National Institute for Health Research

COLLABORATIONS FOR LEADERSHIP IN APPLIED HEALTH AND CARE

SPECIFIC THEME - DETAILS

Note: The accompanying *"Collaborations for Leadership in Applied Health Research and Care Invitation to Submit Application"* contains essential guidance on the information you need to provide when completing this form.

Please use this form to provide details on one of the specific Research, Implementation or Mixed Themes to be conducted with the funding provided through this scheme. **If the Theme contains a mix of research and implementation, all sections need to be completed within the page limit.**

Please use a separate form for each Theme. Please complete no more than five pages for each Theme; only information submitted up to this page limit can be assessed.

Please note this should be completed in a font no smaller than 10-point Arial and margins should not be adjusted.

Host Organisation

1.1 Name of proposed Host Organisation (NHS Trust or Provider of NHS services)

Liverpool CCG

Theme – to be completed for all Themes

2.1 Name of Theme

Improving Mental Health

2.2 Percentage of Research and Implementation

Research:	**70%**
Implementation:	**30%**

2.3 The specific short (1-2 years), medium (2-3 years) and long term (4-5 years) aims and objectives of the Theme:

Short term: To identify neighbourhoods with low mental wellbeing and high need for mental health services and, within these areas, factors that are associated with risk of mental illness (common psychiatric disorders, alcohol abuse, perinatal mental ill-health, severe mental illness).
Medium term: To develop, in consultation with stakeholders, local authorities and service-users, community-based interventions for people with common psychiatric disorders; people suffering from the psychological sequelae of stroke; (people misusing alcohol; women with perinatal mental health problems; and people with mental illness living in the community.
Long term: To implement community-based interventions, developed on the basis of the earlier survey and evaluation projects, to reduce mental health inequalities, targeted at areas with poor mental wellbeing.

2.4 The strategy for the Theme, providing a description of how the aims and objectives will be achieved:

We will conduct an integrated programme to identify the causes of mental health inequalities, and to devise and implement interventions that will ameliorate them, coordinated by a steering group consisting of the researchers, representatives of partner local authorities and representatives from our service-user reference group (SURG). SURG will be consulted about all aspects of the programme and, as far as possible, service user researchers will be employed throughout.

In the short term (years 1-2), we will conduct an evidence synthesis on determinants of public mental health in collaboration with researchers in the evidence synthesis theme, and also a ***Public Mental Health in the North West (PMHNW) Survey*** to investigate social and environmental determinants of wellbeing and mental ill health. This will take place in selected neighbourhoods (see 2.5) and be informed by existing datasets and research highlighting environmental determinants of wellbeing and pro-sociality (cooperativeness, hypothesized to be protective against mental ill health). We will measure individual and neighbourhood variables to identify determinants of mental health to inform our implementation projects. Three projects will also commence in this stage:

(i) we will develop a peer support facilitation package to increase access to appropriate services for pregnant and postnatal women at risk of anxiety or depression;
(ii) we will develop a pragmatic intervention to improve access to psychological services as part of a stepped care model for people suffering from stroke that is easily deliverable in the NHS.
(iii) We will also implement the AMP (Access to Mental Health in Primary Care) programme.

In the medium term (years 2-3) we will conduct investigations to identify barriers to accessing mental health services in the study neighbourhoods. Consulting with stakeholders and SURG, we will evaluate community-based implementation projects, designed to improve access to and uptake of services.. When possible these will be implemented in survey neighbourhoods to ascertain not only whether are affective for participants but also whether there is an overall effect on public mental. Projects are likely to include:

(i) the Get Into Reading programme for people with common mental health difficulties;
(ii) the development and evaluation of web-based well-being packages to enhance well-being in people suffering from mental illness.
(iii) computerised self-control training to reduce alcohol consumption in problem drinkers.

In the longer term (years 4-5), we will continue to develop our community-based interventions targeted at disadvantaged groups within the survey neighbourhoods, assessing their implementation and barriers to implementation. We will also conduct a follow-up survey with a subsample of those taking part in the PMHNW; longitudinal data will allow a better estimation of whether neighbourhood and individual variables are causal in mental well-being, and will allow an evaluation of our intervention programmes.

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

Study 1: An evidence synthesis will be conducted with researchers in the *Evidence Synthesis Theme*, addressing: (i) What environmental and social factors impact on public mental health?; (ii) What are the likely mechanisms underlying these associations?; and (iii) What evidence is available on the effectiveness of individual-level and community-level interventions designed to influence public mental health?.

Study 2: Public Mental Health in the North West (PMHNW) Survey. Past studies have not adequately considered possible mechanisms linking risk factors such as urbanicity and social inequalities to outcomes. For example, The North West Mental Health and Wellbeing Surveys of 2009 and 2012 sampled 18,000 and 12,000 people but assessed few relevant environmental and psychological variables. Working with local authority partners and researchers on other themes (particularly Health Equity in All Policies) we will use these data and other indices (e.g. the 2011 Merseyside Mental Health Needs Assessment) to identify 30 neighbourhoods (lower layer super output areas, population approx. 1500), 9 urban with poor MWB (e.g. from Liverpool, Lancaster, Preston, Warrington and other urban areas), 9 urban with good MWB, 6 rural with high MWB and 6 with low MWB, which we will characterize in terms of: ***(i) Ethnic composition, mixing/integration and segregation:*** collaborating with geographers, we will use state of the art methods to explore indices of isolation and dissimilarity of ethnic communities; (**ii) *Age distribution of the population; (iii) Employment statistics*; *(iv) Family diversity*; *(v) Crime; (vi) Physical environment*** (with built environment specialists we will collect data on accessible green space and the 'quality' of residential areas using the Building for Life 12 criteria.) **(vii) *Neighbourhood prosociality*** which we will measure by field experiments and observational methods (see Wilson DS, et al. *Evolution & Human Behavior 30*: 190–200, 2009, and Nettle D, et al. *PLoS ONE* 6(10): e26922, 2011). ***Interviews*** will be conducted with 100 randomly selected age > 17 residents (equal male and female, 1/ household identified from the national Post Office Address File) in each neighbourhood (N=3000). Following our evidence synthesis, we may enhance the sample by identifying people in specific groups, e.g. people with learning disabilities, elderly disabled people. We will also explore the possibility of conducting a version of the survey with a smaller sample of children. Measures will be decided in consultation with local authority partners and SURG but over two visits are likely to include: ***Mental health*****:** The WHO Composite International Diagnostic Interview (Kessler et al. 2004), a lay-administered tool generating ICD-10 diagnoses which we will group into internalizing and externalizing classes; the Short Warwick-Edinburgh Mental Wellbeing

Scale; dimensional measures which allow common and severe psychiatric disorders to be measured along continua. ***Social circumstances****:* Social capital and trust, experience of crime, and perceptions of the neighbourhood. ***Likely psychological mediators***: e.g. social rank/self-esteem, locus of control, threat anticipation, empathy, rumination and attachment. ***Alcohol use***: the Alcohol Use Disorders Identification Test (Saunders et al 1992). ***Decision-making*****:** Wilson & O'Brien (2009) and Nettle et al. (2011) showed that neighbourhoods influence altruistic decision-making, which we will assess with simple game theory measures. ***Biomarkers:*** Participants will be asked to provide saliva, to assay for cortisol and oxytocin (markers of stress and cooperativeness); DNA samples will be banked for future genetic analysis. ***Analyses*** will include multilevel models for hierarchical data and multiple mediator models to determine how social and environmental variables impact on mediators and thereby impair or facilitate mental health.
Study 3: Neighbourhood barriers to services. Within the neighbourhoods, we will identify patients with common psychiatric disorders, severe mental illness, and other difficulties attending GP and secondary mental health care services, conducting qualitative interviews to characterise barriers to care.

2.6 The Theme's relevance to the health of patients and the public:

Mental ill health is a major cause of individual distress and disability and a burden on society. E.g., in WHO's Global Burden of Disease study, depression was the 4th leading medical cause of burden (Murray, & Lopez, 1996; Ustrun et al. 2004). Interventions for mental illness largely directed at the individual level have had little impact at the population level (Bentall, 2009). A wide range of social and environmental factors are associated with common and severe mental illness, e.g. childhood maltreatment (Varese et al. 2012; Matheson et al. 2013), some of which are increasing as a consequence of globalisation and economic development, e.g. migration (Cantor-Grae et al. 2013), social inequality (Wilkinson & Pickett, 2009), urbanicity (associated with both depression and schizophrenia; Pedersen, & Mortensen, 2001; Wan, 2004) and depletion of social capital (McKenzie et al. 2001). It is unclear which aspects of the social and physical environment have the greatest impact on mental health health or what psychological and biological mechanisms mediate these effects, knowledge that is required to design effective interventions in much the same way that the understanding of mechanisms of infection has been required to prevent disease. In this programme, we will develop a coherent evidence-based understanding of the determinants of public mental health and develop interventions that are deliverable to at-risk groups living in disadvantaged communities.

2.7 The proposed Theme Leader:

Richard Bentall, Professor of Clinical Psychology at the University of Liverpool, has published > 200 peer-review academic papers, on cause of mental illness and RCTs of psychological treatments for psychosis.

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) AMP (Dowrick) was an NIHR-funded R&D programme designed to increase equity of access to high quality primary mental health care (RP-PG-0606-1071). From 2007 to 2012 researchers in Liverpool and Manchester clarified mental health needs of under-served groups and tested a new tripartite-model of care, involving simultaneous intervention at the level of the community, primary care and culturally sensitised psychosocial interventions. (2) Research into severe mental illness by Bentall has included an NIHR-funded programme grant with significant service-user involvement (P-PG-0606-1086) to develop patient-defined outcome measures of mental illness, and to test interventions to enhance subjective recovery. Bentall has carried out RCTs of CBT for patients with early schizophrenia (Tarrier et al. 2004; MRC funded), patients with bipolar disorder (Scott et al. 2006; MRC funded) and patients with an at-risk mental state for psychosis (Morrison et al. 2012; MRC-funded), influencing guidelines in the UK (National Institute for Health and Clinical Excellence in 2002, updated in 2009) and abroad (e.g. the 2010 updated Schizophrenia Patient Outcomes Research Team Treatment Recommendations of the US Department of Health and Human Services). (3) Motivational Interviewing (MI; Watkins et al., 2007) was the first psychological intervention to show a positive outcome following stroke. At 3 and 12 months post-stroke, recipients were less likely to be depressed, and more likely to have survived. MI has been incorporated in the National Clinical Guideline (Intercollegiate Working Party for Stroke, 2012) and MI courses have been registering with the UK Stroke Forum Education and Training. Australian services have started to introduce and evaluate MI. Watkins is collaborating on a US NIH programme where MI is being evaluated for supporting adjustment to AIDS/HIV.

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:

Consulting with stakeholders and SURG, we will conduct applied mental health projects in the neighbourhoods of low mental well-being surveyed in the PMHNW Survey:

(i) **A peer support facilitation package for pregnant and postnatal women at risk of anxiety or depression**. About half of low-income pregnant women screen positive for depressive symptoms. A mapping exercise with users and providers found that, despite a range of support available along the care pathway, pregnant and postnatal women at high risk are not being identified or are inappropriately referred. To bridge the gap between need and provision, at-risk women in community antenatal booking clinics will meet a peer support worker who will provide a signposting service enhanced by the use of implementation intention strategies widely used in health psychology. We will develop the intervention, gather information on recruitment rates, retention, acceptability and outcomes (contacts with services and psychological distress and wellbeing in late pregnancy) providing parameters required to bid for a full cluster randomised controlled trial. Maternity and children's services and user groups strongly support this initiative.

(ii) **A proof of concept controlled trial of the Get Into Reading (GIR) Programme.** The Reader Organisation is a national charity for people of all backgrounds and abilities to actively engage with literature on a deep and personal level (http://thereader.org.uk), and has developed GIR for delivery to disadvantaged groups. We have promising pilot data from patients suffering from depression referred by GPs (Dowrick et al. Med Humanit 2012;38:15e20). We will conduct a proof of concept trial of the GIR groups (5 groups of 10) vs waiting list control for patients with mild to moderate depression recruited in the study neighbourhoods. Follow-ups will be conducted at 6 and 9 months. Primary outcome measures will be scores on depression (BDI) and well-being. We will also use qualitative interviews.

(ii) **Self-control training to reduce alcohol consumption.** When heavy drinkers practice self-control or avoidance in the presence of alcohol pictures, this leads to reduction in consumption (Houben et al., 2011; Jones & Field, 2012) with beneficial effects for > 1 year (Wiers et al., 2011; Eberl et al., 2012). However, effectiveness has only been demonstrated with alcoholic inpatients; it is not known if the treatment could reduce drinking in community samples of problem drinkers. Delivery over the internet has the potential to reach people who might otherwise be deterred from seeking treatment from a counsellor. Following work to refine the intervention, we will conduct a small-scale evaluation. Participants with hazardous consumption (AUDIT > 8) will be randomly assigned to 15 sessions of training, vs sham training (N = 80 per group). Drinking will be assessed with AUDIT at 3 months. We will use mediation analyses to investigate whether change in self-control or avoidance improves over the course of treatment, and use qualitative interviews to gauge acceptability of the intervention in preparation to seeking funding for a full-scale RCT.

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:

We are multidisciplinary team of experienced researchers. Evidence synthesis and survey will be led by Profs Richard Bentall, Rhiannon Corcoran, Chris Dowrick, John Quinn and David Pilgrim, Dr Gemma Catney and Dr Ben Barr (Liverpool), Chris Hatton (Lancs) and Prof Joy Duxbury and Dr Mick McKeown (UCLAN). Bentall, a clinical psychologist, has > 200 peer review papers on psychological mechanisms in mental health and RCTs of psychosocial interventions. Corcoran is a cognitive psychologist researching psychological mechanisms of mental distress for over 20 years. Dowrick, an academic GP with a specific interest in mental health, has >150 peer reviewed publications on depression, medically unexplained symptoms in primary care and methods of increasing equity of access to primary mental health care. Quinn is a molecular biologist studying the genetics of psychiatric disorders. Catney is a geographer researching the geography of ethnicity. Pilgrim is a mental health sociologist and clinical psychologist. Barr is an epidemiologist and a part-time Consultant in Public Health with NHS Blackburn. Hatton, a psychologist with specific expertise in learning disabilities will ensure that our measures are acceptable to that population. Duxbury and McKeown are academic psychiatric nurses interested in the social determinants of mental health. Perinatal Mental Health will be led by clinical psychologist Prof Pauline Slade, who has extensive experience of intervention trials with perinatal women, Prof Atif Rahman, a developmental psychiatrist, and Dr Katie Bristow, a medical anthropologist (all Liverpool), and Prof Soo Down, an academic midwife at UCLAN. GiR will be led by Corcoran and Dr Josie Billington an English literature scholar (Liverpool) with long involvement in GiR. Alcohol: Prof. Matt Field has > 70 papers on the mechanisms of self-control over drinking and the development of novel interventions. Patient and Public Involvement will be lead by Tim Rawcliff, Service User Development Officer, Mental Health Research Network, North West Hub.

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):

The researchers have an exemplary record of publishing findings in high-quality peer-review academic journals, but also in engaging with policy makers, service users and the public. In addition to academic papers, key outputs will include free to access websites for the web-based interventions where appropriate. We would also work with the SURG to explore innovate ways to disseminate to the wider community through use of online resources include social media and webinars. These would supplement peer review outputs and articles in lay language for third sector publications.

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:

(i) **AMP (Access to Mental Health in Primary Care),** examined evidence from multiple sources to understand barriers to access to mental health services (Lamb et al. 2011; Gask et al. 2012). This informed a model to improve access with 3 elements: community engagement (involving focus groups and the identification of community champions), primary care quality and tailored psychosocial interventions. The model was tested in four disadvantaged localities, focusing on older people and minority ethnic populations. Effects included enhanced awareness of psychosocial interventions amongst community organisations, and increased referral by GPs. Conclusions were that mental health expertise in communities needs to be nurtured and interventions can be adapted for under-served groups. We will test the generalizability of the AMP model by implementing it in disadvantaged neighbourhoods in the PMHNW Survey.

(ii) **Improving Access to Psychological Services for stroke**. A third of people surviving stroke are depressed (Hackett et al 2008), affecting recovery and quality of life. Nice (2009), the NHS Improvement Plan (2011) and national stroke guidelines recommend a stepped care approach for mood disorder. We have developed training packages for stroke, stroke relevant, and IAPT staff. We will introduce these packages, exploring benefits quantitatively in terms of process (e.g. identification of depression; referral rates) and outcome (e.g. proportions with clinical depression, costs); and qualitatively through an embedded process evaluation to explore acceptability, barriers and facilitators.

(ii) **Web-based wellbeing packages:** The Spectrum Centre at Lancaster works in partnership with service users to develop accessible interventions funded by sources including MRC and NIHR. Specific projects include online interventions for preventing relapse, supporting relatives and psychoeducation, which will be adapted for multi-diagnostic users in partnership with SURG. We expect to include: (1) basic mental health information; (2) options of access to more detailed self-management approaches for service users, relatives and staff, covering coping strategies for common challenges; (3) accessing and using services; (5) recovery. We will valuate the impact of the website on access and wellbeing measures across centres chosen to be representative of varying levels of deprivation and urbanicity. Outcomes will include mental health (e.g. SCL-90), well being (e.g. WEMWBS), quality of life (e.g. EUORQOL), mood and anxiety (HADS, ISS).. Access and frequency of use will be evaluated using website traffic.

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:

At later stages in the programme, in collaboration with local partners and the SURG we will develop further implementation projects, informed by guidelines on community engagement (e.g. Popay et al. 2004, Gask et al 2012) and based on the findings from the earlier projects. We will utilize appropriate evidence-based models from the existing literature on diffusion of innovations (e.g. Murray E, et al. BMC Med. 2010 Oct 20;8:63.) with an extensive round of consultations to inform decision making about the dissemination of service improvements to design our implementation strategy. Consultations will include service users, NHS primary and secondary care stakeholders, representatives from voluntary and independent sectors including potential social entrepreneurs, and key local, regional and national policy makers. We will utilize case study methodology to evaluate the implementation and explore progress towards normalisation of new ways of working. Where possible, work will be carried out in the PMHNW Survey neighbourhoods in a coordinated way, allowing impacts at the public mental health level to be assessed. We will develop, as key outputs a resource pack on 'how to do it' and an associated training manual. These will aim to enhance health literacy at all levels, including commissioners, providers, service deliverers and service users.

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

AMP will be led by Prof Chris Dowrick (see 3.2). Web Wellbeing will be delivered by Prof Steve Jones and Dr Fiona Lobban, clinical psychologists who co-direct The Spectrum Centre at Lancaster, which specialises in translational research in mental health. The Stroke project will be led by Prof Caroline Watkins, Director of Research for the School of Health at UCLAN who led the group producing National Clinical Guidelines on the Recognition and Emergency Management of Suspected Stroke and TIA. Other researchers listed in 3.2 are likely to be involved in implementation projects developed towards the end of the programme.