

# CLAHRC Theme 3: Prevention and Detection Annual Report

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# **CLAHRC Theme 3: Annual Report**

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## **CLAHRC Theme 3: Prevention and Detection Aims**

**Aims.** In this theme we target prevention and early detection in early and midlife populations and in groups that have high risk but poor access to preventative and therapeutic services. We will work with three Local Authorities (Birmingham, Coventry and Warwick) to develop and evaluate interventions.

### **Objectives. Short term:**

1. Establish a strong Prevention and Detection network across the extended CLAHRC area.
2. Disseminate findings from relevant current or recently completed research work: weight reduction programmes in relation to the Lighten Up trial – see example (2.8 below); Cochrane Heart Group systematic review of effective interventions; interventions to improve breast cancer screening (e.g. the COOPS Trial (a national cluster RCT on breast cancer screening across 42 breast screening units)); the CREDIBLE study (using automatic searching for patients with symptoms of suspected bowel cancer).
3. Undertake four feasibility studies for proposed new major RCTs and mapping studies, based on questions raised by NHS and Local partners concerning; **a.** maintenance of weight loss **b.** childhood obesity **c.** Informed uptake of screening **d.** geographical mapping of risk.
4. Case finding for colon cancer, heart failure and diabetes, building on successful studies in the CLAHRC pilot.
5. Complete five new systematic reviews based on questions raised by partners and to work with local implementers and disseminators itemised in section 2.5.4.

### **Medium term:**

6. Apply for funding for three major externally-funded RCTs following the feasibility studies in point 3 above.
7. Identify gaps in the evidence base and undertake further systematic reviews: **a.** sustainability of behaviour change for CVD prevention (e.g. weight and exercise maintenance in hard to reach groups, prophylactic aspirin) **b.** screening and cancer prevention in interventions for hard to reach groups in relevant populations, (e.g. SMS messaging, other e-interventions) **c.** methods of ‘total preventive health package’ management

### **Long term:**

8. Complete RCTs and systematic reviews and ensure widespread publicity and dissemination.
9. Develop a sustainability plan for research and implementation in prevention and detection securing funds for new projects (section 5.4) drawing on the wider CLAHRC and AHSN networks across the country.

**CLAHRC Theme 3 staffing and line management**  
**Warwick**

<b>Staff Name</b>	<b>Role</b>	<b>Line Manager</b>
Dr Victor Adekanmbi	Research Fellow	Dr Sian Taylor-Phillips
Professor Aileen Clarke	Professor of Public Health and CLAHRC Team Lead	Professor Sudhesh Kumar
Ms Jennifer Cooper	PhD Student	Dr Sian Taylor-Phillips
Ms Rebecca Crosby	PhD Student	Dr Sian Taylor-Phillips and Dr Chris Stinton
Mrs Hannah Fraser	Research Project Administrator	Professor Aileen Clarke (for CLAHRC)
Mrs Karoline Freeman	PhD Student	Professor Aileen Clarke
Mrs Amy Grove	PhD Student	Professor Aileen Clarke
Ms Marie Murphy	PhD Student	Dr Wendy Robertson and Dr Rebecca Johnson
Dr David Jenkinson	Research Fellow	Professor Aileen Clarke
Dr Rebecca Johnson	Research Fellow	Dr Wendy Robertson
Ms Helen Jones	PhD Student	Dr Oyinlola Oyeboode
Dr Lena Al-Khudairy	Research Fellow	Dr Oyinlola Oyeboode
Dr Oyinlola Oyeboode	Associate Professor	Professor Aileen Clarke (for theme 3)
Dr Wendy Robertson	Associate Professor	Professor Aileen Clarke (for CLAHRC)
Ms Farah Seedat	PhD Student	Dr Sian Taylor-Phillips
Ms Raheela Shaikh	PhD Student	Dr Wendy Robertson
Dr Chris Stinton	Research Fellow	Dr Sian Taylor-Phillips
Dr Sian Taylor-Phillips	Assistant Professor	Professor Aileen Clarke
Ms Sian Williamson	PhD Student	Dr Sian Taylor-Phillips and Dr Rebecca Johnson

## **Birmingham**

<b>Staff Name</b>	<b>Role</b>
Dr Nicola Adderley	Research Fellow
Professor Tom Marshall	Reader in Primary Care Clinical Sciences, Deputy Director of CLAHRC West Midlands and part time at HEFT
Professor Kate Jolly	Professor of Public Health and lead for the Unit of Public Health, Epidemiology and Biostatistics
AM Lambert	PhD Student
Mrs Ruth Pritchett	Research Fellow
Kiya Harley	Research Fellow
Arjun Bhadhuri	PhD Student
Matt Krouwel	PhD Student
Jaidev Kaur	PhD Student

## CLAHRC Theme 3 Publications

### Publications 1<sup>st</sup> February 2015 – Current

Authors	Title	Reference
Adekanmbi VT, Adedokun ST, <b>Taylor-Phillips S</b> , Uthman OA, <b>Clarke A</b>	Predictors of differences in health services utilization for children in Nigerian communities	Preventive Medicine, 2017. 96, 67-72.
Auguste P, Tsertsvadze A, Pink J, Court R, <b>Seedat F</b> , Gurung T, <b>Freeman K</b> , <b>Taylor-Phillips S</b> , Walker C, Madan J, Kandala N-B, <b>Clarke A</b> , Sutcliffe P.	Accurate diagnosis of latent tuberculosis in children, people who are immunocompromised or at risk from immunosuppression and recent arrivals from countries with a high incidence of tuberculosis: systematic review and economic evaluation	HTA, 2016; 20(38) DOI: <a href="http://dx.doi.org/10.3310/hta20380">http://dx.doi.org/10.3310/hta20380</a>
Aveyard P, Lewis A, Tearne S, Hood K, Christian Brown A, Adab P, Begh R, <b>Jolly K</b> , Daley A, Farley AC, Lycett D, Nickless A, Yu LM, Retat L, Webber R, Pimpim L, Jebb S	Effectiveness of screening and brief intervention for obesity in primary care: a randomised trial	<i>Lancet</i> . 2016; 388: 2492-2500
Buckingham SA, Taylor RS, Dalal HM, <b>Jolly K</b> , Zawada A, Dean SG, Cowie A, Norton RJ	Home-based versus centre-based cardiac rehabilitation: Cochrane systematic review and meta-analysis.	<i>Open Heart</i> 2016;3:e000463
Chisholm, K; Patterson, P; Torgerson, C; Turner, E; <b>Jenkinson, D</b> ; and Birchwood, M	Impact of contact on adolescents' mental health literacy and stigma: the SchoolSpace cluster randomised controlled trial	<i>BMJ Open</i> 2016
Clegg A, Bates C, Young J, Ryan R, Nichols L, Teale EA, Mohammed MA, Parry J, <b>Marshall T</b>	Development and validation of an electronic frailty index using routine primary care electronic health record data	Age and Ageing. 2016 May;45(3):353-60. doi: 10.1093/ageing/afw039. Epub 2016 Mar 3
Colquitt JL, Loveman E, O'Malley C, Azevedo LB, Mead E, <b>Al-Khudairy L</b> , Ells LJ, Metzendorf MI, Rees K	Diet, physical activity, and behavioural interventions for the treatment of overweight or obesity in preschool children up to the age of 6 years	Cochrane Database of Systematic Reviews. 2016. Issue 3. Art No.: CD012105. DOI: 10.1002/14651858.CD012105.
<b>Cooper JA</b> , Moss SM, Smith S, Seaman HE, <b>Taylor-Phillips S</b> , Parsons N, Halloran SP	FIT for the Future - A Case for Risk-Based Colorectal Cancer Screening (CDI-00104-2016.R1)	Colorectal Disease the official journal of the Association of Coloproctology of Great Britain and Ireland. 2016; 18: 650-3.
Crossan C, Lord J, Nherera L, Ryan R, <b>Marshall T</b>	Cost effectiveness of case finding strategies for primary prevention of cardiovascular disease: a modelling study	Br J Gen Pract 2016
Dyakova, M; Shantikumar, S; Colquitt, JL; Drew, C; Sime, M; Maclver, J;	Systematic versus opportunistic risk assessment for the	The Cochrane Library 2016, Issue 1. Art. No.: CD010411.



Wright, N; <b>Clarke, A</b> ; Rees, K	primary prevention of cardiovascular disease (Review)	DOI: 10.1002/14651858.CD010411.pub2.
Finnikin, S and <b>Jolly, K</b>	Nursery sickness policies and their influence on prescribing for conjunctivitis: audit and questionnaire survey	Br J Gen Pract. 2016;66(650):e674-9
Finnikin S, Ryan R, <b>Marshall T</b>	Cohort study investigating the relationship between cholesterol, cardiovascular risk score and the prescribing of statins in UK primary care: study protocol	BMJ Open. 2016; 6: e013120.
Fleming, j; Kamal, A; Harrison, E; Hamborg, T; Stewart-Brown, SL; Thorogood, M; Griffiths, F; <b>Robertson, W</b>	Evaluation of recruitment methods for a trial targeting childhood obesity : families for Health randomised controlled trial	Trials, 16 (1).535. doi: 10.1186/s13063-015-1062-x
<b>Freeman K</b> , Saunders MP, Uthman OA, <b>Taylor-Phillips S</b> , Connock M, Court R, Gurung T, Sutcliffe P, <b>Clarke A</b>	Is monitoring of plasma 5-fluorouracil levels in metastatic/advanced colorectal cancer clinically effective? A systematic review	BMC Cancer, 2016; 16(523) doi: 10.1186/s12885-016-2581-x
Fruhstorfer, BH; Mousoulis, C; Uthman, OA; <b>Robertson, W</b>	Socio-economic status and overweight or obesity among school-age children in sub-Saharan Africa – a systematic review	Clinical Obesity. 6(1):19-32. DOI: 10.1111/cob.12130
Greaves CJ, Wingham J, Deighan C, Doherty P, Elliott J, Armitage W, Clark M, Austin J, Abraham C, Frost J, Singh S, <b>Jolly K</b> , Paul K, Taylor L, Buckingham S, Davis R, Dalal H, Taylor RS on behalf of the REACH-HF investigators.	Development of a facilitated self-care and rehabilitation intervention for people with heart failure and their care givers: Rehabilitation Enablement in Chronic Heart Failure (REACH-HF).	Pilot and Feasibility Studies 2016;2:37. 10.1186/s40814-016-0075-x
<b>Grove A, Johnson R</b> , Currie G, <b>Clarke A</b>	Evidence and the drivers of variation in orthopaedic surgical work: A mixed method systematic review	2016. Health Systems and policy research. 3, 1
Hemming K, Ryan R, Gill P, Westerby P, <b>Jolly K, Marshall T</b>	Targeted case finding in the prevention of cardiovascular disease: a stepped wedge cluster randomised controlled trial.	2016 Oct;66(651):e758-67. doi: 10.3399/bjgp16X686629. Epub 2016 Aug 15
Jeddian, A; Hemming, K; Lindenmeyer, A; Rashidian, A; Sayadi, L; Jafari, N; Malekzadeh, R; <b>Marshall, T</b>	Evaluation of a critical care outreach service in a middle-income country: a stepped wedge cluster randomised trial and nested qualitative study. Journal of Critical Care	Journal of Critical Care. 2016 Jul 26;36:212-217 [Epub]
<b>Johnson R, Jenkinson D, Stinton C, Taylor-Phillips S</b> , Madan J, Stewart-Brown S, Clarke C	Where's WALY? : A proof of concept study of the 'wellbeing adjusted life year' using secondary analysis of cross-sectional survey data	Health and Quality of life outcomes. 14.1 (2016): 126.
<b>Jolly; K S</b> ,Majothi; Sitch, AJ; Heneghan, NR; Riley, RD; Moore, DJ; Bates, EJ; Turner, AM; Bayliss, S;	Self-management of health care behaviours for COPD: a systematic review.	The International Journal of COPD, 11, 305

Price, M; Singh, SJ; Adab, P; Fitzmaurice, DA; Jordan, RE		
Jordan RE, Adab P, Sitch A, Enocson A, Blissett D, Jowett S, Marsh J, Riley R, Miller MR, Cooper BG, Turner A, <b>Jolly K</b> , Ayres JG, Haroon S, Stockley R, Greenfield S, Siebert S, Daley A, Cheng KK, Fitzmaurice D.	Targeted case finding for COPD versus routine practice in primary care: cluster randomised controlled trial.	Lancet Respiratory Medicine; 2016;4(9):720–730. 10.1016/S2213-2600(16)30149-7
Lindenmeyer, A; Greenfield, SM; Greenfield, C; <b>Jolly, K</b>	How Do People With COPD Value Different Activities? An Adapted Meta-Ethnography of Qualitative Research	Qual Health Res. 2016 Apr 26. pii: 1049732316644430
Maheswaran, H; Petrou, S; McPherson, P; Cholo, AT; Kumwenda, F; Lalloo, DG; <b>Clarke, A</b> ; Corbett EL	Cost and quality of life analysis of HIV self-testing and facility-based HIV testing and counselling in Blantyre, Malawi	BMC Medicine. 14:34, DOI: 10.1186/s12916-016-0577-7
<b>Melendez-Torres GJ</b> ; O'Mara-Eves A; Thomas J	Interpretive analysis of 85 systematic reviews suggests that narrative syntheses and meta-analyses are incommensurate in argumentation.	Res Synth Methods. 2016
Muthuri SK, Oti SOO, Lilford RJ, <b>Oyebode O</b>	Salt Reduction Interventions in Sub-Saharan Africa: A Systematic Review	PloS one, 2016 11 (13)
<b>Oyebode O</b> , Kandala NBB, Chilton PJ, Lilford RJ	Use of traditional medicine in middle-income countries: a WHO-SAGE study	Health policy and planning 2016. <a href="http://view.ncbi.nlm.nih.gov/pubmed/27033366">http://view.ncbi.nlm.nih.gov/pubmed/27033366</a> .
<b>Oyebode O</b> , Oti S, Chen YFF, Lilford RJ	Salt intakes in sub-Saharan Africa: a systematic review and meta-regression	Population health metrics, 2016; 14
<b>Oyebode O</b> , Patrick H, Walker A, Campbell B, Powell J	The ghost in the machine? The value of expert advice in the production of evidence-based guidance: A mixed methods study of the NICE Interventional Procedures Programme	International journal of technology assessment in health care 2016. <a href="http://view.ncbi.nlm.nih.gov/pubmed/27001247">http://view.ncbi.nlm.nih.gov/pubmed/27001247</a> .
Perkins, G; Griffiths, F; Slowther, A; George, R; Fritz, Z; Satherley, P; Williams, B; Waugh, N; Cooke, M; Chambers, S; Mockford, C; <b>Freeman, K</b> ; <b>Grove, A</b> ; Field, R; Owen, S; Clarke, B	Do not attempt cardiopulmonary resuscitation (dnacpr) decisions: evidence synthesis	Health Services and Delivery Research . 2016;4(11)
Pulikottil Jacob, R; <b>Clarke, A</b> ; Connock M, Kandala, N-B; Mistry, H; <b>Grove, AL</b> ; Freeman, K; Costa, M; Sutcliffe, PA	Has metal-on-metal resurfacing been a cost-effective intervention for health care providers? - a registry based study	PLoS One 2016 Nov 1;11(11):e0165021
<b>Robertson W</b> , Fleming J, Kamal A, Hamborg T, Khan KA, Griffiths F, Stewart-Brown S, Stallard N, Petrou	Randomised controlled trial evaluating the effectiveness and cost-effectiveness of 'Families for Health', a family-based childhood obesity treatment	Health Technology Assessment 21, 01, 2017



S, Simkiss D, Harrison E, Kim SW, Thorogood M	intervention delivered in a community setting for ages 6 to 11 years	
<b>Robertson W</b> , Fleming J, Kamal A, Hamborg T, Khan KA, Griffiths F, Stewart-Brown S, Stallard N, Petrou S, Simkiss D, Harrison E, Kim SW, Thorogood M	Randomised controlled trial and economic evaluation of the 'Families for Health' programme to reduce obesity in children	Archives of Disease in Childhood, 2016
<b>Robertson W, Murphy M, Johnson R</b>	Evidence base for the prevention and management of child obesity	2016. Paediatrics and Child Health, 26 (5): 212-218
Ruffano L, Dinnes J, <b>Taylor-Phillips S</b> , Davenport C, Hyde C, Deeks J	Research waste in diagnostic trials: a methods review evaluating the reporting of test-treatment interventions	BMC Medical Research Methodology, 2017. 17:32. DOI: 10.1186/s12874-016-0286-0
Sidhu, M; Aiyegbusi, OL; Daley, A; <b>Jolly, K</b>	Older men's experience of weight loss and weight loss maintenance interventions: Qualitative findings from the Lighten Up Plus Trial	Journal of Obesity & Weight Loss (Epub version)
Sidhu M; Griffith L; <b>Jolly K</b> ; Gill P; <b>Marshall T</b> ; Gale N.	Long-term conditions, self-management and systems of support: An exploration of health beliefs and practices within the Sikh community, Birmingham, UK	2016. Ethnicity and Health, 1-17
<b>Stinton C</b> , Geppert J, <b>Freeman K, Clarke A</b> , Johnson S, <b>Fraser H</b> , Sutcliffe P, <b>Taylor-Phillips S</b>	Newborn screening for Tyrosinemia type 1 using succinylacetone - a systematic review of test accuracy	Orphanet Journal of Rare Diseases 2017; 12(1):48
Taylor CJ, Ronan R, Nichols L, Gale N, Hobbs FR, <b>Marshall T</b>	Survival following a diagnosis of heart failure in primary care	Family Practice. 2017 10.1093/fampra/cmw145
<b>Taylor-Phillips S</b> , Wallis MG, <b>Jenkinson D</b> , <b>Adekanmbi V</b> , Parsons H, Dunn J, Stallard N, Szczepura A, Gates S, Kearins O, Duncan A, Hudson S, <b>Clarke A</b>	Effect of using the same vs different order for second readings of screening mammograms on rates of breast cancer detection: A randomized clinical trial	JAMA, 2016;315(18):1956-1965. doi:10.1001/jama.2016.5257.
<b>Taylor-Phillips S</b> , Freeman K, Geppert J, Agbebiyi A, Uthman O, Madan J, Clarke A, Quenby S, Clarke A	Accuracy of Non-Invasive Prenatal Testing using Cell Free DNA for Detection of Down, Edwards and Patau Syndromes: A Systematic Review and Meta-Analysis,	BMJ Open, BMJ Open 2016;6:e010002

Tsertsvadze A, Royle P, <b>Seedat F, Cooper J, Crosby R, McCarthy N</b>	Community-onset sepsis and its public health burden: a systematic review	Syst Rev. 2016 May 18;5(1):81. doi: 10.1186/s13643-016-0243-3.
Turner GM, Calvert M, Feltham MG, Ryan R, Fitzmaurice D, Cheng KK, <b>Marshall T</b>	Under-prescribing of Prevention Drugs for the Primary Prevention of Stroke and Transient Ischemic Attack in UK General Practice: Retrospective Analysis	PLoS Med. 2016; 13(11): e1002169.
Turner GM, Calvert M, Feltham MG, Ryan R, <b>Marshall T.</b>	Ongoing impairments following transient ischaemic attack: retrospective cohort study.	European Journal of Neurology. 2016 Nov;23(11):1642-1650. doi: 10.1111/ene.13088. Epub 2016 Jul 19.
Uthman OA, Hartley L, Rees K, Taylor F, Ebrahim S, <b>Clarke A</b>	Multiple risk factor interventions for primary prevention of cardiovascular disease in LMIC	Global health. 2016
Uttley L, Whiteman BL, Woods HB, Harnan S, <b>Taylor-Philips S, Cree IA;</b>	Early Cancer Detection Consortium, Building the Evidence Base of Blood-Based Biomarkers for Early Detection of Cancer: A Rapid Systematic Mapping Review,	EBioMedicine. 2016 Jul 6. pii: S2352-3964(16)30309-7.

## Publications 2014 – 2015

Authors	Title	Reference
Al-Khudairy L, Hartley L, Clar C, Flowers N, Hooper L, Rees K	Omega 6 fatty acids for the primary prevention of cardiovascular disease.	Cochrane Database of Systematic Reviews 2015, Issue 11. Art. No.: CD011094. DOI: 10.1002/14651858.CD011094.pub2
Barber CM, Burton CM, Hendrick DJ, Pickering CA, Robertson AS, <b>Robertson W</b> , et al..	Hypersensitivity Pneumonitis in Workers Exposed to Metalworking Fluids	Am J Ind Med. 2014;57(8):872-80. PMID: 24954921.
Bennett O, Kandala NB, Ji C, Linnane J, <b>Clarke A</b> .	Spatial Variation of Heart Failure and Air Pollution in Warwickshire, UK: An Investigation of Small Scale Variation at the Ward-Level	BMJ Open. 2014;4(12):e006028. PMID: 25468504.
Blunt I, Bardsley M, <b>Grove A, Clarke A</b> .	Classifying Emergency 30-Day Readmissions in England Using Routine Hospital Data 2004-2010: What Is the Scope for Reduction?	Emerg Med J. 2015;32(1):44-50. PMID: 24668396.
Burge PS, Moore VC, Burge CB, Vellore AD, Robertson AS, <b>Robertson W</b> .	Can Serial PEF Measurements Separate Occupational Asthma from Allergic Alveolitis?	Occup Med (Lond). 2015;65(3):251-5. PMID: 25825508.
Clar C, Oseni Z, Flowers N, Keshtkar-Jahromi M, Rees K.	Influenza vaccines for preventing cardiovascular disease.	Cochrane Database of Systematic Reviews 2015, Issue 5. Art. No.: CD005050. DOI: 10.1002/14651858.CD005050.pub3.
Clar C, Tsertsvadze A, Court R, Hundt GL, <b>Clarke A</b> , Sutcliffe P..	Clinical Effectiveness of Manual Therapy for the Management of Musculoskeletal and Non-Musculoskeletal Conditions: Systematic Review and Update of UK Evidence Report	Chiropr Man Therap. 2014;22(1):12. PMID: 24679336.
<b>Clarke A</b> , Pulikottil-Jacob R, Connock M, Suri G, Kandala NB, Maheswaran H, et al.. Int	Cost-Effectiveness of Left Ventricular Assist Devices (LVADs) for Patients with Advanced Heart Failure: Analysis of the British NHS Bridge to Transplant (BTT) Program	J Cardiol. 2014;171(3):338-45. PMID: 24424339.
<b>Clarke A</b> , Pulikottil-Jacob R, <b>Grove A, Freeman K</b> , Mistry H, Tsertsvadze A, et al.	Total Hip Replacement and Surface Replacement for the Treatment of Pain and Disability Resulting from End-Stage Arthritis of the Hip (Review of Technology Appraisal Guidance 2 and 44): Systematic Review and Economic Evaluation.	Health Technol Assess. 2015;19(10):1-668, vii-viii. PMID: 25634033.
Daley AJ, <b>Jolly K</b> , Jebb SA, Lewis AL, Clifford S, Roalfe AK, Kenyon S, Aveyard P	Feasibility and acceptability of regular weighing, setting weight gain limits and providing feedback by community midwives to prevent excess weight gain during pregnancy: randomised controlled trial and qualitative study	BMC Obesity 2015;2:35. (16 Sept)

Dalton AR, <b>Marshall T</b> , McManus RJ.	The NHS Health Check Programme: A Comparison against Established Standards for Screening.	Br J Gen Pract. 2014;64(627):530-1. PMID: 25267043.
de Cates AN, Farr MR, Wright N, Jarvis MC, Rees K, Ebrahim S, et al..	Fixed-Dose Combination Therapy for the Prevention of Cardiovascular Disease	Cochrane Database Syst Rev. 2014;4:CD009868. PMID: 24737108.
Ewald H, Kirby J, Rees K, <b>Robertson W</b> .	Parent-Only Interventions in the Treatment of Childhood Obesity: A Systematic Review of Randomized Controlled Trials.	J Public Health (Oxf). 2014;36(3):476-89. PMID: 24273229.
Flowers N, Hartley L, Todkill D, Stranges S, Rees K.	Co-enzyme Q10 supplementation for the primary prevention of cardiovascular disease.	Cochrane Database of Systematic Reviews 2014, Issue 12. Art. No.: CD010405. DOI: 10.1002/14651858.CD010405.pub2.
Flowers N, Wheelhouse R, Stranges S, Rees K.	Vitamin C supplementation for the primary prevention of cardiovascular disease (Protocol).	Cochrane Database of Systematic Reviews 2014, Issue 5. Art. No.: CD011114. DOI: 10.1002/14651858.CD011114.
Freeman, K., Connock, M., Cummins, E., Gurung, T., <b>Taylor-Phillips, S.</b> , Court, R., Saunders, M., <b>Clarke, A.</b> , Sutcliffe, P.	Fluorouracil plasma monitoring: the My5-FU assay for guiding dose adjustment in patients receiving fluorouracil chemotherapy by continuous infusion	Health Technology Assessment, 2015; 19: 91. ISSN 1366-5278
<b>Freeman K</b> , Mistry H, Tsertsvadze A, Royle P, McCarthy N, <b>Taylor-Phillips S</b> , Manuel R, Mason J	Multiplex tests to identify gastrointestinal bacteria, viruses and parasites in people with suspected infectious gastroenteritis: systematic review and economic analysis	Health Technology Assessment. 2016;20:83
<b>Grove A</b> , Currie G, <b>Clarke A</b> .	The barriers and facilitators to the implementation of clinical guidance in elective orthopaedic surgery: a qualitative study protocol.	Implement Sci. 2015 Jun 2;10:81. doi: 10.1186/s13012-015-0273-6. PMID: 26033075
Haroon S, Adab P, Riley RD, <b>Marshall T</b> , Lancashire R, Jordan RE.	Predicting Risk of COPD in Primary Care: Development and Validation of a Clinical Risk Score.	BMJ Open Respir Res. 2015;2(1):e000060.
Hartley L, Clar C, Flowers N, Hooper L, Rees K.	Omega 6 fatty acids for the primary prevention of cardiovascular disease (Protocol).	Cochrane Database of Systematic Reviews 2014, Issue 5. Art. No.: CD011094. DOI: 10.1002/14651858.CD011094.
Hartley L, Clar C, Flowers N, Stranges S, Rees K..	Vitamin K for the primary prevention of cardiovascular disease (Protocol).	Cochrane Database of Systematic Reviews 2014, Issue 6. Art. No.: CD011148. DOI: 10.1002/14651858.CD011148
Hartley L, Clar C, Ghannam O, Flowers N, Stranges S, Rees K	Vitamin K for the primary prevention of cardiovascular disease.	Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD011148. DOI: 10.1002/14651858.CD011148.pub2.

Hartley L, Dyakova M, Holmes J, <b>Clarke A</b> , Lee MS, Ernst E, et al.	Yoga for the Primary Prevention of Cardiovascular Disease.	Cochrane Database Syst Rev. 2014;5:CD010072. PMID: 24825181.
Hartley L, Flowers N, Lee MS, Ernst E, Rees K..	Tai Chi for Primary Prevention of Cardiovascular Disease	Cochrane Database Syst Rev. 2014;4:CD010366. PMID: 24715694.
Hartley L, Lee MS, Kwong JSW, Flowers N, Todkill D, Ernst E, Rees K	Qigong for the primary prevention of cardiovascular disease	Cochrane Database of Systematic Reviews 2015, Issue 6. Art. No.: CD010390. DOI: 10.1002/14651858.CD010390.pub2
Madigan, CD; Daley, AJ; Lewis, AL; Aveyard, P; <b>Jolly, K</b>	Is self-weighing an effective tool for weight loss: a systematic literature review and meta-analysis	Int J Behav Nutr Phys Act. 2015; 12(1): 104
Majothi, S; <b>Jolly, K</b> ; Heneghan, NR; Price, MJ; Riley, RD; Turner, AM; Bayliss, SE; Moore, DJ; Singh, SJ; Adab, P; Fitzmaurice, DA; Jordan, RE	Supported self-management for patients with COPD who have recently been discharged from hospital: a systematic review and meta-analysis	Int J Chron Obstruct Pulmon Dis. 2015; 10: 853-67.
Martin N, Germanò R, Hartley L, Adler AJ, Rees K	Nut consumption for the primary prevention of cardiovascular disease	Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD011583. DOI: 10.1002/14651858.CD011583.pub2.
Monahan, M; Boelaert, K; <b>Jolly, K</b> ; Chan, S; Barton, P; Roberts, TE.	Iodine, IQ and Income: Exploring the potential costs and benefits of iodine supplementation for pregnant women in a mildly/moderately iodine deficient population.	The Lancet Diabetes & Endocrinology (2015) 715-722
Sagar, VA., Davies, EJ., Briscoe, S., Coats, AJS., Dalal, HM., Lough, F., Rees, K, Singh, S and Taylor, R	Exercise-based rehabilitation for heart failure : systematic review and meta-analysis.	Open Heart, 2015 Volume 2 (Number 1). Article number e000163. ISSN 2053-3624
<b>Taylor-Phillips S</b> , Mistry H, Leslie R, Todkill D, Tsertsvadze A, Connock M, <b>Clarke A</b>	Extending the diabetic retinopathy screening interval beyond 1 year: systematic review	British Journal of Ophthalmology. 2016; 100: 105-114
Uthman OA, Hartley L, Rees K, Taylor F, Ebrahim S, <b>Clarke A</b>	Multiple risk factor interventions for primary prevention of cardiovascular disease in low- and middle-income countries	Cochrane Database of Systematic Reviews 2015, Issue 8. Art. No.: CD011163. DOI: 10.1002/14651858.CD011163.pub2.

## Publications in press

Authors	Title	Reference
Adderley N., Ryan R., Marshall, T	The role of contraindications in anticoagulant prescribing to atrial fibrillation patients	British Journal of General Practice
Auguste P, Tsertsvadze A, Pink J, Court R, McCarthy N, Sutcliffe P, <b>Clarke A</b>	Comparing interferon-gamma release assays with tuberculin skin test for identifying latent tuberculosis infection that progresses to active tuberculosis: systematic review and meta-analysis	BMC Infectious diseases
Chisnell, J., <b>Marshall T</b>	A CONTENT ANALYSIS OF THE REPRESENTATION OF STATINS IN THE BRITISH NEWSPRINT MEDIA	BMJ Open
<b>Freeman K</b> , Connock M, <b>Taylor-Phillips S</b> , Auguste P, Mistry H, Shyangdan D, Court R, Arasaradnam R, Sutcliffe P, <b>Clarke A.</b>	Crohn's disease: Tests for therapeutic monitoring of TNF $\alpha$ inhibitors (LISA-TRACKER ELISA kits, TNF $\alpha$ -Blocker ELISA kits, and Promonitor ELISA kits)	Diagnostic Assessment Report commissioned by the NIHR HTA Programme on behalf of the National Institute for Health and Care Excellence
<b>Freeman K</b> , Mistry H, Tsertsvadze A, Royle P, McCarthy N, <b>Taylor-Phillips S</b> , Manuel R, Mason J,	Multiplex tests to identify gastrointestinal bacteria, viruses and parasites in people with suspected infectious gastroenteritis: systematic review and economic analysis	HTA
Greenfield S, Kidney E, Berkman L, Dowswell G, Hamilton W, Wood S, <b>Marshall T.</b>	A red flag is not enough: understanding GP delays in diagnosis of colorectal cancer	BJGP Open
<b>Johnson, R, Robertson, W</b> , Towey, M, Stewart-Brown, S, <b>Clarke, A.</b>	Changes over time in mental wellbeing, fruit and vegetable consumption, and physical activity in a community based lifestyle intervention: A before and after study Public Health	Public Health. Accepted
Maheswaran, H; Petrou, S; McPherson, P; Kumwenda, F; Lalloo, DG; Corbett EL; <b>Clarke, A</b>	Economic costs and health-related quality of life outcomes of HIV treatment following self- and facility-based HIV testing in a cluster randomised trial	JAIDS: Journal of Acquired Immune Deficiency Syndromes

## Other dissemination since January 2016

Authors	Title	Type of dissemination
Johnson, R	No One's Playing Ball: Investigating barriers to successful partnership in public health practice	Presentation at 3rd Knowledge Exchange in Public Health conference April 2016
Johnson, R & Stinton C	Health Checks Questionnaire	Focus group 5 <sup>th</sup> April 2016
Taylor-Phillips, S	Pragmatic Integrated Randomised Controlled Trials in Screening: The CO-OPS example of randomising 1.2million women	Presentation at Cancer Outcomes Conference 13-14 <sup>th</sup> June 2016
Taylor-Phillips, S	CO-OPS	Presentation at Overdiagnosis Conference 20-22 <sup>nd</sup> September 2016

## CLAHRC Themes – Grant income and publications

**Fig 1: External grant income by Theme year 2**

External Funding by Theme - FY 2 Mar-14 to Apr-15 and Total Contract Award

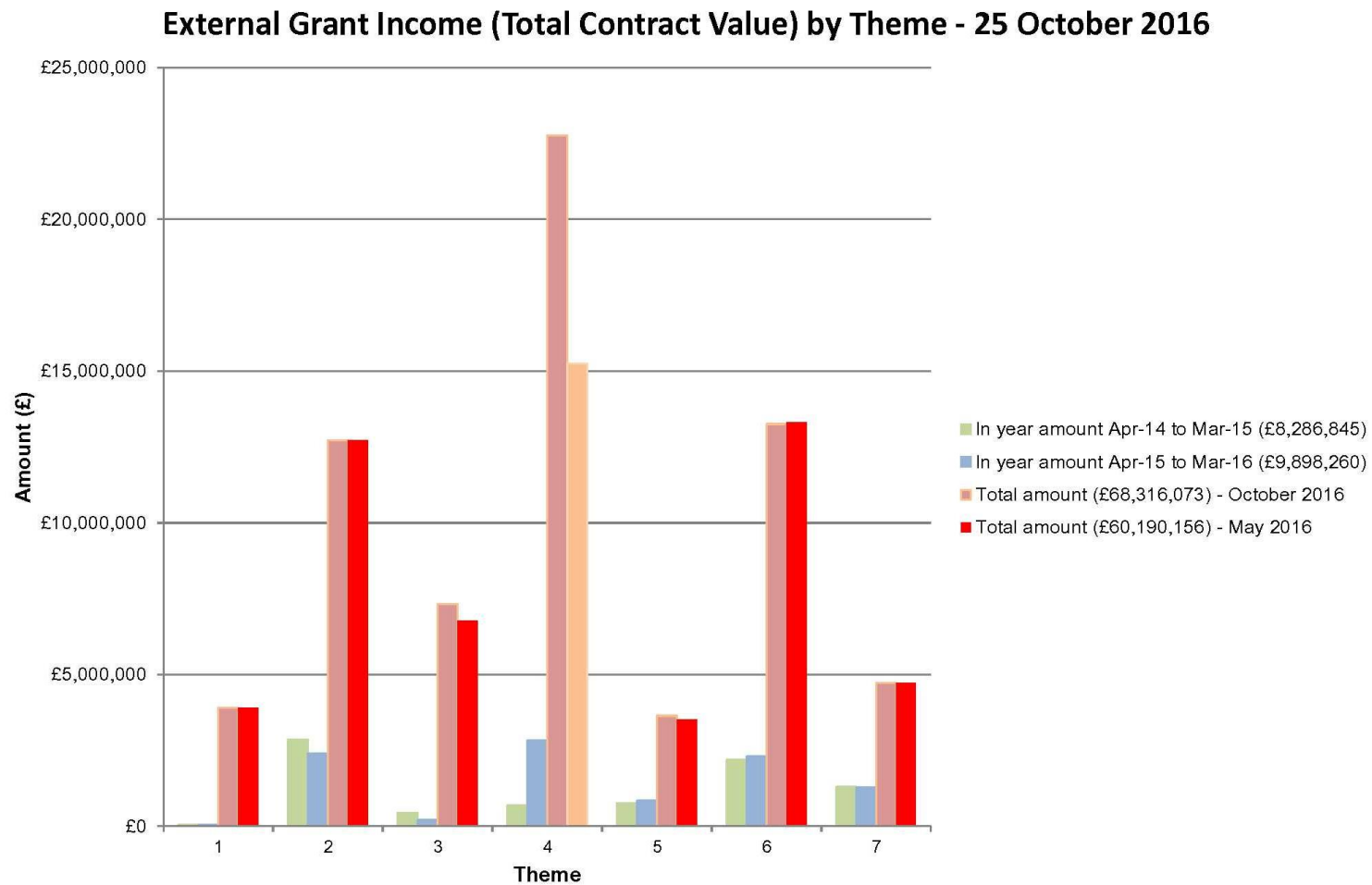
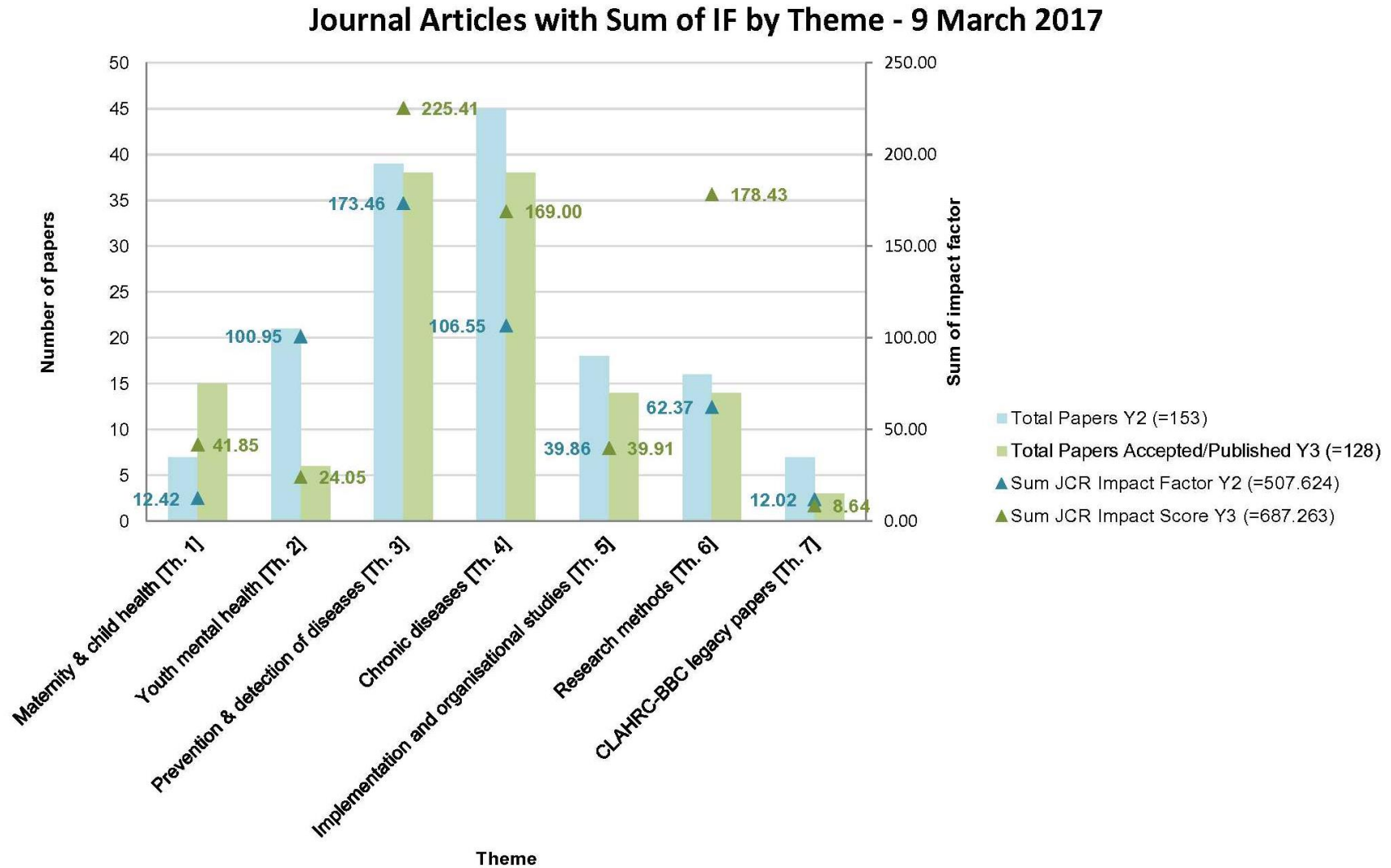




Figure 3: Journal articles and mean impact factor by Theme



## CLAHRC Theme 3 Projects

Project Title	PI and Co-applicants in CLAHRC Theme 3	Start date	End date	Funding Source	Funding awarded
<b>Externally Funded</b>					
PHE Knowledge Dissemination	<b>Oyebode O</b> , Currie G, <b>Melendez-Torres G.J</b> , <b>Johnson R</b> , <b>Clarke A</b> , Richard Lilford, <b>Fraser H</b>	Aug 2016	March 2017	PHE	£55,903.02
Quality assurance in cancer screening programmes: A systematic review of the clinical and cost effectiveness	Geppert J, <b>Johnson R</b> , <b>Melendez-Torres</b> , Court R, <b>Fraser H</b> , <b>Clarke A</b> , Maheswaran H, <b>Taylor-Phillips S</b>	06/02/2017	29/09/2017	PHE	£47,000
Epidemiology of Communicable Disease Control Evidence Centre	Clarke, A	2015	2020	PHE	£600,000
NIHR Fellowship	<b>Freeman K</b>	01/10/2016	30/09/2020	NIHR	£295,389
LDC Staff Network Funding: Qualitative and Mixed Methods Interest Group	<b>Grove A</b> , Tierney S, <b>Johnson R</b>	Oct 2015	Oct 2016	Warwick University Learning and Development Centre	£875
Newborn Blood Spot Screening for Tyrosinaemia type 1 in the UK	<b>Taylor-Phillips S</b> , <b>Freeman K</b> , <b>Geppert J</b> , <b>Stinton C</b> , <b>Fraser H</b> , Johnson S, Sutcliffe P, <b>Clarke A</b>	01/09/2015	30/06/2016	UK National Screening Committee	£55,000

Transatlantic knowledge mobilisation in public health: lessons for best practice	<b>Johnson, R</b>	20/06/2016	24/06/2016	Humanities Research Centre, University of Warwick	£1500
NIHR Career development fellowship – “Developing evidence review methods to determine whether to change the test, interval or eligibility criteria of UK screening programmes” CDF-2016-09-018	<b>Taylor-Phillips S</b>	01/10/2016	1/12/2021	NIHR	£571,656
Review of Group B Strep for the National Screening Committee	<b>Taylor-Phillips S, Seedat F, Stinton S, Freeman K,</b> Uthman O, McCarthy N, Robinson E, Tan B, Geppert J, Johnson S, <b>Clarke A</b>	01/01/2016	31/08/2016	UK National Screening Committee	£109,301.16
PHR - 14/52/15: How can interventions integrating health and academic education in schools help prevent substance misuse and violence, and reduce health inequalities among young people? Systematic review and evidence synthesis	Bonell C (PI), Thomas J, Fletcher A, Campbell R, <b>Melendez-Torres GJ</b>	Jan 2016	March 2018	NIHR Evaluation, Trials and Studies	£217,442
Evaluation of the Eat Well Move More child weight management service	<b>Robertson W, Johnson R</b>	01/11/2015	31/03/2016	Solihull Metropolitan Borough Council	10,012.96
Developing and Evaluating Text and Smartphone App Messages to reduce non-attendance in primary care	<b>Marshall T</b>	Pending	Pending	The Health Foundation	£288,000.00
Healthy Dads, Healthy Kids UK: a cultural adaptation and feasibility study of a weight management programme for fathers of young children	<b>Jolly K</b>	1/5/2016	31/7/2018	NIHR Public Health Research Programme (14/185/13)	£446,000.00
Tender to supply heart disease statistics	<b>Marshall, T</b>	Pending	Pending	British Heart Foundation	£322,510.00

Environmental Engineering to Increase Hand Hygiene Compliance	Vlaev I, <b>Marshall T</b> , Birnbach DJ, Schmidtke K, King D & Hussain A	Pending	Pending	The Health Foundation	£98,000
Framework agreement to provide evidence reviews and health economics support related to prevention and early detection to the UK National Screening Committee.	<b>Taylor-Philips S</b>	26/08/2015	26/08/2018	UK National Screening Committee	Paid per project
Evaluation of the Coventry GP Alliance: Best Care, Anywhere. Integrating Primary Care in Coventry Programme	Uthman, O; <b>Clarke, A</b> ; <b>Jenkinson, D</b> ; <b>Adekanbmi, V</b>	01/09/2015	31/05/2016	Prime Minister's Challenge fund	£150,000.00
Improving cardiovascular disease risk detection and management in sub-Saharan Africa: design, evaluation & implementation of a theory-informed, contextual appropriate effective & cost-effective package of interventions	Uthman, O	01/04/2016	31/03/2019	Health Systems Research Initiative (HSRI) 2, jointly supported by the Department for International Development (DFID), the Economic and Social Research Council (ESRC), the Medical Research Council (MRC) and the Wellcome Trust (WT).	£499,845.00
Warwick Evidence: Technology Appraisal review team. Clinical and cost effectiveness reviews	<b>Clarke, A</b>	01/04/2016	30/03/2021	NIHR	£4,500,000.00
The barriers and facilitators to the implementation of NICE clinical guidelines in UK practice. Elective orthopaedics using total hip replacement for the treatment of end stage arthritis.	<b>Grove, A</b>	01/10/2013	01/10/2016	NIHR	£307,000
A retrospective cohort study to determine the impact of infection in CKD on all-cause mortality, cardiovascular disease and kidney function.	<b>Marshall, T</b>	01/10/2014	30/09/2016	Kidney Research UK	£182,507.00

Warwick (Cochrane) Preventive Heart Group	Rees, K; <b>Clarke, A</b>	01/12/2011	01/01/2016	NIHR	£420,000
Solihull Eat well Move More Evaluation	<b>Robertson W;</b> <b>Johnson R</b>	2016	2016	Solihull Metropolitan Council	£10,000

### **CLAHRC Theme 3 – Grant applications pending**

<b><u>Grant name</u></b>	<b><u>Funding body</u></b>	<b><u>PI and CO-I's</u></b>	<b><u>Status</u></b>
Women's Wellness bid	MRC	Jackie Sturt, Wendy Robertson, Debra Anderson, Debra Bicj, Geraldine Lee, Hema Mistry, Trevor Murrells, Dian Tjondronegoro, Wei Song, Oyinlola Oyeboode	Not awarded
A Feasibility Study to Evaluate the Workplace Wellbeing Award Charter	PHR Researcher-Led call	Wendy Robertson, Nigel Stallard, Celia Taylor, Lena-Alkudairy, Rebecca Johnson, Victor Adekanmbi, Jane Moore	Response to reviewers submitted 20 <sup>th</sup> January. Awaiting response
Determining optimal dietary and physical activity interventions for primary prevention of cardiovascular disease: a global data integration and network meta-analysis	British Heart Foundation	Ola Uthman, Sian Taylor-Phillips, Aileen Clarke, Lena Al-Khudairy, Chidozie Nduka, G.J. Melendez-Torres	Preparing grant application
Optimising outcomes after bariatric surgery: Evidence synthesis and investigation into post – operative quality of life	NIHR Health services and delivery research programme	Wendy Robertson, Lola Oyeboode, Aileen Clarke, G.J. Melendez-Torres, Rebecca Johnson and Lena Al-Khudairy	Not awarded

Do maternal vitamin B12 intake and B12: Folate ratio predict birthweight, childhood obesity, and later cardiovascular risk. An ALSPAC study	ESRC SDAI open call	Oyinlola Oyebode, Ponnusamy Saravan, Kate Jolly, Victor Adekanmbi, David Jenkinson	Application submitted. Awaiting response
WE Research Fellow systematic reviews	NIHR	Aileen Clarke	Application submitted awaiting response
DH NIHR Senior Investigator award	NIHR	Aileen Clarke	Application submitted awaiting response
Contested Ground: Exploring the scientific and sociocultural benefits and harms of screening for breast cancer and group B streptococcus	ESRC new investigator award	Rebecca Johnson, Aileen Clarke, Sian Taylor-Phillips	Application being prepared
Activity equivalent food labelling	MCR PHiND	Oyinlola Oyebode, Lena Al-Khudairy	Application being prepared
Which factors affect the association between Body Mass Index (BMI) and waist circumference?	London Mathematical Society Undergraduate Research Bursaries in Mathematics	Oyinlola Oyebode	Application submitted. Awaiting response
Senior leadership training	NIHR Leadership Programme	Aileen Clarke	Application submitted
SMALL Trial: Addressing overtreatment of small screen detected breast cancer by comparing standard surgery versus new minimally invasive surgical excision (EME Ref: 16/61/16)	NIHR HTA programme	Taylor-Phillips S	Application submitted
Estimation of undiagnosed and untreated AF in UK primary care	CLAHRC	Marshall, T	Suspended

## CLAHRC Theme 3 PhD Projects

Name	Location	Project Title	Supervisors
Lee Aiyebusi	University of Birmingham	Use of PROMS in chronic kidney disease	Prof Tom Marshall
Nor Asyikin Abd Ghafar	University of Warwick	Factors associated with maternal obesity and obstetric outcomes among south asian and european women	Dr Wendy Robertson, Dr Judy Purkis, Prof Siobhan Quenby, Prof Jason Gardosi.
Arjun Bhaduri	University of Birmingham	Incorporating health spillovers in economic evaluation	Prof Kate Jolly
Jennifer Cooper	University of Warwick	Improving the FIT: An investigation into the use of risk factors to improve the performance and uptake of colorectal cancer screening	Dr Sian Taylor-Phillips and Dr Chris Stinton
Rebecca Crosby	University of Warwick	Inequalities in Breast Screening Uptake	Dr Sian Taylor-Phillips, Dr Chris Sinton, Prof Aileen Clarke
Benhildah Dube	University of Birmingham	A prediction model for identification of HIV in primary care	Prof Tom Marshall
Sam Finnican	University of Birmingham	Use of CVD risk scoring in GP treatment decisions	Prof Tom Marshall
Karoline Freeman	University of Warwick	The role of faecal calprotectin testing in primary care	Prof Aileen Clarke, Dr Sian Taylor-Phillips
Amy Grove	University of Warwick	Examining hip fracture intervention and absorptive capacity	Prof Graeme Currie; Prof Aileen Clarke
Ryan Irwin	University of Birmingham	Variations in clinical quality in primary care	Prof Tom Marshall
Feroz Jadhakhan	University of Birmingham	Pre diabetes and chronic kidney disease	Prof Tom Marshall

Helen Jones	University of Warwick	What are the views of overweight and obese adolescents (12-17yrs) attending lifestyle treatment intervention	Dr Lola Oyeboode, Dr Lena Al-Khudairy, Dr G.J. Melendez-Torres
Amanda Lambert	University of Birmingham	The physical health of patients with serious mental illness	Prof Tom Marshall
Grace Moran	University of Birmingham	Prognosis and prevention of TIA	Prof Tom Marshall
Marie Murphy	University of Warwick	Exploration of the Factors Associated with Childhood Obesity for ethnic groups in Coventry'	Dr Wendy Robertson; Dr Becky Johnson; Dr Felicity Boardman;
Matt Krouwel	University of Birmingham	TBC	Prof Kate Jolly
Jaidev Kaur	University of Birmingham	TBC	Prof Kate Jolly
Farah Seedat	University of Warwick	Using international data to inform group B streptococcus screening policy in the UK	Dr Sian Taylor-Philips
Raheela Shaikh	University of Warwick	Stroke in Bangladeshi Immigrants in the United Kingdom	Professor Franco Cappuccio and Dr Wendy Robertson
Clare Taylor	University of Birmingham	Diagnosis and prognosis of heart failure	Prof Tom Marshall
Sian Williamson	University of Warwick	Benign biopsy results in breast cancer screening	Dr Sian Taylor-Phillips, Dr Rebecca Johnson



## Examples of impact January 2015- Present

Project	Impact	Reference
NIPT	Item in the daily mail regarding test for Down Syndrome – Our work is behind the “experts” mentioned.  Also raised in Questions from No10  Speaker’s House Nuffield Council for Bioethics	<a href="http://www.dailymail.co.uk/news/article-3733969/No-test-tell-just-joy-child-Families-tell-fears-99-accurate-s-test-spark-rise-abortions.html?ito=email_share_article-top">http://www.dailymail.co.uk/news/article-3733969/No-test-tell-just-joy-child-Families-tell-fears-99-accurate-s-test-spark-rise-abortions.html?ito=email_share_article-top</a>  <a href="http://www.bbc.co.uk/news/health-37824048">http://www.bbc.co.uk/news/health-37824048</a>  <a href="https://www.theguardian.com/society/2016/oct/29/safer-downs-syndrome-test-nhs-pregnant-women-nipt">https://www.theguardian.com/society/2016/oct/29/safer-downs-syndrome-test-nhs-pregnant-women-nipt</a>
Parent-Only interventions for Childhood obesity – Cochrane Review	Featured on the Cochrane main website and shared across their social media channels and newsletters	<a href="https://www.cochrane.org/news/feature-review-parent-only-interventions-childhood-overweight-or-obesity-children-aged-5-11">https://www.cochrane.org/news/feature-review-parent-only-interventions-childhood-overweight-or-obesity-children-aged-5-11</a>
Effect of Using the Same vs Different Order for Second Readings of Screening Mammograms on Rates of Breast Cancer Detection  Dietary fibre for the primary prevention of cardiovascular disease	NIHR Dissemination centre wrote both articles up as Signals	<a href="https://discover.dc.nihr.ac.uk/portal/article/4000411/accuracy-of-staff-who-read-mammograms-doesnt-decline-over-time">https://discover.dc.nihr.ac.uk/portal/article/4000411/accuracy-of-staff-who-read-mammograms-doesnt-decline-over-time</a>
Eat Well Move More Project	Following the project Solihull Council has been given money from PHE to run a stakeholder workshop	N/A
Cochrane reviews - Omega 6 fatty acids for the primary prevention of cardiovascular disease and Diet, physical activity and behavioural interventions for the treatment of overweight or obesity in adolescents aged 12 to 17 years	Teesside University are drafting a review for WHO on this work	N/A
Childhood obesity: the end of an epidemic?	Article published on the Conversation	<a href="https://theconversation.com/childhood-obesity-the-end-of-an-epidemic-59014">https://theconversation.com/childhood-obesity-the-end-of-an-epidemic-59014</a>
One day Health Screening Workshop 3 <sup>rd</sup> May 2016	Class for NHS screening professionals. Hosted at	N/A

	Warwick and led by Dr Sian Taylor-Phillips	
Examining hip fracture intervention and absorptive capacity	Project developed from the work of Warwick Evidence to look at whether practitioners follow hip replacement guidance	N/A



## **Patient and Public Involvement (PPI) Advisor Role Description**

### **CLAHRC West Midlands (Collaborations for Leadership in Applied Health Research and Care West Midlands)**

#### **CLAHRC Theme 3: Prevention and Detection**

#### **Warwick Medical School**

### **Introduction**

This document aims to outline the role, team structure and payment to PPI Advisors recruited as volunteers to support activities related to Theme 3 – Prevention & Detection, CLAHRC West Midlands initiative.

### **Role of PPI advisor – Theme 3:**

- To contribute to discussions during our group meetings bringing your knowledge and experience.
- To help identify research priorities by working in partnership with researchers and clinicians.
- To be involved in different stages of research studies from the design stage through the dissemination of findings and evidence.
- To comment and provide feedback on meeting related papers/documents produced as part of Theme 3 CLAHRC West Midlands.
- To maintain confidentiality of any information contained in internal documents and produced during discussions in meetings while work is in progress.
- To participate in activities for training, development and support as appropriate.
- To participate in activities for communication and dissemination of Theme 3 activities as appropriate.
- To consider ways in which wider patient and public involvement can be achieved.
- To provide an annual feedback to Theme 3 PPI Liaison (Lena Al Khudairy). This will cover theme 3 work, PPI/team concerns, communication and involvement methods.

### **Ways of working:**

- Minutes of any meetings will be recorded as an accurate reflection of the meeting.
- PPI advisors to be involved from the ideas stage rather than post funding when possible, and then included at key stages through the project.
- We will at all times aim to provide a 10 day notice for any material/documents that require PPI advisors feedback.
- Theme 3 members and PPI representatives will have an annual meeting to raise and discuss work successes/concerns.

- PPI representatives will be invited to all relevant Theme 3 meetings. However, there is no issue if an advisor cannot attend.
- Relevant documents will wherever possible be provided in lay language and sent (by email) to PPI representatives.

### Theme 3 – Prevention and detection

Theme 3 Members	Role
Aileen Clarke	Professor of Public Health and CLAHRC Team Lead – Warwick University
Tom Marshall	Professor of Public Health – University of Birmingham
Kate Jolly	Professor of Public Health and Primary Care – University of Birmingham
Sian Taylor-Phillips	Assistant Professor – Warwick University
Karen Rees	Principal Research Fellow – Warwick University
Wendy Robertson	Associate Professor – Warwick University
Rebecca Johnson	Research Fellow – Warwick University
David Jenkinson	Research Fellow – Warwick University
Brian Litchfield-Cant	Research Fellow – Warwick University
Chris Stinton	Research Fellow – Warwick University
Marie Murphy	PhD student – Warwick University
Jennifer Cooper	PhD student – Warwick University
Hannah Fraser	Research Project Administrator – Warwick University
Lena Al Khudairy	Research Fellow & Theme 3 PPI Liaison – Warwick University
Andrew Entwistle	PPI Advisor Theme 3
Ray Fiveash	PPI Advisor Theme 3
Jane Whitehurst	PPI Advisor Theme 3

### Payment Structure

#### Level 2 - £20 per hour for attending Theme 3 research meetings

PPI Advisors will be offered the level 2 payment if they attend any of the following meetings:

- Theme 3 Steering Committee
- Theme 3 PPI Group
- Another related research meeting or workshops.

In addition, travel, printing of theme related documents and out of pocket expenses can be claimed to attend these meetings, but time spent travelling to the meeting will not be covered unless there are extenuating circumstances (this will be considered by the theme). Level 2 payment, along with travel expenses, should be claimed using the Warwick model of payment or Birmingham model of payment.

For Warwick model of payments, please contact Hannah Fraser:

Email: [H.Fraser@warwick.ac.uk](mailto:H.Fraser@warwick.ac.uk)

Telephone: +44 (0)24 7615 0063

For Birmingham model of payment, please contact Marie Crook:

Email: [M.E.Crook@bham.ac.uk](mailto:M.E.Crook@bham.ac.uk)

Telephone: +44 (0)121 414 6270

### **Confidentiality and non-disclosure of information:**

Confidentiality must be maintained in relation to any personal information and information related to personal health the PPI Advisor gathers through personal and electronic contact with other CLAHRC PPI Advisers, or users of NHS and social care services, or users of CLAHRC Voices West Midlands. Any information related to Theme 3 CLAHRC activities must be treated in confidence. PPI representatives should declare any conflict of interest and complete the declaration of interest form.

### **Theme 3 Contact:**

Lena Al Khudairy, Theme 3 PPI Liaison, Warwick Medical School, University of Warwick

Telephone: +44 (0)2476575337

Email: [Lena.al-khudairy@warwick.ac.uk](mailto:Lena.al-khudairy@warwick.ac.uk)

## **Declaration of Interest**



Representatives undertaking PPI Lay Advisor roles on behalf of the CLAHRC West Midlands are required to make a Declaration of Interest and Good Standing to ensure that the work of the CLAHRC WM is free from improper influence.

### **Section 1 – About you**

<b>Surname:</b>	
<b>Forenames:</b>	
<b>Role at CLAHRC WM</b>	

## PPI Involvement 2015-2016

All of the projects undertaken by CLAHRC Theme 3 have PPI input. Below are some examples of how this input has been used:

<b>Project</b>	<b>Mode</b>	<b>Changes made</b>
Workplace wellbeing charter	Email/Meeting	Recruited an SME manager as a PPI advisor based on the advice of our current advisors
Screening questionnaire	Focus group	Focus group held. Many ideas fed back which greatly changed the composition of the questionnaire.
Exploration of the Factors Associated with Childhood Obesity for ethnic groups in Coventry'	Meeting	Suggested additional recruitment options: workplaces, scouts/brownies, slimming world, PTAs  Suggested Coventry City Council be asked if they may be willing to fund incentives to aid recruitment  Suggested text changes for the topic guide for parents  Expressed concern over the child's drawing skill for the children's' topic guide
Activity Equivalent Food Labelling	Email	Language clarifications suggested and the idea of consulting cornershop owners before the bid is submitted. Hoping to seek PPI from cornershop owners in Coventry
Knowledge Mobilisation Fellowship application – Rebecca Johnson	Email	Readability of the plain English summary, with any suggestions for improving this text for maximum readability  The patient and public involvement section – queried if the level of involvement and plan seemed realistic and feasible based on the aims of the study?
Career Development Fellowship application – Sian Taylor-Phillips	Email	Clarification and readability

NIHR Fellowship application – Karoline Freeman	Email	Readability of the plain English summary checked. Questions around PPI which could come up in an interview were discussed.
Prime Ministers challenge fund	Email	Readability and clearness of the plain English summary and production of lay summary section in the proposal.
Healthy Dads, Healthy Kids	Membership at meetings/support of research	Group of fathers from Black Country – helped design the research methods, ideas about recruitment and delivery. Ray Fiveash on TSC and Andrew Entwistle a member of TMG.

# CLAHRC Theme 3: Prevention and Detection Bid



## COLLABORATIONS FOR LEADERSHIP IN APPLIED HEALTH AND CARE SPECIFIC THEME - DETAILS

Host Organisation	
<b>1.1 Name of proposed Host Organisation (NHS Trust or Provider of NHS services)</b>	
	University Hospitals Birmingham NHS Foundation Trust
Theme – to be completed for all Themes	
<b>2.1 Name of Theme</b>	
	Service Theme 3: Prevention and detection
<b>2.2 Percentage of Research and Implementation</b>	
<b>Research:</b>	50%
<b>Implementation:</b>	50%
<b>2.3 The specific short (1-2 years), medium (2-3 years) and long term (4-5 years) aims and objectives of the Theme:</b>	
<p><b>Aims.</b> In this theme we target prevention and early detection in early and midlife populations and in groups that have high risk but poor access to preventative and therapeutic services. We will work with three Local Authorities (Birmingham, Coventry and Warwick) to develop and evaluate interventions.</p> <p><b>Objectives. Short term:</b></p> <ol style="list-style-type: none"><li>1. Establish a strong Prevention and Detection network across the extended CLAHRC area.</li><li>2. Disseminate findings from relevant current or recently completed research work: weight reduction programmes in relation to the Lighten Up trial – see example (2.8 below); Cochrane Heart Group systematic review of effective interventions; interventions to improve breast cancer screening (e.g. the CO-OPS Trial (a national cluster RCT on breast cancer screening across 42 breast screening units)); the CREDIBLE study (using automatic searching for patients with symptoms of suspected bowel cancer).</li><li>3. Undertake four feasibility studies for proposed new major RCTs and mapping studies, based on questions raised by NHS and Local partners concerning; <b>a.</b> maintenance of weight loss <b>b.</b> childhood obesity <b>c.</b> Informed uptake of screening <b>d.</b> geographical mapping of risk.</li><li>4. Case finding for colon cancer, heart failure and diabetes, building on successful studies in the CLAHRC pilot.</li><li>5. Complete five new systematic reviews based on questions raised by partners and to work with local implementers and disseminators itemised in section 2.5.4.</li></ol> <p><b>Medium term:</b></p> <ol style="list-style-type: none"><li>6. Apply for funding for three major externally-funded RCTs following the feasibility studies in point 3 above.</li><li>7. Identify gaps in the evidence base and undertake further systematic reviews: <b>a.</b> sustainability of behaviour change for CVD prevention (e.g. weight and exercise maintenance in hard to reach groups, prophylactic aspirin) <b>b.</b> screening and cancer prevention in interventions for hard to reach groups in relevant populations, (e.g. SMS messaging, other e-interventions) <b>c.</b> methods of 'total preventive health package' management</li></ol> <p><b>Long term:</b></p> <ol style="list-style-type: none"><li>8. Complete RCTs and systematic reviews and ensure widespread publicity and dissemination.</li><li>9. Develop a sustainability plan for research and implementation in prevention and detection securing funds for new projects (section 5.4.) drawing on the wider CLAHRC and AHSN networks across the country.</li></ol>	
<b>2.4 The strategy for the Theme, providing a description of how the aims and objectives will be achieved:</b>	
<p>Our methodological expertise involves high quality evidence synthesis and cost effectiveness analysis of population based interventions, as well as use of routine and research data to map need and target those at highest risk. We will design interventions and conduct pragmatic trials to maximise effective prevention and screening/detection strategies. We aim to ensure capacity development in research methods, evidence</p>	



implementation and leadership for applied health research in the local NHS as well as in local authorities and other relevant organisations. The IDEaL model by which the CLAHRC Identifies, Develops, Evaluates and Leads service innovations will be taken forward in this theme. We will:

- Establish a structure and organisation for the theme: a core cadre of CLAHRC Prevention and Detection Applied Health researchers, implementers and PPI representatives from the Universities of Warwick and Birmingham, and from local authorities to work across settings and with the AHSN.
- Develop a Theme Steering Group incorporating senior advisors to support the work and ensure progress against objectives (3.2 below). Developing relationships and ongoing collaboration with local authorities who have recently acquired new responsibilities for public health will be a key objective. This application has benefited from collaboration with the newly appointed Directors of Public Health (DPH) and local authorities have contributed nearly £2.1m of matched funds for the CLAHRC (table 9.1).
- Use rigorous project management methods, within the advisory and management structures of the CLAHRC (section 12).
- Use rigorous methods to identify need and evidence gaps e.g. mapping studies and (working with the local authorities, CCGs and JSNAs to identify greatest population health need).
- Use recognised high quality research methods e.g. guided by the Cochrane handbook; local Clinical Trials Unit standard operating procedures, including methods described in Theme 6.
- Embed PPI and implementation/diffusion fellows in each project. The group will formulate precise plans to expand and develop implementation, diffusion and sustainability for each programme of work, working closely with the AHSN.
- Work closely with support and cross-cutting Implementation and organisational studies theme (Theme 5), including the world-renowned behavioural science research unit at Warwick Business School (section 5.4).
- Use the work to generate larger scale, national, evaluations.

## **2.5 A brief description of proposed projects that will be pursued within the first two years of the contract:**

**1. Establish a strong Prevention and Detection network** for capacity building, implementation and dissemination in relevant organisations across the extended CLAHRC area. The emphasis will be on reducing CVD and its risk factors and on improving cancer screening programmes.

**2. Enhanced local dissemination of findings** from relevant current or recently completed work and development of implementation/dissemination networks. The Cochrane Heart Group systematic reviews planned for publication in 2013/4 include: cycling, walking, opportunistic versus organised programmes of CVD advice. Important findings on weight reduction programmes in relation to Lighten Up and interventions for healthy eating in families will also be available for dissemination by 2015. Use networks developing as part of the CLAHRC and the AHSN and in local cancer screening units to enhance local dissemination and elicit important areas for the next stages of the programme of work.

### **3. Undertake feasibility studies on four topics with a view to applications for follow on studies:**

**a. Feasibility and design of evaluations of weight maintenance programmes:** Building on trials conducted by CLAHRC participants (see example 1 below) we will evaluate programmes directed to maintaining weight loss, making sure to include groups often bypassed in health prevention: i) young/middle aged men (25-45 years), ii) black and minority ethnic groups. The intervention includes active support after formal weight loss programmes – comparing telephone support plus a leaflet with the addition of weekly text messages. We are planning an early evaluation of a web-based weight loss programme developed in Birmingham, to address under-representation of men attending weight management programmes. PPI will provide feedback and input to the research design. This feasibility work will also include formal prospective cost-effectiveness evaluation (sections 5.2.3 and Theme 6).

**b. Childhood obesity intervention:** One of the nine outcomes of Birmingham's Health and Wellbeing Strategy is to 'reduce childhood obesity' and a recent Warwick Medical School systematic review has identified that parent-only interventions for childhood obesity (6 to 12 years) are as effective as when the child is present. Delivering such interventions has the potential to reduce costs for local providers. Future research in this area will benefit from: a highly receptive local environment, adaptation of previous locally designed interventions (online and face to face); formative evaluation to establish acceptability and feasibility amongst West Midlands parents' and a pragmatic locally based RCT and cost-effectiveness study. We will work with Local Authorities to design and evaluate policy initiatives to 'nudge' school children to selection of healthier meal options at 'fast food' outlets. The University of Birmingham with Birmingham City Council is collaborating on: changing the diet of children in nursery settings and adaptation of weight management services for children aged 4 to 11 for Pakistani and Bangladeshi children. Both these projects are in outline proposal stage.

**c. Optimising informed uptake and outcomes from colorectal and breast screening programmes:** We will exploit existing collaboration between the University of Warwick, Public Health England, GE healthcare, University Hospitals Coventry and Warwickshire, Coventry City Council, and other local stakeholders in colorectal and breast cancer screening to pool local performance metrics, knowledge and data to analyse the interactions between screening processes, inequalities, risk factors, and uptake and

screening outcomes. Building on this work we will test and pilot methods to optimise knowledge and maximise fully informed uptake of screening.

**d. Geographical mapping of risk:** Working closely with local authorities we plan to use Bayesian geo-spatial modelling techniques<sup>(1,2)</sup> to target population groups in scaling up programmes such as ‘One body one life’ (Obol) to wider constituencies. We plan to take forward results from Coventry Household Survey to elicit precise information on geographical and topic-based foci for enhanced and more sustained intervention on physical fitness and diet amongst the Coventry population. We also plan to investigate how to ensure reliability and fidelity using the “Re-Aim” framework<sup>(3)</sup> as a guide.

**4. Detection and case finding:** Here we build on successful case-finding interventions in the CLAHRC pilot for cardiovascular disease (example 5, section 4). In the proposed CLAHRC, following consultation with Public Health departments in local authorities, we propose these further schemes:

**a.** A preliminary study under the CLAHRC pilot provided proof of principle evidence that the screening of General Practice databases could identify patients with symptoms suggestive of bowel cancer. We will now extend this work to make more accurate estimates of the sensitivity and specificity of this method. If the results are favourable funding will be sought for a more formal evaluative study.

**b.** Case-finding for the highly under-diagnosed condition of Left Ventricular Systolic Dysfunction<sup>(4)</sup> (LVSD). A feasibility study of echo screening for LVSD undertaken as part of the CLAHRC pilot showed that 30% of those invited for echocardiographic screening had heart failure. Most needed medication changes. We will extend this programme and apply for external funding for evaluation of wider roll-out if appropriate.

**c.** A pilot study of case finding for people at high risk of diabetes linked to behavioural interventions to reduce the risk of progression in those screening positive.

**5. Complete five new systematic reviews:** Related to local need and to work with implementers and disseminators to ensure widespread awareness and uptake including: systematic reviews of increasing fruit and vegetable consumption and physical activity in black and ethnic minority groups and men; taking forward recent systematic review of aspirin to include cost for combined primary prevention of CVD and colorectal cancer; enhancing informed uptake and outcomes in breast and colorectal cancer screening.

## **2.6 The Theme’s relevance to the health of patients and the public:**

There is an increasingly strong public health and financial rationale for a prevention and detection theme to research and embed healthy ageing agendas and to reinforce positive regulatory approaches alongside an awareness of the new health promotion approaches which aim to increase health assets, empowerment and resilience. There are a number of examples including diabetes, hypertension, CVD, and a number of cancers which both constitute a substantial and growing part of the NHS’s role<sup>(5)</sup> and where primary and secondary prevention, self-care and optimal ambulatory care management are high priorities and which potentially offer cost effective options for the NHS<sup>(6,7)</sup>. Primary prevention of diabetes through behaviour and lifestyle change in physical activity and diet is feasible at both the population and the individual level<sup>(8)</sup>. Screening and detection, both opportunistic and systematic, for cancers and chronic disease are effective in detecting cases and in reducing mortality and morbidity. Overall high uptake in screening programmes can disguise inequalities in uptake, an issue of critical importance in our local multi-ethnic multicultural populations<sup>(9)</sup>, and technical factors promoting optimal reading and diagnostics for screening programmes can improve their quality at little cost.

Our programmes are aimed at reducing CVD and its risk factors: BMI, obesity, physical inactivity, and poor diet<sup>(10)</sup> and on improving organised cancer screening programmes for breast cancer and colorectal cancer. Together these conditions account for nearly 40% of deaths in the West Midlands in both males and females<sup>(11,12)</sup>. Compared to England as a whole, the West Midlands has higher rates of heart disease, stroke and cancer and we are above the 75 percentile for the prevalence of key risk factors such as obesity, physical inactivity and diabetes. We have expertise in prevention and detection in CVD, in breast cancer and in early intervention in childhood obesity.

## **2.7 The proposed Theme Leader:**

**Professor Aileen Clarke** - Professor of Public Health and Health Services Research

## **2.8 Three examples over the last ten-year period from the proposed NIHR CLAHRC of how previous research findings in this area have translated into improved outcomes for patients and the NHS:**

1. The Lighten-Up trial evaluated commercial and primary care based weight loss programmes<sup>(13)</sup>, delivering short (12 week) weight loss programmes to people with obesity, who were invited systematically from primary care records. This highly pragmatic RCT demonstrated greater effectiveness for commercial weight reduction programmes than those delivered in primary care and was conducted within the framework of usual care. Evaluation was built into the design of standard service. Findings of the study had immediate local impact, with free weight loss services commissioned by the Primary Care Trust limited to those found to be most effective and cost-effective in the trial.

2. The Lifestyle and pharmacological interventions for the primary prevention of CVD programme (Rees, Clarke, Thorogood, Stranges, Kandala) is a collaboration between the Cochrane Heart Group (based at the London School of Hygiene and Tropical Medicine, University of London, Warwick Medical School, University of Warwick, the UK Health Forum (previously the National Heart Forum (NHF)) and NICE. The current programme is funded by an NIHR Cochrane Programme Grant started in June 2011. The focus of

the work is to undertake high quality evidence syntheses on e.g. lifestyle change (diet, fruit and vegetable consumption, physical activity)<sup>(14)</sup> and health care organisation (systematic versus opportunistic risk assessment)<sup>(15)</sup> for the primary prevention of CVD. The nature of the collaboration allows for immediate uptake of findings into the NHS and more widely via direct strong links with policy makers.

3. Warwick Evidence (Clarke, Sutcliffe, Waugh) undertakes systematic reviews and evidence syntheses of the clinical and cost effectiveness of health care interventions on behalf of NICE. The team started work in April 2011 and have undertaken work e.g. on prevention of heart disease and cancer using aspirin and on detection and treatment of type 2 diabetes, feeding directly into NHS policy in relation recently on population wide prophylactic aspirin use<sup>(16)</sup>.

## For Themes containing proposed applied health research

### Research Theme Section – for research or mixed model Themes

#### Please leave blank if implementation-only Theme

#### 3.1 Please describe the proposed applied health research to be undertaken within the Theme using NIHR funding and where appropriate matched funding:

We will apply for funding with the aim of undertaking up to three major RCTs in prevention and detection interventions following the systematic reviews and feasibility studies (see Objectives 1-5). Building on previous experience we will work closely with local Clinical Trials Units to design and execute RCTs, evaluating interventions identified from our systematic reviews and feasibility studies.

We will continue to identify gaps in the evidence base using our local networks and the THIN (Primary care database) sub-licence. Using this important data source we can undertake developmental work to identify interventions for patients with undiagnosed chronic disease. We will develop and evaluate algorithms, readily adaptable for use in clinical audit software with potential for rapid implementation through existing links with clinical audit software companies, health intelligence, the Behavioural Science group at WBS, MSDi and the Birmingham Clinical Commissioning Group (CCG) clinical audit tool in primary care. We will undertake further systematic reviews using recognised rigorous methods for example in the following areas:

- On creative and sustainable behaviour change for CVD prevention (e.g. weight and exercise maintenance, prophylactic aspirin) in hard to reach groups.
- On screening and cancer prevention in 3-4 interventions for hard to reach groups in relevant populations, (e.g. SMS messaging, other e-interventions).
- On methods of 'total preventive health package' management using novel health promotion approaches of empowerment, assets and resilience.

We will ensure a sustainability plan for on-going relevant research and implementation in prevention and detection for the West Midlands populations drawing on the work of both the CLAHRC and AHSN.

#### 3.2 Please outline the key researchers associated with the Theme including how their involvement will add depth and quality to the proposed applied health research to be conducted:

The theme will be led by **Professor Aileen Clarke** (funded 30% from NIHR). She has had a number of principal investigator roles for a variety of relevant projects including a large programme grant to undertake clinical and cost effectiveness reviews for NICE; work on Evidence for Management (Commissioning) Decisions in the NHS; work on assessing wellbeing amongst teenagers; and surveys of local populations.

**Senior collaborators** will include: **Dr Tom Marshall** (20% NIHR funded), **Professor Kate Jolly** (5% matched funded); **Dr Wendy Robertson** (10% NIHR funded); **Dr Karen Rees** (10% NIHR funded); **Dr Kandala Ngianga-Bakwin** (10% NIHR funded); **Dr Sian Taylor Phillips** (70% NIHR funded); **Mr Ronan Ryan**.

**Research Staff** includes 6 Research Fellows (trials, datasets, systematic reviews, mixed methods research, data analysts, PhD students) Grade 6-7 Admin and other Data Manager. These posts will all be NIHR funded with an additional 6 PhD students from matched funding.

Theme Steering Committee will be strengthened by senior advisors: **Professors Martin Underwood, Norman Waugh** (WMS) and **Nick Chater** and **Graeme Currie** (WBS), **Dr John Linnane** DPH Warwickshire (0.1 fte matched funds), and **Dr Jane Moore**, DPH Coventry (0.1 fte matched funds) and **Dr Adrian Phillips**, DPH Birmingham (0.02 fte matched funds). **Professor Alan Cohen**, Boston University and **Professor Richard Lilford**, CLAHRC Director will also be advisors.

#### 3.3 Please describe the proposed outputs from the research and the impacts anticipated (including the intended audience, how the impacts will be achieved and the likely timeframe):

• Local implementation diffusion and dissemination, with targeted changes in strategy and behaviour in local public health departments please see section 4 and papers in internationally respected journals over years two – five of the project.

• Conference presentations: local, regional and national: local will be held immediately and continuing over the 5 years – presenting work and findings to date and encouraging feedback and input across the CLAHRC on next programmes and plans of work.

• Contributions to CCG and LA annual reports on public health.

• Websites and newsletters, Twitter and Facebook posts will be developed in conjunction with overarching CLAHRC central diffusion, dissemination and implementation plans to ensure direct to the public

communication (see also 4.1 below).

- As described above we will be working very closely with Local Authorities who have recently acquired responsibility for public health and will use this access to engage similar institutions across England. The AHSN will further amplify our message (sections 5.6 and 5.7).

### **For Themes containing implementation (to be funded by matched funding only)**

#### **Implementation Theme Section – for implementation or mixed model Themes**

**Please leave blank if research-only Theme**

#### **4.1 Please describe the proposed implementation of applied health research into clinical practice across the health community that will be pursued within the proposed Theme using the matched funding, including an overview of how these relate to the overall strategy:**

Close work has already been undertaken with all constituent partner CCGs, Trusts and Local Authorities, with Health Protection Units, Public Health England and Local Area Teams and also with relevant voluntary and industry partners to ensure strong relevant local networks. We have designed our strategies to fit with local needs (e.g. in liaison with Local Authority departments of Public Health in Coventry, Warwickshire and Birmingham as well as with local CCGs e.g. Sandwell and West Birmingham CCG, Birmingham Cross City CCG). For example Public Health in Coventry Council are introducing a new Community Asset-Based Approach to Health Improvement to tackle persisting health inequalities. This builds on the human, social and physical resources available in the communities of Coventry. The CLAHRC will permit close collaboration between academic and service delivery public health to deliver an assets based approach and to develop tools to monitor its effectiveness and cost-effectiveness. Our focus on CVD and cancer and on target groups meets local population needs directly. Our matched funded Diffusion Fellows and PhD students will form (Theme 5) communities of practice and diffusion networks within each of these constituent organisations, ensuring a two way flow of information on need, formative evaluation results, definitive evaluations and diffusion, dissemination and implementation. We would aim to have a CLAHRC newsletter and social media website reliably reaching all 1,000 GPs in the CLAHRC area and would evaluate its impact. We also plan direct dissemination to the public (See section 3.3 point 4 above) and via our PPI groups and community support groups, taking opportunities for media exposure through the University's and partner organisations' press offices.

#### **4.2 Please describe the proposals for activities to facilitate the implementation of research findings across the health community, including the rationale and an outline of the process and methodology by which this approach to implementation will be evaluated:**

Please see Theme 5 which helps to explain our underlying philosophy for diffusion and implementation and our methods for evaluating and auditing this work in more detail. The Implementation and Organisational Studies (IOS) Theme is embedded in the Prevention and Detection (P&D) Theme as follows. 1 of the 4 Research Fellows within IOS will be part of P&D working alongside our P&D Research Fellows, Leadership & Diffusion Fellows and Patient Leaders (figure 5.2). The IOS Research Fellow affiliated to the P&D theme will carry out applied research in absorptive capacity, leadership & use of user experience for service development (see section 2.3 above) within 1 or more of research studies and will provide situated education regarding implementation science methodology and implementation issues as the need arises. Further, P&D will draw on behavioural science expertise as required through an additional Research Fellow within IOS, who is expert in such matters. Finally, P&D will be enabled to draw on management consultancy expertise offered by Warwick Business School & Birmingham University's Health Services Management Centre as required; e.g. to engineer a more integrated service along lean methodology or to develop distribution of leadership for innovation. We will also collaborate with the Centre for Public Mental Health and Applied Healthcare Research described in the previous theme.

#### **4.3 Please outline the key individuals associated with the implementation, summarising their previous experience in the proposed approach to implementation:**

We will work closely with the Leadership & Diffusion Fellows across the whole CLAHRC area. Please see attached letters of matched funding support from Coventry, Warwickshire and Birmingham itemising work to be undertaken, information flows and contribution to NHS and LA policies, pathways and guidelines. Matched funding from the service will comprise £1.7m supporting Leadership Fellows (0.9 fte) and Diffusion Fellows (5 fte)

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