Institution: University of Lincoln

Unit of Assessment: Allied Health

a. Context

Lincoln Institute for Health (**LIH**), is a cross-university interdisciplinary research partnership founded in April 2013 to conduct empirical and translational research, that is responsive to national and international priorities for changing policy and practice, by understanding the needs of stakeholders, by working with them to solve key problems and by co-creating (i.e. co-designing studies with stakeholders) research that is likely to lead to impact.

The **LIH** encompasses research spanning the fundamentals of biomedicine and disease (including molecular and cell biology), through drug design and development, to health and social care practice. The beneficiaries of our research are service users and patients, health and social care practitioners and services; as well as industry, governments and commissioners of health services – and not forgetting the communities that they serve. Our chief impacts are on efficiency, cost-effectiveness, effectiveness in health systems as well as individual professional practice, new drugs, health technologies and policies.

Our units are governed by five aims, of which the first four relate directly to impact:

- To involve individual, organisational and corporate stakeholders (e.g. patients, the public, practitioners, managers, commissioners, policymakers or industry representatives) in each stage of the research process;
- To conduct national and international multidisciplinary research to develop innovative health and social care technologies, treatments and systems;
- To examine the performance and functioning of health and social care practice, organisation and delivery, with a particular emphasis on promoting quality which includes effectiveness, efficiency, safety and better user experience;
- To ensure outcomes are appropriately and widely disseminated using the concept of ‘dissemination by design’ (whereby dissemination is planned for and designed into studies at their outset) through a variety of media;
- To develop a sustainable research infrastructure and environment.

b. Approach to impact

Our approach to impact includes creating a culture of impact, engaging effectively with stakeholders, encouraging public participation in research and using interdisciplinary collaboration to solve key problems, improve professional practice and deliver positive health, social and economic benefits, at the same time widely disseminating our research findings to professional and public non-academic audiences. We are working with health and social care partners to investigate current problems and the solutions to these in healthcare. We use the notion of ‘dissemination by design’ whereby impact is built into many of our studies from the outset by engaging directly with patients, practitioners, health organisations and policy makers to ensure that research is relevant, co-created and implemented either directly, or indirectly through guidelines or health policy.

Creating a culture of impact

Our primary goal in **LIH** is to improve health quality and outcomes. Impact is fundamental to why, what and how we research. Our culture of impact is developed through: (a) workshops for researchers guiding them through the processes and examples of successfully generating impact supported by an ‘impact champion’; (b) access to external experts to support development of impact; (c) detailed dissemination of good practice guidelines through blogs, web pages, and other literature; and (d) more general university-wide approaches, e.g. research networking events, drop-in sessions.

Engaging with stakeholders

We have developed close working relationships with healthcare and industry partners through a number of regional, national and international groups which facilitate research dissemination and impact, e.g. local groups include Lincolnshire Health and Social Care Steering Group (includes all NHS Trusts operating in Lincolnshire) and the East Midlands Ambulance Research Alliance (EMARA); regional groups include National Institute for Health Research (NIHR) Trent and

Leicestershire, Northamptonshire and Rutland Comprehensive Local Research Networks, the NIHR Primary Care Research Network East Midlands South Yorkshire (PCRN-EMSY), the NIHR East Midlands Research Design Service and the East Midlands Collaboration for Leadership in Applied Health Research and Care; national groups include the National Ambulance Research Steering Group [chair] and the National Ambulance Clinical Quality Group [member]; the Social Care Institute for Excellence (SCIE); Mental Health Legislation Team for the Welsh Government and a Clinical Advisory Board for pharmacy which includes key contacts from the pharmaceutical industry; and international groups include the Emergency Medical Services 999 Research Forum and the European Forum for Primary Care.

Increasing public participation

We plan for impact at the outset of our research by co-creating our research agenda, questions and designs with users. We have undertaken this in several programmes of work, for example the *Resources for Effective Sleep Treatment* (REST) project, the *Ambulance Services Cardiovascular Quality Initiative* (ASCQI) and *Prehospital Outcomes of Evidence Based Evaluation* (PhOEBE). In each case, service users were/are involved throughout the project process as co-applicants, members of project steering groups, bringing their expertise and experience to our research. An example is provided in a video on the Health Foundation website, showing how service user involvement contributed to the REST project (http://tinyurl.com/oqzvp4g). Through such involvement we are able to develop, evaluate and address those questions that are timely, relevant and are more likely to lead to meaningful improvements for systems, organisation and service users.

Using an interdisciplinary approach

We are able to influence a wider audience by working across the range of **LIH** disciplines: For example in *Exploring Social Networks for improving Cognitive Therapies* (ENACT £485k) we have worked with other disciplines including medicine, social science, psychology, health policy, statistics, health economics, organisational behaviour and computer science, to develop a social networking platform for delivering improved cognitive behavioural therapy.

Recording impact

Researchers are helped to routinely build impact into their research proposals and record impact using an active database of projects, including disseminating this through externally facing blogs, where visits are recorded. This maximises the possibilities of creating and evidencing outcomes through a variety of resources and techniques.

c. Strategy and plans

The **LIH** focus is on maintaining and reinforcing our 'impact of research, including upon users'. Our users include patients, healthcare staff, provider organisations, commissioners (or purchasers) of health, local and central government, and industry. We will strengthen and improve our links with users by trialling different approaches to engagement in the course of developing and testing new interventions and learning from these. We will develop routes to impact through interdisciplinary research partnerships and stakeholder engagement, particularly through our relationships with a number of NHS trusts in the UK. We will provide institutional support for staff to enable impact to be achieved from their research by providing expertise and resources through our impact champion and our expertise in the **LIH**.

Our strategy for future impact

We will use several strategies to maximise impact in the following areas:

i. ***Health impacts***: We will focus on research areas and types that are likely to lead to impact, e.g. developing new clinical (including diagnostic, treatment, therapy and care practice), lifestyle or organisational interventions (*health technologies*) which are novel in their application or outcomes. This will include conducting research on markers of health and disease to facilitate early intervention and prevention; developing new patient related experience and outcome measures for assessing and improving healthcare quality; contributing to clinical and educational guidelines; and education for practitioners and patients. We will undertake research that informs decisions needing to be taken by health services or regulatory authorities. Finally, we will undertake research that increases public awareness of health risks and benefits that contribute to changes in patient and practitioner behaviour. We will evidence health impacts by providing measures of improved clinical processes and outcomes; service user behaviour or health services; documented changes to clinical and public health guidelines; evidence of enhanced awareness of health risks and benefits by consumers; and evidence of enhanced patient experience or use of new Patient Reported Outcome Measures (PROMs) or Patient Related Experiences Measures (PREMs).

ii. ***Health economic impacts:*** We will investigate the costs and consequences of new health technologies that we develop including their effects on systemic organisational changes. We will also explore the impact of targets and incentives that stimulate health professionals to improve service delivery. We will evidence this through measures of costs and outcomes.

iii. ***Impacts on practitioners and professionals:*** We will aim to change professional standards, guidelines, training and practices through the provision of education, training or consultancy. We wish to improve service quality and efficiency through facilitation of new or improved processes, work force planning and targeting our research findings to those who can practice. We will evidence each of these steps through feedback from practitioners on how they are applying recommended practices.

iv. ***Commercial and production impacts***: We will improve services using innovative health technologies and quality improvement techniques to produce new services that have potential for commercialisation. Evidence of impact will include change in management practices, licenses awarded and brought to market, market authorization, collaborations with industry and commercial adoption of new technologies, processes, knowledge or concepts.

v. ***Impact on the environment***: We will improve the healthcare environment through the introduction of new or improvement of existing products, processes or services; and the enhancement of strategy, operation, or management practices. Evidence for impact will include take-up and use of new or improved healthcare products that improve quality of health processes and/or outcomes.

d. Relationship to case studies

We present three case studies which demonstrate how our strategy of developing the culture, stakeholder engagement, public participation and an interdisciplinary approach enables us to: generate relevant research questions, design studies which seek to directly improve clinical practice and outcomes of care for patients, and facilitate evaluation of the effect of interventions on healthcare, health and economic outcomes. Our approach is being continually developed and modified in light of our experience of generating and recording impact.

For example in our case study, **Improving the primary care management of insomnia**, by working with professionals and patients we have achieved better treatment for people with insomnia, a common condition linked to many psychological and physical disorders, through direct effects on primary healthcare professionals’ practice. Better treatment has included reduced inappropriate prescribing of hypnotic drugs and greater use of psychological therapies for insomnia. This has been achieved by means of seminars, workshops, a national conference and an e-learning programme developed by the research team; inclusion in UK and international policy and national practitioner information and training materials on hypnotic prescribing; citation in national UK guidance to general practitioners and patients; greater public awareness of better sleep management nationally and internationally through national media coverage and referencing in internationally available public information.

In the case study, **Improving the quality and outcomes of prehospital care for emergencies**, where our programme of research aims to improve the quality of care provided by ambulance services, we developed our approach to work on a larger scale with ambulance clinicians and ambulance services in England to achieve the following: benchmarking of gaps in service quality and initiatives to address these; improvement in management of pain, heart attack, stroke, asthma and diabetes in the East Midlands; improvements in treatment for heart attack and stroke across all English ambulance services; evidence for development of prehospital clinical quality indicators for ambulance services and their use by the health regulator (the Care Quality Commission) for assessing ambulance services and by English ambulance trusts for improving services. The work has also been recognised internationally by practitioner organisations.

Finally, in our case study, **Improving influenza and pneumococcal vaccination rates in primary care,** we achieved significant increases in adult vaccination in high-risk groups directly as a direct result of our research. Findings from our study (*Dexter et al*. BMJ Open 2012; 2:e000851) were incorporated in widely circulated guidance in a letter from the UK Chief Medical Officer ‘The Flu Immunisation Programme 2013/14 in which a checklist provides advice to general practices on how to maximise influenza vaccination rates in high risk groups.