conduct imaginative, high-quality health service evaluations to improve patient care.

In order to achieve our goal we have created a collaboration of patients and the public, service personnel, and applied health researchers to fulfil our mission. In NIHR CLAHRC WM, service change and applied research are embedded in the same structure – driving projects across the four service themes of maternity and child health, youth mental health, prevention and detection of disease, and integrating care for people with chronic diseases.

By the end of the five year project we aim not just to achieve positive service change, but most importantly, to develop a self-sustaining system where the CLAHRC way of working has become the natural way of working.

We are confident we can do this because we are building on the success of our five-year pilot study NIHR CLAHRC Birmingham and Black Country (NIHR CLAHRC-BBC); you can find a selection of our success stories within this document.

As well as working together with established partners, I am delighted to welcome the expertise of our new collaborators, including University of Warwick and Keele University. Thank you to every one of our CLAHRC partners for their unique contribution: there are exciting times ahead.



## Welcome from Dame Julie Moore

**Chief Executive of University Hospitals Birmingham NHS Foundation Trust,  
Host of NIHR Collaborations for Leadership in Applied Health Research and Care West Midlands**

NIHR CLAHRC WM comes as the NHS enters yet another enormously challenging phase and will enable research of the highest scientific quality to support change where it is needed.

The new collaboration gives us a base on which to build robust findings from the very best researchers in academia, the NHS, and local authority and other health and social service providers.

We will focus on services where decisions will have major consequences for human health. Many ideas for change will come from a 'bottom-up' approach, developing a better understanding of local context to evaluate and implement improvements cost effectively and to the benefit of patients and staff.

In five years, the outcomes should be better health and a service in which every pound of the public's input goes on services that use the best evidence of what works.



## THE IDEaL way of working

**NIHR CLAHRC WM will create lasting and effective working relationships and an environment where close collaboration is the rule, not the exception. This work is supported by new scientific ways to measure the impact of changes and to make sure the best care is spread so that it can be delivered everywhere.**

The NIHR awarded £10 million to the NIHR CLAHRC WM to continue evaluating and developing health services for a further five years; this funding complements the NHS contribution, with £20.6 million matched funding from local health and social services.

Expanding the geographical footprint of the pilot study, the new NIHR CLAHRC WM is a partnership between local health services, universities, and local authorities. NIHR CLAHRC WM is hosted by University Hospitals Birmingham NHS Foundation Trust with academic partners at the Universities of Birmingham, Warwick and Keele.

Working together we believe our work can help give the UK better health, a better prospect of staying healthy, and a health service in which every pound of the public's contribution goes on services that use the best evidence of what works.

We have developed the IDEaL model through which our teams will 'Identify, Develop, Evaluate and Lead', combining scientific rigour with the exacting time schedules demanded by the fast-paced working environment of health and social services.

### **The CLAHRC-BBC pilot - a strong foundation for success**

NIHR CLAHRC WM builds on the success of NIHR CLAHRC-BBC, a five-year pilot programme, based at the University of Birmingham, that ran between 2008 and 2013. As well as making improvements to health services, we generated 174 publications in high-impact journals, brought in over £26 million of external funding grants (excluding our £10 million NIHR CLAHRC WM grant from the NIHR), and doubled our original matched funding target of £10 million.

**A selection of success stories from NIHR CLAHRC-BBC can be seen throughout this document.**

The following pages describe the research themes we will be undertaking in NIHR CLAHRC WM.

# 1. Maternity and child health

The start of the human journey, through childhood to adolescence, is a critical period for future physical and mental health. Parents are partners in their children's health and the NHS is committed to high quality, safe and accessible maternity and children's services, as well as addressing unhealthy family lifestyles.

At the heart of our geographical 'footprint', the Birmingham area has Europe's highest birthrate and has recorded infant mortality rates significantly above the average for England.

To improve care we will look at service change in a number of areas, including:

- ◆ emergency care for pregnant women
- ◆ the impact of increasingly shorter hospital stays on new mothers, babies, and healthcare professionals
- ◆ the development of an electronic paediatric prescribing system specifically for healthcare professionals caring for children
- ◆ improving communication between doctors, nurses, and families with children and young people with life-limiting illness
- ◆ public health and health promotion initiatives based at a children's hospital.

**Theme Lead: Prof Christine MacArthur**  
**Professor of Maternal and Child Epidemiology, University of Birmingham**  
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## CLAHRC-BBC Case Study: a locally developed maternity triage system to improve outcomes for mothers and babies

**What we did:** Confidential Enquiries and local audit have identified the need to develop a standardised triage system to prioritise clinical urgency of women when unscheduled pregnancy-related attendances occur. Clinicians

and researchers have developed, implemented, and evaluated a standardised system, similar to Accident and Emergency. This involves a standardised initial triage assessment (within 15 minutes of arrival) to identify level of clinical urgency, defined as red ("see immediately"), orange ("see within 15 minutes"), yellow ("see within an hour"), and green ("see within four hours"), and includes standardised immediate care and investigations.

The system was implemented in April 2013 and evaluation included a structured audit of notes, an inter-rater reliability study, and evaluation of the views of midwives and women.

**How we made a difference:** The primary outcome of the evaluation showed a 15 percent increase in the number of women seen within 15 minutes of attendance. Strong inter-rater reliability was demonstrated, suggesting it offers a reliable method of triaging women. Midwives felt that the new system had been introduced well and helped to manage and organise the department. They also felt the safety of the woman and baby has been improved and the system allowed them to continue to use their clinical judgment, despite it being standardised. A subsequent project is planned under CLAHRC WM to spread the adoption of the triage system in three further Maternity Units, prior to seeking funds for a definitive evaluation of the system.

## 2. Prevention and early intervention in youth mental health

There is overwhelming evidence that many lifelong mental health problems begin in childhood and adolescence. However, despite being the leading cause of disability and burden in young people, failure to seek help and delays within mental health services can often leave them vulnerable and untreated.

The mental health strategy of the UK is increasingly focused on the prevention and early intervention of emerging mental health disorders in young people. Our work will continue to improve the care pathways of young people, enabling direct access to services when they need them, and will include:

- ◆ the establishment of a Centre for Public Mental Health and Applied Healthcare Research, based at the Universities of Birmingham and Warwick
- ◆ the introduction of school-based screening tools for emerging mental health problems, including eating disorders
- ◆ the development of screening tools to enable early identification of young people at high risk of depression or deliberate self-harm in primary care settings, including GP surgeries
- ◆ the introduction of preventative services for vulnerable young people, including the homeless and young offenders.

**Theme Lead: Prof Max Birchwood**  
**Professor of Youth Mental Health, University of Warwick**  
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### CLAHRC–BBC Case Study: improving the care pathway for younger mental health patients

**What we did:** Our research has been able to improve the care pathway for younger mental health patients. The CLAHRC-BBC pilot not only identified persistent delays in the service, but, in collaboration with CLAHRC pilot Cambridge and Peterborough, we ‘diagnosed’ the source of the delay.

**How we made a difference:** Youthspace is a new mental health pathway designed for, guided by, and supported by young people.

The new pathway includes preventative measures aimed at raising awareness and encouraging young people to seek help more quickly, and evidence-based service interventions to remove some of the blockages within mental health services, including:

- ◆ Clinical Access Teams to improve triage systems to reduce delay from primary care services
- ◆ ADHD Team to ensure more effective triage and improve the transition from child to adult services
- ◆ a Leaving Care team to support children who are looked after by social services
- ◆ an Early Detection Psychosis team to improve early intervention services for young people with psychosis
- ◆ a Youth Support team to help young people with mental illness between ages 16-18
- ◆ A new in-patient Unit to support young people with eating disorders.

### 3. Prevention and detection of diseases

There is an increasingly strong financial incentive to improve prevention and detection of disease amongst younger and middle-aged adults. To ensure the UK ages healthily, the promotion of healthy lifestyles must run alongside screening programmes for a population empowered by increased awareness of symptoms, diagnosis, and treatment options.

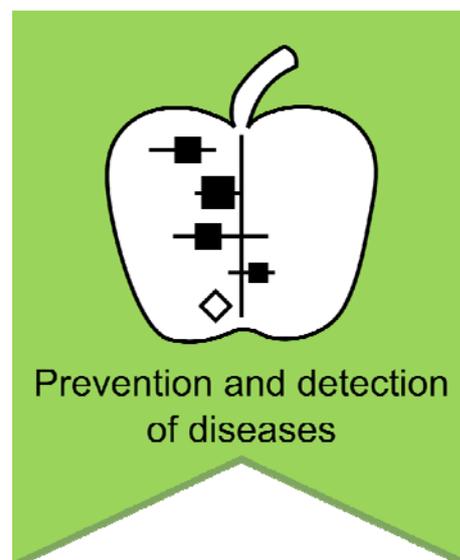
Our work will focus on the three conditions that account for nearly 40 per cent of deaths in the West Midlands: Cardiovascular Disease (CVD), breast cancer, and colorectal cancer. We aim to:

- ◆ establish a Prevention and Detection Network to share and implement research findings, with an emphasis on reducing CVD and increasing cancer screenings
- ◆ work with local authorities to develop geographical modelling techniques to identify communities most at risk from disease
- ◆ increase awareness and uptake of cancer screening in hard-to-reach groups
- ◆ develop an effective programme to encourage children to choose healthier meal options.

**Theme Leader: Prof Aileen Clarke**

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#### CLAHRC-BBC Case study: most statins prescribed to the wrong patients

**What we did:** All patients with heart disease are recommended statins, but among patients who do not have heart disease, statins are only recommended to those classified as “high-risk”. Patients at high-risk include those who smoke, have diabetes, have higher blood pressure and cholesterol levels, and/or older people.

Analysis of 365,718 patient records from 421 general practices in Birmingham showed that only 3 in 10 high-risk patients were started on statins. Most high-risk patients missed out on treatment despite the fact that the average patient would have consulted their GP eleven times over the two year study period. At the same time, 1 in 10 low-risk patients were started on treatment, meaning that many were over-treated. In total, during this period, 50,000 patients were started on statins, but only 42 percent could be thought of as high-risk.

**How we made a difference:** We have instigated a computer recall system for high-risk patients, which is being evaluated in a step-wedge cluster trial. The results will be reported in 2014. Researchers recommend that there needs to be greater awareness and understanding of clinical guidelines, as they are not currently translating into prescribing behaviour. Prescribing statins seems to be very unfocused. While some of the right patients are getting treatment, many are missing out. At the same time many of the wrong patients are started on treatment.

This research was featured in Pulse Online, the Daily Mail, the British Medical Journal, the Daily Express, and on Talk Radio Europe in Spain.

## 4. Chronic diseases

Finding new, sustainable, and cost effective ways of managing people with long-term conditions is increasingly being recognised as the next big challenge for health and adult social care. Many people with long-term conditions have complex needs because they have more than one condition and need services across hospitals, general practice, community services, and social care. However, many people's experience is that care is fragmented and not integrated across different services.

This theme builds on the work of the CLAHRC-BBC pilot, which evaluated improvements in care for a number of individual long-term conditions, including stroke, diabetes, and kidney disease.

We have two priorities:

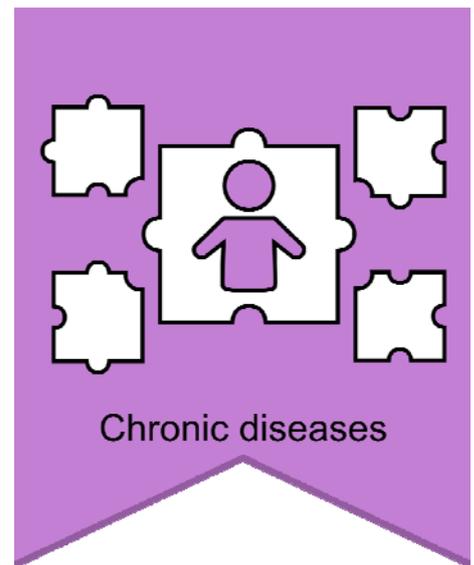
- ◆ **to evaluate new ways of delivering integrated care to people with multiple long-term conditions.**

Study 1 involves a series of case studies of new services across health and social care organisations in the West Midlands.

- ◆ **to evaluate new ways of improving patient well-being.**

Study 2 looks at the primary care management of musculoskeletal pain and mental health for patients with long-term conditions.

Study 3 looks at how clinical skills can be improved in order to promote emotional and psychological well-being for patients.



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**Deputy Theme Lead: Dr Gill Combes, University Hospitals Birmingham NHS Foundation Trust**  
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### **CLAHRC-BBC case study: improving the uptake of home therapies by patients with chronic kidney disease**

**What we did:** Many patients with chronic kidney disease (CKD) also have other health problems. It is evidenced that home therapies lead to better health outcomes and increase patients' quality of life. We have evaluated how four hospitals in the region have been working to increase the uptake of home therapies by patients with CKD. Patient barriers included patient motivation, myths and misunderstanding regarding treatment, difficulty in understanding complex information, decision-making, and psychological and emotional issues. Staff also needed to increase their knowledge and experience of home therapies.

**How we made a difference:** Researchers made a series of recommendations, such as using a wider range of teaching materials and methods matched to patients 'preferred styles; using a more individualised approach to pre-dialysis education; providing emotional and psychological support to patients during the transition to dialysis; providing opportunities for patients to engage in decision-making earlier on in the pathway; and providing basic home therapy training to all renal staff, encouraging them to see it as part of their role to talk to patients about treatment options. Between 2010 and 2012, the study sites increased their uptake of home therapies by 1.8 percent to 10.percent, compared with rates in the rest of England, which remained static.

# Working together to improve health

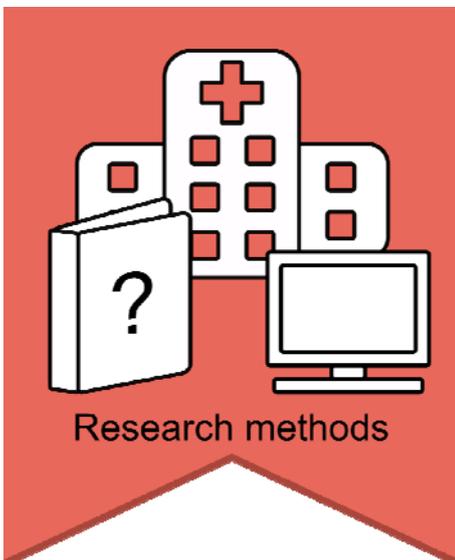
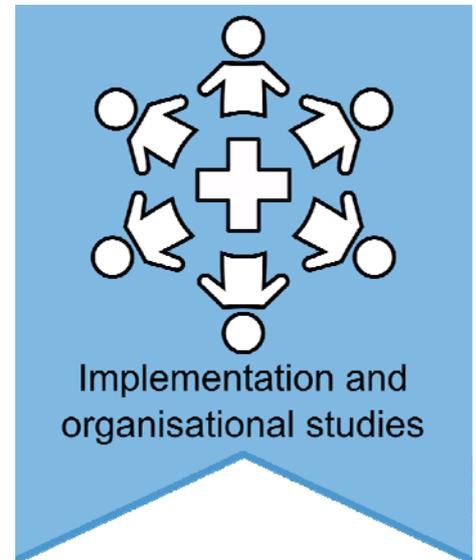
Our partners have an appetite for collaboration and the complementary strengths to turn promising ideas into large-scale service change.

The structure of CLAHRC will ensure that academia, services, and service users can work together to identify problems and develop potential solutions, implementing and evaluating new ways of working.

Alongside our four service themes we will also have two cross-cutting, supporting themes:

## 5. Implementation and organisational studies

This Theme incorporates an 'off-line' laboratory at the University of Warwick. It is not possible to foresee all the factors that could impact on implementation and performance: 'off-line testing' can help identify flaws in the design of innovations, allowing new ways of working to be evaluated and refined before being rolled-out to health care providers.



## 6. Research methods

This Theme will ensure that the research methods are designed to adequately answer complex questions and promote public engagement with the scientific ideas behind service evaluation.

We are also looking beyond individual services to build a self-sustaining process that will live on beyond NIHR CLAHRC WM. Our model incorporates Diffusion Fellows and Leadership Fellows – clinicians and health service managers who will work together with researchers to inform studies, as well as becoming research champions within their partner organisations.

## CLAHRC-BBC Case Study: focusing on error reduction

**What we did:** A quality improvement programme aimed at reducing prescription of medication errors in hospitals was examined by researchers of the CLAHRC-BBC pilot. Patients do not always get the medication they have been prescribed, which can have adverse consequences: an audit of missed medication showed that 15 percent of doses were omitted.

**How we made a difference:** Introducing a system of active feedback and problem-solving sessions between senior NHS managers and nursing staff resulted in a steep drop in the proportion of missed doses. Early signs indicate that this could have a positive impact on mortality rates and further studies are being conducted.



# Patient and public involvement

We know that the patient plays a central role in the work that we do; working closely with the public can lead to better research, clearer outcomes and a faster uptake of new evidence. Following our work with patient and public involvement (PPI) advisors in the CLAHRC-BBC pilot project, we are committed to ensuring all groups in society have the opportunity to be heard.

For the first time there will be two levels of patient and public involvement: PPI Advisors, who can bring a patient perspective to the work we do; and PPI Fellows who will be able to commit more time to the research and may already have experience in healthcare or academia.



**For more information on PPI, please contact Nathalie Maillard [n.c.maillard@bham.ac.uk](mailto:n.c.maillard@bham.ac.uk) or telephone +44 (0)121 414 2634**

## Our partners

Below is a list of initial partners who have contributed matched funds to the NIHR CLAHRC WM initiative. As our collaboration develops, we envisage that our collaborative partners will grow.

University of Birmingham

University of Warwick

Keele University

West Midlands Academic Health Science Network

University Hospitals Birmingham NHS Foundation Trust

University Hospitals Coventry and Warwickshire NHS Trust

Heart of England NHS Foundation Trust

Birmingham Children's Hospital NHS Foundation Trust

Birmingham Women's NHS Foundation Trust

Sandwell and West Birmingham Hospitals NHS Trust

Birmingham and Solihull Mental Health Foundation Trust

South Staffordshire and Shropshire Healthcare NHS Foundation Trust

Staffordshire and Stoke-on-Trent Partnership NHS Trust

Birmingham City Council

Warwickshire County Council

Coventry City Council

Stoke-on-Trent Clinical Commissioning Group

North Staffordshire Clinical Commissioning Group

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**The views expressed are those of the authors and not necessarily those of the CLAHRC WM collaborative organisations, the NIHR, or the Department of Health.**