National Centre for Research Methods: call for Commissioned Research Projects – phase 2

Closing date for applications: 16:00 on 28 February 2017

Call Specification: updated 22 November 2016

Please note that the restriction of maximum two proposals per research organisation has been lifted (see page 4). Furthermore, additional clarification under the section 'eligibility for applicants' (see page 3) has been included.

Introduction

The National Centre for Research Methods (NCRM) is pleased to invite proposals from early career researchers for Projects that will undertake cutting edge methodological research development in one or more of the following areas:

- Methods for assessing and enhancing survey data quality
- Analysis of longitudinal data
- Innovation in Ethnographic approaches
- Bayesian data analysis
- Innovation in Visual methods

The Research Projects will be part of a programme of research coordinated by the National Centre for Research Methods (NCRM), and will work with the Director and Co-Directors to achieve the Centre's strategic objectives. The projects will run for between 12 and 18 months, **commencing on 1 September 2017**. A total of £625,000 (fEC, ESRC contribution £500,000) is available. The budget for an individual Research Project is up to a maximum of £125,000 (fEC, ESRC contribution £100,000) over a maximum of 18 months. It is expected that one project will be commissioned in each project area (subject to quality thresholds being met), although projects may span more than one topic area (e.g. ethnographic and longitudinal methods or Bayesian Data Analysis for assessing survey data quality).

Background

The ESRC established NCRM in 2004 to address long-recognised problems of methodological under-capacity in the UK social science research community. The Centre's aim is to increase the quality and range of methodological approaches and techniques used by UK social scientists, across all sectors and career stages, through training and capacity building (TCB) and by driving forward methodological development and innovation through its research.

The Centre now comprises a collaborative partnership between the Universities of Southampton, Manchester, and Edinburgh who undertake a portfolio of methodological research, provide a strategic coordination and leadership function and deliver face-to-face and online TCB.

In 2015, ESRC commissioned six methodological research projects to complement NCRM's existing research programme in areas that NCRM has identified as being in need of strategic investment (Luff et al 2015). Details of the research projects commissioned in 2015 can be found here: http://www.ncrm.ac.uk/research/.

The current call will further enhance NCRM's research portfolio by commissioning five additional methodological research projects in identified areas of strategic need. The commissioned projects will complement, enhance, and extend NCRM's existing research activities. Successful applicants will be expected to engage with and participate in NCRM's research and TCB activities.

Scope of the call

NCRM wishes to commission five additional methodological research projects from suitably qualified applicants. The focus of these projects will be in topic areas that NCRM and its collaborating partners have identified as representing important gaps in existing national coverage (see Luff et al 2015).

This call is aimed at supporting early career researchers and so is open only to Principal Investigators who have a maximum of four years' postdoctoral experience. The total budget for this initiative is £500,000 (£625,000 at 100 per cent fEC).

The objective of this funding programme is to commission projects which develop and apply innovative methodological approaches in strategically important areas of research need. It is expected that each project will (a) develop and apply an innovative methodology (b) evaluate the utility of the approach undertaken (c) produce outputs, including seminar and conference presentations, working papers and journal articles, as well as more accessible briefing documents and online resources to be made available through the NCRM website.

Projects will run between **1 September 2017** and **28 February 2019**. The topic areas in which project proposals must focus are:

- Methods for assessing and enhancing survey data quality
- Analysis of longitudinal data
- Innovation in Ethnographic approaches
- Bayesian data analysis
- Innovation in Visual methods

More detailed descriptions of the topic areas are provided at the end of this document. Applicants will need to ensure that their proposal fits within one or more of the five topic areas. Please note that the examples of different research approaches provided under each topic area description are not prescriptive, or an exhaustive list. Proposals which address other specific topics or questions under each of the six headings are welcome.

The call is subject to the full Economic Cost (fEC) funding model and for applications up to £125k (100 per cent fEC) per project. If successful, ESRC will meet 80 per cent of the full

economic costs on proposals submitted. Projects will run for a minimum of 12 and a maximum of 18 months, commencing from 1 September 2017.

The Principal Investigator must be an early career researcher with a maximum of four years since (original) submission of PhD and must have the support of an eligible UK research organisation. Proposals are welcomed from across the full disciplinary range of the social sciences.

Application criteria

In preparing their application for a proposal, applicants should ensure that:

- The Principal Investigator meets the ESRC definition of an early career researcher: they should have submitted their PhD not more than four years[1] before the closing date for proposals (28 February 2017) and not be a current or former Principal Investigator on any other RCUK grant.
- They declare their Intention to Submit.
- They have the support of an eligible UK research organisation.
- They provide a clear description of the background to the approach and any previous work undertaken in the area.
- They provide evidence that the methodological innovation is appropriate and of high potential impact for social science.
- They outline the proposed development work that will be undertaken.
- They detail how the utility of the approach will be evaluated.
- They outline how the work will be disseminated to relevant user groups.
- They justify how requested funds will be used. Where applicants have been in receipt of funds, from ESRC or other awarding bodies, to undertake work in the same area they must demonstrate how the additional funds will add value to the previous investment.
- They provide detailed information about proposed outputs.

Updated 22 November 2016: Applicants who are not established members of a recognised RO must be accommodated by the RO and provided with appropriate facilities to carry out the research. These requirements also apply to individuals named as co-investigators. There is an expectation that the PI's post will be in place for the duration of the project.

Funding

The total budget for this call is £625,000 at 100 per cent fEC (£500,000 ESRC contribution). We expect to fund **5 projects up to a maximum of £125k per project** (at 100 per cent fEC); £100k ESRC contribution. Applications over this will not be accepted.

The proposed costs are intended to cover:

- directly allocated and directly incurred staff costs;
- travel and subsistence;
- dissemination and/or training events;
- other directly incurred costs; and

[1] The four year period is measured between the initial submission date of the PhD thesis and the submission date of this proposal. Career breaks will be excluded from the four year period and periods of part-time academic employment can be calculated on a pro-rata basis.

- estates and indirect costs.

We do not anticipate requests for capital equipment or new data collection in these proposals. Given the short duration of projects, it is anticipated that projects will not recruit researchers and that staff costs claimed will only be for the costs of principal and (where applicable) co-investigators.

Standard ESRC (fEC) funding rules apply. Proposals will need to show 100 per cent of full economic cost of the proposed research. The ESRC will meet 80 per cent of the full economic costs on applications submitted.

Eligibility of research organisations

All UK Higher Education Institutions are eligible to receive funds for research, postgraduate training and associated activities. The higher education funding councils for England, Wales, Scotland and Northern Ireland determine whether an organisation meets the criteria to be a Higher Education Institution.

Independent research organisations (IROs) approved by ESRC are eligible to apply for ESRC funding. The current list of eligible IROs can be downloaded at Eligibility for Research Council funding; to apply to this scheme IROs must be eligible for responsive mode schemes.

Updated 22 November 2016: Applications are no longer limited to two per eligible research organisation (RO).

Provision of a mentor

All applicants are required to have a named mentor based at the research organisation where the grant is to be held. The proposed mentor should be of high academic standing and have a strong interest in the applicant's field of research, but should not normally be the applicant's former PhD supervisor. The mentor should also be able to offer the applicant advice and assistance in developing their proposal, building suitable links with leading researchers in their field, as well as with potential beneficiaries and users of the applicant's research.

The role of the mentor is to support the work of the grant holder, both scientific and non-scientific, but the mentor will not be directly involved in running the project. Regular contact must be maintained between the grant holder and mentor through the course of the project, and the mentor will help the grant holder to review progress against agreed milestones, including the implementation of the training and development programme. Costs for mentoring time cannot be claimed as part of these grants; they must be met as part of the host institution's contribution to the award.

Application process

All documents required can be found on the NCRM website Call for Proposals

Applicants should refer to the Guidance for Applicants and are advised to read the ESRC Research Funding Guide before submitting an application. It is also expected that applications will have undergone the internal review process of the host institution prior to submission.

Applicants must send an Intention to Submit to the NCRM Research Coordinator, Mrs Penny White, by email to p.c.white@southampton.ac.uk by **16:00 on 16 December 2016**.

Full applications must be submitted using the Application Form and Costing Template in accordance with the instructions set out in the Guidance for Applicants to the NCRM Research Coordinator by email by **16:00 on 28 February 2017.**

Applications which have not followed the directed procedure or which do not contain all the required information will be rejected.

Applications will be assessed by a specially constituted college of experts during March and April 2017. Funding decisions will be made at a Panel meeting in mid-May 2017 (date to be confirmed) and announced shortly after.

Contact details

Please address queries relating to the call to:

Mrs Penny White, Research Coordinator
Email: p.c.white@southampton.ac.uk
Telephone: 02380 594539

TOPIC AREAS

Methods for assessing and enhancing survey data quality

Despite the current surge of interest in new forms of data in the social sciences, the sample survey remains of crucial importance for social scientists' ability to understand the behaviour, beliefs, and attitudes of populations. But the conventional survey faces many difficult and growing challenges, relating primarily to the difficulty of contacting and securing the cooperation of respondents but also to the escalating costs of traditional modes of interview. The conventional reliance on respondent self-report via standardised questionnaires is also increasingly considered to produce biased and noisy data in many domains of measurement.

At the same time, however, societal and technological change offer the opportunity for fresh innovation in survey research, in ways that address the nonresponse, cost, and measurement challenges and which also hold the promise of transforming the very nature of the sample survey.

Key in this regard is the increasing shift toward undertaking surveys online, where respondents complete interviews using a range of increasingly sophisticated mobile digital devices. Not only do these kinds of surveys enable quicker, cheaper and potentially more accurate data, they also offer the potential for researchers to collect new kinds of data 'passively' such as GPS position, photos, videos and audio files, and linking to social media accounts.

To stimulate developments in this important area NCRM seeks proposals which address, either solely or in combination:

- The use of mobile digital devices for survey data collection, particularly approaches which combine questionnaire-based and 'passive' data collection, or which use digital devices for capturing novel forms of data such as photos, videos, or audio recordings.
- Methods for detecting and correcting for measurement error, particularly in the context of surveys which combine different modes of interview, or in which respondents use different kinds of devices to provide data. This includes investigating multiple sources of errors concurrently using the Total Survey Error framework.
- The use of paradata for assessing and correcting for multiple, possibly interacting, sources of error, particularly though not exclusively for online surveys.
- Respondent perceptions of 'survey burden' and how this relates to rates of completion and measurement error and/or which consider how potential survey respondents understand issues of privacy and confidentiality when completing surveys using mobile digital devices.
- Methods for making inference from and/or detecting and correcting for selection biases using non-probability samples

Analysis of longitudinal data

The UK is world leading in its collection of rich quantitative and qualitative longitudinal data sets. These include but are not limited to: the British Household Panel Survey (BHPS), Understanding Society (UKHLS), the Birth Cohort Studies, Timescapes, and the English Longitudinal Study of Ageing (ELSA). Longitudinal data, which follow samples of households and individuals over time, are key to understanding developmental processes and to moving beyond correlational analysis to

make causal inferences. Longitudinal studies have been influential in providing underpinning evidence for policy development and implementation in a broad range of policy areas.

Yet, despite the wealth of longitudinal data resources available to UK social scientists, NCRM's consultations on methodological research and training needs (e.g. Durrant et al 2015; Luff et al 2015) have consistently identified methods for analysis of repeated measures data as being in need of further development and capacity building. Modeling clustered or multivariate longitudinal data with missing values or measurement errors can be challenging, both mathematically and computationally. In qualitative longitudinal analysis the issues of how to access and address context can prove difficult, and what actually constitutes a 'case' may be perplexing.

Under this funding scheme, NCRM therefore seeks research proposals which develop methods:

- For analysing intensive longitudinal data from e.g. diaries, experience sampling, ambulatory assessments, and observational techniques
- That detect and correct for the impact of mixed mode designs on data quality in quantitative longitudinal studies
- For analysing 'short instance' visual forms of qualitative longitudinal data such as time lapse or intensive data from short periods of participant observation in one-off events, or various sorts of visual data collected in qualitative longitudinal cases over time.
- For analysing 'long view' historical comparative qualitative data across extended periods, bringing different data sets from different time periods into dialogue without ahistoricism.
- Involving collaboration with computer scientists to develop analytic codes that demonstrate how to retain and work with (rather than against) the qualitative nature of analysis in the longitudinal analytic endeavour.
- That address computational challenges in longitudinal research. Computation may become a major challenge in the presence of longitudinal missing data and measurement errors. Approximated methods that deal with computational challenges may be biased for mixed effect models with binary or count responses.
- Which are joint models for longitudinal data and time-to-event processes which seek to address problems of endogeneity and measurement errors in time-dependent covariates in survival models, as well as non-random dropout in longitudinal data.

Innovation in Ethnographic Approaches

Ethnography is a broad and well-established methodological framework in the social sciences that uses an immersive approach involving intensive participation to explore social and cultural phenomena. Ethnographic approaches have long encompassed a range of methods based on listening and watching, including observation, interviews, surveys and so on. In recent years, ethnographic approaches also have increasingly begun to utilise new theoretical developments through which to explore and understand the social world, creative methods of engagement with research phenomena and participants, and innovative multiple media tools of data collection and analysis.

The growth of new ethnographic approaches has been stimulated, in part, by an effort to respond to and capture changes in society around social and material institutions, mores and relationships. These innovations have the potential for improving our understanding of

longstanding and new social and policy challenges, but further work is required to consolidate and build on the emergence of creative and rigorous practices in ethnographic approaches.

In this call, NCRM seeks proposals in the area of innovation in ethnographic approaches that relate clearly to one of the ESRC substantive priorities: Mental health, Housing, Productivity, Understanding the macro-economy, and Ways of being in a digital age (http://www.esrc.ac.uk/about-us/strategy-and-priorities/). We are looking for proposals investigating one of these priority areas that address methodological innovations in ethnographic approaches involving:

- sensory ethnography, in which traditional ethnographic methods are reframed or expanded to move beyond the visual and aural alone, to encompass methods that explore people's lives and experiences guided by understandings of the full range and interconnected nature of the human senses;
- critical ethnography, in which critical theory (e.g. queer, feminist, critical race, environmental theories) informs and is applied to an ethnographic approach that uses emancipatory methods of data collection and analysis that uncover and disrupt unequal power relations, in an effort to move beyond the implicit values and unacknowledged biases that inform traditional ethnography;
- linguistic ethnography, combining ethnography with a range of approaches to linguistic analysis that build on the strengths of each, to place language in social context using methods that draw out the patterns and dynamics of interplay between language, culture and space;
- other innovatory ethnographic approaches, such as material and symbolic artefacts, non-human beings and things, or multispecies and bio political ethnographies, or other emergent approaches.

Bayesian Data Analysis

Perhaps the biggest change in applied statistics over the past twenty years has been the shift toward use of Bayesian models in data analysis. While the theoretical advantages of the Bayesian framework have long been advocated, the advent of modern computing power, allied with the development of computational methods such as Markov Chain Monte Carlo (MCMC) has enabled the application of Bayesian Data Analysis (BDA) to a broad range of problem areas.

A number of respondents to NCRM's most recent research needs consultation (Luff et al 2015) noted the limitations of the classical/frequentist framework for quantitative analysis in the social sciences and proposed further developments in and communication of BDA as a remedy. Not only does BDA offer a more satisfactory theoretical framework for probabilistic inference, it also affords analysts a broader range of substantively meaningful parameters compared to classical/frequentist models.

BDA is now becoming more popular amongst social scientists as it is increasingly routinely integrated within software for fitting models in frameworks commonly used in the social sciences, such as Multi-level Modelling (MlM) and Structural Equation Modelling (SEM). NCRM wishes to support developments in this area by encouraging proposals which develop and apply:

- Procedures for Bayesian model selection and hypothesis testing. For example, what are the consequences of setting up credible regions for a certain parameter when the wrong model is selected?
- Methods for uncertainty quantification in highly-structured and complex models.

- Methods for derivation of informative prior distributions, particularly in the context of elicitation of expert judgments and conversion to parameter probability distributions.
- The development of "off-the-shelf" methods for Bayesian model criticism and diagnostics.
- Software tools and programs for understanding and comparing Bayesian models.
- Bayesian models which combine multiple sources of data.

Innovation in Visual Methods

The use of visual methodologies is well established in social science and encompasses a wide range of practices of gathering, analysing and presenting evidence. Researchers have advanced understandings of the social world by analysis of pre-existing visual artefacts such as curated and popular forms of visual art, commercial films and advertisements, domestic photography and mantelpiece displays, popular dress fashion and body adornments, web pages and social media presentations. Researchers have also sought insight into social worlds by generating new visual data through film, photography, drawing and digital programs, either as the producers of images or by asking respondents to be image producers, sometimes claimed as a means of 'seeing' through respondents' eyes. Visual materials have also been used primarily to generate verbal or textual data, for example, using timelines, charts, film clips, pictures, and photographic memory books in elicitation.

In this call, NCRM seeks proposals that build on and critically evaluate existing relevant bodies of work, and/or that develop and offer further innovations in visual methods. Areas of interest include, but are not restricted to:

- Methods that innovate expression for social groups and contexts where there are communication difficulties, and/or that explore 'intangibles' such as emotions and feelings, and concepts that are hard to articulate or poorly understood.
- Innovative methods for combining visual and non-visual materials in data collection and/or data analysis, and that move a visual contribution to mixed methods research beyond an emphasis on combining with qualitative methods. This might, for example, involve the use of quantitative, or computer software.
- Evidenced demonstrations and assessments of participatory, ethical, impact and other methodological claims for the value of visual methods. Partnerships with non-academic agencies in the statutory, third or private sector may be relevant and appropriate here.
- Innovative use of visual methods in ways that advance existing techniques, broker new theoretical advances, or create new bridges between disparate fields.