



Health Technology Assessment (HTA) Programme Logic Model

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The Health Technology Assessment (HTA) Programme is part of the [National Institute for Health and Care Research \(NIHR\)](#). As such, it aims to contribute to the NIHR's mission of improving the health and wealth of the nation by funding research that assesses the clinical and cost-effectiveness of healthcare treatments in comparison with the current best alternative(s), and that is therefore immediately useful to patients, clinical practice, and policy or decision-makers. More information about the programme can be found on the [NIHR website](#).

A logic model is a visual way of showing how an activity, programme or intervention is expected to work and bring about the benefits and changes it intends to achieve. By summarising the core elements, a logic model can be used to support programme planning, implementation and evaluation. NIHR logic models represent – in a linear flow diagram – the key activities, outputs, outcomes and impacts of each funding programme as a series of logical steps.

Inputs

The first step outlined in the logic model focuses on 'inputs', i.e., the resources needed to undertake programme activities. The inputs for the HTA Programme are:

- NIHR funding
- funding from the devolved nations
- NIHR coordinating centre resources
- stakeholder time
- the existing UK research infrastructure in terms of expertise, capacity and funding

Activities

Inputs feed into activities, the second stage of the logic model. Activities are the actions that NIHR and the funded research community undertake to help achieve the programme's aims and objectives. Together, inputs and activities represent NIHR's planned work.

The initial focus for the HTA Programme is identifying key research questions and issues in health and social care through horizon scanning, review and synthesis of existing research, and engagement with key stakeholders.

The NIHR HTA team then develops targeted [funding opportunities](#) to stimulate applications in areas of strategic priority. The programme also invites researcher-led proposals, which

enables research into investigator-driven areas. All submitted project proposals are reviewed by harnessing detailed feedback from experts, including academics and other professional experts (for example, clinical staff and health care professionals) as well as patients, carers, service users, specific communities and/or members of the general public. A panel recommends high-quality research projects that evaluate the effectiveness and cost effectiveness of new health technologies and interventions for funding, according to set criteria. Such projects typically include a synthesis of existing evidence; demonstrate how the proposal sits within the existing evidence base; and have a clear plan for patient and public involvement, as all of these are requirements of NIHR-funded research.

Funded projects are then actively monitored by the NIHR coordinating centre team, which provides advice and expertise regarding, for example, risks to delivery of the funded study's primary outcome; appropriate methodologies; and identification, engagement and management of key stakeholders.

NIHR actively supports transparent research management and publication of knowledge, with project information and results being openly accessible via the NIHR [website](#) and the peer-reviewed [NIHR HTA journal](#), hosted by the [NIHR Journals Library](#). Support for funded projects includes guidance on the dissemination of research findings to academic and other key audiences to ensure that funded projects fulfil contractual obligations of peer-reviewed publication. As part of this work, the NIHR coordinating centre team identifies projects with high potential for impact and works with them as part of the programme's enhanced dissemination initiative.

The programme's funding process ensures that new health and social care technologies are independently and rigorously tested for effectiveness and cost-effectiveness. "Technologies" in this context mean anything used to improve health and care outcomes, prevent and treat disease, and improve rehabilitation or long-term care. They are not confined to new drugs and include any intervention used in the treatment, prevention or diagnosis of disease.

Outputs

The next step in the logic model focuses on the 'outputs', which result directly from the activities undertaken. For the HTA Programme, these include:

- academic outputs such as peer-reviewed publications
- communications tailored to key audiences to support knowledge mobilisation
- samples and study data from the research
- effective and cost-effective interventions

Cross-cutting activities

Some activities that enable the intended change cut across several steps of the logic model:

- stakeholder engagement: to support evidence-based decision-making, the programme cooperates closely with key stakeholders such as decision-makers and professionals from the NHS, public health, social care and NICE, as well as patients, carers, service users, specific communities and/or members of the general public across all stages of the research life-cycle
- co-production of research: funded projects are required to involve the listed stakeholder groups to ensure that the funded research is tailored to their needs

- targeted knowledge exchange and dissemination takes place across the project lifecycle
- increasing pool of knowledge: activities, outputs and outcomes of the funded research contribute to an increasing pool of knowledge which feeds into both the identification of new questions and methods for answering those questions. The sustained investment of the HTA Programme into health and social care services research, that enables researchers to continually focus on this field, supports the accumulation of knowledge over time

Outcomes

Outcomes are the changes that the programme expects to occur as a result of its activities. Short-term outcomes are those that take place in less than 5 years, and medium-term outcomes in 5-10 years.

Improved guidelines and health services

Activities and outputs are expected to result in improved guidelines and health services in the short- and medium-term. In the short-term, HTA-funded studies can lead to direct improvements in patient and service user outcomes through the implementation of the health and care interventions they are testing in trials and other research designs. Patient and public involvement in studies ensures that the new findings and recommendations are relevant to the needs of patients, carers, service users, specific communities and/or members of the general public. In turn, this means that subsequent improvements in guidelines and health services that are based on these findings address public health issues and the needs of patients, the NHS and social care professionals in the UK.

HTA-funded research projects can also contribute to the refinement or improved effectiveness of health and care products by testing and documenting their current effectiveness. In the medium-term, the proof of effectiveness of interventions or products is expected to work to scale up innovation in the life sciences sector and help address market failure. This includes evaluating new uses of existing techniques or interventions, conducting research into reduced use of treatments, and addressing areas where levels of investment risk result in industry under-investing in specific areas of research.

In the medium-term, it is expected that findings generated and disseminated by HTA-funded studies either directly or as part of broader bodies of evidence, inform and change guidelines and policies in the UK, such as National Institute for Health and Care Excellence (NICE) guidelines and those of professional bodies.

Scientific advancements

In the short-term, findings from HTA-funded projects lead to scientific advancements as they improve understanding of the health benefits and cost-effectiveness of interventions. Funding from the programme that encourages new ways of understanding effectiveness and cost-effectiveness of tested interventions also leads to methodological advancements in health technology assessment.

In the medium-term, improved understanding, methodological advancements and increased funding for specific topics contribute towards increasing interest in key research methods and topics in the field of health technology assessment.

The programme's large-scale investment in the testing of health and care interventions also enables researchers to acquire skills and experience in this field of research which consequently supports their ability to continue working in this area.

International influence

HTA-funded projects are known to have influenced policy and practice in other countries. It is expected that this will contribute to the UK having a world-leading reputation in delivering research on effectiveness of health interventions.

Impacts

Impacts, or long-term outcomes, are the anticipated broader (direct and indirect) changes or benefits to organisations, communities, systems and wider society resulting from the programme's activities and portfolio of funded research. These are expected to become apparent in approximately 10-25 years.

For the HTA Programme, the overarching long-term benefit is the adoption of evidence-based health and care interventions, policies and practice. These are expected to improve

- clinical and care guidance
- access to cost effective interventions
- investment decisions in health and social care

In turn, these improvements contribute to reduced health inequalities; a more effective and efficient health and social care system; and thus, ultimately, to the health and wealth of the nation.

Contributions and acknowledgements

The NIHR supports the principles of open research, including full and appropriate recognition of the many varied contributions to the creation of knowledge. To support this, we use the [CRediT taxonomy](#) to accurately reflect how each team member has brought their knowledge and skills to the development and delivery of this work. Those that have contributed to this work are listed alphabetically.

- Andrew Farmer: Conceptualization, Writing – review & editing
- Stephanie Garfield-Birkbeck: Conceptualization, Writing – review & editing
- Adam Lockwood: Conceptualization, Project administration, Funding acquisition, Methodology, Supervision, Writing – review & editing
- Sarah Thomas: Conceptualization, Funding acquisition, Methodology, Supervision
- Insa Wemheuer: Project administration, Visualization, Writing – original draft, Writing – review & editing

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Competing interests

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