Research Fellow

**Department:** Centre for Health Economics

**Hours of work:** Full time / 37 hours per week. Part time applications (minimum 80% fte) will be considered.

**Contract type:** Fixed term for 24 months

**Salary:** £32,817 - £36,914 a year / Grade 6 (reduced pro rata for part time working)
Introduction

In recent years, the Centre for Health Economics (CHE) has significantly progressed its activities in global health economics, expanding and complementing our existing research strengths in this field through the development of a portfolio of high quality and rigorous methods and applied research of national and international policy relevance. An important strand of Global Health Economics research at CHE is policy impact evaluation using quasi experimental research methods, with an increasing focus on the use of machine learning to answer policy relevant research questions, e.g. which population subgroups to target with a given health policy intervention. We are seeking to appoint a Grade 6 Research Fellow to contribute to this research agenda, with a strong background in quantitative methods, such as econometrics, statistics and machine learning, and an interest in developing and applying those methods in health policy evaluation.

The Research Fellow will be part of a new, methodologically focussed research project, funded by the Medical Research Council. The project, led by Dr Noemi Kreif, aims to develop quantitative methods to design optimal health policy allocation rules, combining state of the art approaches from causal inference and machine learning. The methods will be developed and applied primarily in the context of two on-going, high profile health policy evaluations: the National Health Insurance Programme in Indonesia, and the Family Health Programme in Brazil, using large survey and administrative data sets. The research project includes co-investigators and advisors from the Department of Economics at the University of York, as well as the University of Indonesia, University of Sao Paolo, Harvard and the University of Washington, among others.

The researcher will have the opportunity to contribute to this work by applying and extending causal inference and machine learning methods to fit the requirements of health policy evaluation, e.g. to handle observed and unobserved confounding and to consider health equity impacts when estimating optimal health policies. Given the methodological focus of the project, it will provide the researcher with a training opportunity to further develop analytical skills in causal inference and machine learning, by attending relevant summer schools and workshops. The researcher will have the opportunity to contribute to the design of the specific research papers, lead on these papers, and disseminate the research at international conferences, and to help expand this innovative, cutting-edge methodological research area beyond the project, in line with the researcher’s interests.

Main purpose of the role

- To conduct research under the supervision of senior colleagues and to contribute to the production of research
- To communicate the results of the research to different groups through written reports and papers, presentations at conferences and other forums, and at workshops and other meetings
- To assist in the identification and development of potential areas of research and the development of proposals for independent or collaborative research projects
Key responsibilities

(Role holders will be required to undertake some or all of the duties below)

- To conduct individual and collaborative research projects, duties to include: analysis and interpretation of research data; use of appropriate research techniques and methods; writing up of research results and dissemination through publications, seminar and conference presentations and public engagement and outreach activities; contributing to the identification of possible new areas of research

- To develop and initiate collaborative working internally and externally, duties to include: the building of internal contacts and participation in internal networks; collaboration with colleagues on joint projects as required; participation in and identification of external networks in order to share information and identify potential opportunities for collaboration and possible sources of funding; attendance at and contribution to relevant meetings

- To contribute to the preparation of research proposals and applications to external bodies
### Person specification

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<tr>
<th>Qualifications</th>
<th>Essential / Desirable</th>
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<tbody>
<tr>
<td>BSc and/or MSc or equivalent in economics, health economics, statistics, mathematics or another related subject</td>
<td>Essential</td>
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<tr>
<td>PhD or equivalent experience in relevant quantitative field (e.g. economics, health economics, econometrics, statistics, machine learning)</td>
<td>Essential</td>
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### Knowledge

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<tr>
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<tr>
<td>Knowledge of causal inference and machine learning methods to engage in high quality research</td>
<td>Essential</td>
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<tr>
<td>Knowledge of a range of quantitative research techniques and methodologies (e.g. econometric methods for programme evaluation, causal inference, machine learning)</td>
<td>Essential</td>
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<tr>
<td>Has research expertise in an area that will complement and enhance the department’s research strategy and goals</td>
<td>Essential</td>
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### Skills, abilities and competencies

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<thead>
<tr>
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<th>Essential / Desirable</th>
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<tbody>
<tr>
<td>Advanced skills in the use of the R statistical software</td>
<td>Essential</td>
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<tr>
<td>Familiarity with the Stata statistical software</td>
<td>Desired</td>
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<td>Familiarity with the Python programming language</td>
<td>Desired</td>
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<td>Highly developed communication skills to engage effectively with a wide ranging audience, both orally and in writing, using a range of media</td>
<td>Essential</td>
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<td>Ability to write up research work for publication in high profile journals and engage in public dissemination</td>
<td>Essential</td>
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<td>Ability to develop research objectives, projects and proposals for own and joint research, with the assistance of a mentor if required</td>
<td>Essential</td>
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<td>Competency to conduct individual and collaborative research projects</td>
<td>Essential</td>
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<td>Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required</td>
<td>Essential</td>
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<td>Competency to make presentations at conferences or exhibit work in other appropriate events</td>
<td>Essential</td>
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**Experience**

- Experience in methodologically focussed research using statistical / econometrics methods (e.g. comparing the performance of alternative estimators through simulation studies)  
  - Essential
- Experience of writing up research work for publication  
  - Essential
- Ability to work as part of a team and also to work independently using own initiative  
  - Essential
- Experience in building statistical software packages (e.g. in Stata, R, Python)  
  - Desirable
- Experience working with household survey data and/or large administrative datasets  
  - Desirable

**Personal attributes**

- Attention to detail and commitment to high quality  
  - Essential
- Collaborative ethos  
  - Essential
- Interest in and enthusiasm for the subject matter of the project(s)  
  - Essential
- Positive attitude to colleagues and students  
  - Essential
- Willingness to work proactively with colleagues in other work areas/institutions  
  - Essential
- Ability to plan and prioritise own work in order to meet deadlines, including using initiative to plan research programmes  
  - Essential
- Commitment to personal development and updating of knowledge and skills  
  - Essential