# HRB Evaluation Strategy for Funded Research

# Contents

| Author | Maura Hiney |
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| Author | Brendan Curran |

# 1 Introduction

The HRB seeks to improve people's health and wellbeing by funding cutting edge research relevant to health and social gain. To that end, the HRB operates a variety of funding schemes that support high-quality patient-oriented research, population health sciences and health services research. These activities facilitate world-class health research by building capacity with the academic and health services sectors and providing vital research infrastructure and national networks of researchers.

The value of the HRB's current funding commitment is in the region of €180 million. As this is public money, there is an onus on the HRB to account to government and other stakeholders, including the public, for the funds it allocates and the returns on the research that it supports. Therefore, it is imperative that the HRB measures the extent to which this portfolio of funding is achieving the HRB mission and delivering the intended benefits.

# 2 The importance of evaluation

Evaluation is the robust analysis of how a research project or programme has been delivered in practice and whether its objectives were met, including what impacts these objectives may have had. Evaluation can provide an understanding of the actual economic, financial, social and environmental impacts of a project or programme.

Good evaluation is multi-faceted, looking at all aspect of the project or programme, and should look for any evidence that a project or programme does not work or has not delivered, as well as evidence that they do or have. Well planned and designed evaluations can provide evidence for:

- **Accountability and validation**: To understand how well projects and programmes are delivering against their goals: to enable to the HRB to demonstrate the effective use of public funds, and to justify previous decisions made, by providing evidence of achievements and value for money.

- **Scheme performance and impact**: To identify and assess the outputs, outcomes and impacts of HRB-funded initiatives; to provide information to programme managers as to how a scheme is performing, leading to improved processes and increased effectiveness.

- **Strategy and Planning**: To explore the operation of funding initiatives or broader research fields; to identify the best mechanism to delivery on their aims and intended outcomes; to identify priority areas to fund and inform funding strategy.

- **Policy and advocacy**: To build the evidence to demonstrate the impact and success stories of the research supported by the HRB; to inform the development of research policies and decisions around the allocation of limited resources.

- **Organisational learning**: To identify research achievements and where funding has made a difference; to identify the impact of a specific investment; to determine whether there are more appropriate, effective and/or efficient ways to achieve the intended outcomes

## 2.1　Principles of evaluation

There are a number of key principles that should inform the design of evaluations, in order to produce the insights that can inform HRB strategic decisions and demonstrate value-for money from our investments.

1. **Objective**: As far as possible, monitoring and evaluation questions and data collection are as objective and evidence-driven as possible

2. **Rigorous**: Evaluations use high-quality design, combining quantitative and qualitative approaches to inform findings.

3. **Timely and transparent**: Evaluations are conducted in a timely manner, with the appropriate mix of internal and external expertise and independence and the findings are published

4. **Integrated and resourced**: Evaluations are planned early in the design of funding initiatives, and are appropriately resources in proportion to the value, anticipated impact and strategic importance of the initiative.

# 3　Key elements of evaluation frameworks

## 3.1　Focus of evaluation

Evaluation involves the collation, analysis and assessment of information in order to judge the value or worth of a funding initiative against either or all of the following three key criteria:

- **Appropriateness:** The environment within which the initiative will or is operating in and its relevance in the context of recent changes in the internal and external environment
- **Efficiency:** A critical assessment of the processes and activities underpinning an initiative against their effects and review of performance and progress against stated objectives
- **Effectiveness:** A cost-benefit assessment of the initiative given the delivered outcomes of the scheme and the extent to which the stated objectives and expected impacts were achieved

Typically the key questions underpinning an evaluation will be focused on one of these key criteria although it is possible to design evaluation studies to provide information to assess more than one criterion. The focus of the evaluation will be influenced by the stage of development of the initiative and in turn will influence the type of evaluation undertaken.

## 3.2　Scope and stage of evaluation

Monitoring is continuous and focused on ongoing activities and tracking progress in "real-time", while evaluation happens at a given point in time and takes a step back from ongoing activities to assess the initiative as a whole, in terms of its objectives, its achievements, and lessons learned. The scope of an evaluation depends on the level, stage and type of evaluation undertaken.

Evaluations are frequently conducted at the project/programme level, to a lesser extent at the scheme level and only occasionally at the field level. Evaluations can also be conducted at different stages: at the planning stage before an initiative is formally initiated (i.e. "Ex-ante"); during the lifetime of the initiative to assess

progress or success of implementation/set-up (i.e. "Interim"); or following the completion of the initiative to ascertain its effectiveness in fulfilling stated objectives and expected benefits (i.e. "Ex-post") - see Figure 1. An important result of ex-post evaluations should be the acquisition of evidence and lessons learnt in designing new funding initiatives.

**Figure 1: The stages of evaluation**
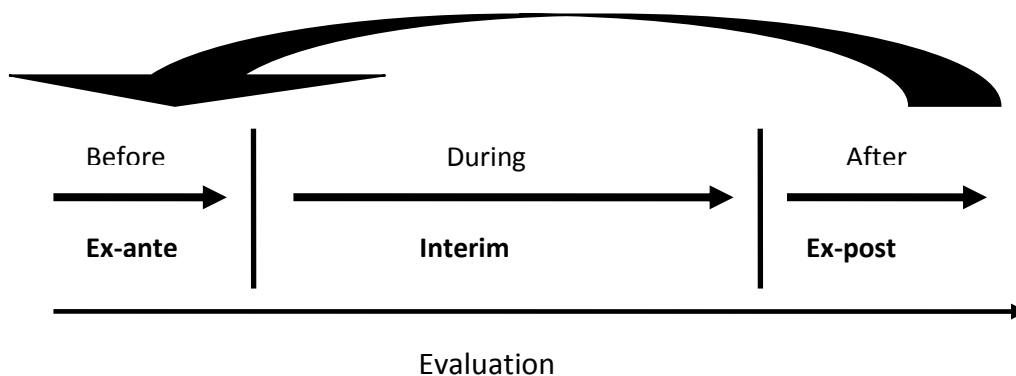


## 3.3   Types of evaluation

There are three main types of evaluation: (1) Planning Evaluation (2) Formative or 'Process' Evaluation and (3) Summative or 'Impact' Evaluation. The type of evaluation undertaken will often depend on both the stage of evaluation described above and the focus of the evaluation as described in Section 2.1.

*Planning evaluations* seek to understand and assess an initiative's context, methodology, goals, objectives, management and timeline. Therefore, a planning evaluation will normally be carried out at the ex-ante stage and where the 'appropriateness' of the initiative is a key criteria to be assessed.

*Process or 'formative' evaluations* are defined as 'a systematic assessment of activities to determine whether an initiative is progressing as planned, whether expected outputs are being produced, and if the critical processes and activities can be improved'.  Ideally process goals will have been identified at the outset so that the extent to which they have been achieved can be assessed. Process evaluations are generally conducted at the interim stage where the relevant criteria to be assessed is 'efficiency', but also 'appropriateness' in a changing environment.

*Impact or 'summative' evaluations* are normally undertaken at the ex-post stage where the key focus of the evaluation is 'effectiveness'. Impact evaluations are defined as 'a systematic assessment of accomplishments and effects to determine the extent to which an initiative's intermediate and/or long-term goals have been achieved.'  Impact evaluations include examining the relationship between the processes and their effects, both intended and unintended, to identify why some variations or strategies worked better than others. They are an important means of learning lessons and planning for future initiatives. Table 1 summarises the linkage between the different levels, stages and types of evaluation.

## 3.4   Where to look for evidence of impact

Impact of research can be evaluated at different levels (project, scheme, field, and organisation.) Evaluation processes should be tailored accordingly. Table 1 descries in more detail the stages of evaluation as they related to these organisational levels, suggesting the methodological approach that may be most appropriate at each stage/level. Methodologies for impact assessment at post award level are described in more detail in Section 4.2.

**Table 1          Main levels and stages of Evaluation**

| Level | Evaluation Stage | Description | Evaluation Method/Type |
|---|---|---|---|
| **Project** | Ex-Ante | Project is examined against a set of specified criteria to enable a funding decision | Peer review |
| | Interim | Assess the extent to which project is meeting its objectives, and how expected outputs are progressing. | Interim review |
| | Ex-Post | Assess project to review achievement of its objectives, deliverables and accomplishments. | End of Project review |
| | Ex-Post | Assess project to review outputs, outcomes and impacts | End of Grant Survey |
| **Scheme** | Ex-Ante | Part of the strategic planning for a scheme that covers the overall objectives, the activities and anticipated outputs and impacts. | Planning Evaluation (e.g. logic framework) |
| | Interim | Assess whether a scheme has been successfully established and that it is proceeding as planned. | Process or Formative scheme evaluation |
| | Ex-Post | Review a scheme at completion or after a period of time to ascertain success in achieving its objectives and expected outputs and impacts. | Impact or Summative scheme evaluation |
| **Research Field** | Ex-Ante | Identify a priority research field, or funding priorities within a specific field, as a result of a needs assessment or foresight study | Planning Evaluation |
| | Interim | An audit or review of the activities and structures developed by an agency to support a specific research field, including the outputs achieved to date | Process/Formative field evaluation |
| | Ex-Post | A review of the impact on a research field of an agency's funding strategy and funding instruments on or near completion of the intervention | Impact/Summative field evaluation |

# 4  HRB approach to monitoring and evaluation

The *HRB Evaluation Strategy for Funded Research* represents an overarching and integrated approach to research assessment, monitoring and evaluation in the HRB that is based on the theoretical literature and evaluation practices in comparable funding agencies worldwide.

## 4.1   HRB evaluation process

The HRB has in place processes to oversee all of the key stages of the grant life-cycle as it relates to the HRB activities.

### Logic charts

- Logic charts (schematic diagrams representing the objectives and desired impacts of a funding scheme) are designed at the conceptual stage of all new funding initiative.

- Logic charts are particularly useful for developing metrics or indicators for evaluating the success of a funding initiative at the outset that guide the collection of relevant metric information throughout its lifetime. Furthermore, a logic chart helps put the scheme objectives into context by linking them to longer-term aims of the HRB (mission and corporate strategic objectives).

### Pre-investment quality assurance ("Ex-ante evaluation")

- The HRB's evaluation processes place significant emphasis and resource on pre-award quality assurance. Eligibility to receive public funding is restricted to approved host institutions who have demonstrated their ability to adequately manage HRB funding, and who can comply with the HRB's Terms and Conditions for funding.

- All grant proposals are rigorously assessed, scored and benchmarked by international peer review, with excellence as the primary criterion. The peer review process is continuously reviewed to ensure robust and efficient processes are in place.

- The HRB uses a common platform for grant applications (GEMS) and common features of grant proposals include sections that request description of the project's objectives and potential outcomes, a case for support, a justification for the resources requested, how data will be managed, whether ethical approval must be sought for the work and an overview of how the researchers engage with research users and policy-makers, disseminate research and realise the wider benefits of the research.

- Competition drives excellence, and the funding criteria is set high. Besides excellence, some schemes have intended impacts in the Irish health system, and must also meet criteria for relevance to a health system need – so users of the research are included in the peer review and assessment process.

### In-life quality control

- Mandatory annual reporting of scientific progress and financial information which are reviewed and reconciled. Additional reporting mechanisms, associated with KPIs exist for selected large-scale investments e.g. Clinical Research Facilities,

- All grants are required to submit Final Annual Reports outlining scientific progress, financial, personnel and governance three months after the completion of an award, which are reviewed and reconciled.

- Host Institutions own performance management and internal audit processes are reviewed through commission of independent audits by the HRB Corporate Services unit periodically.

- Independent review of selected large-scale or strategically important HRB investments is undertaken at interim stage – leading to management action and/or budget changes if necessary. These might include changes to the work programme, or the establishment of independent advisory boards to oversee progress and performance and to provide expert advice on cost, schedule and scoping issues.

### Post-completion evaluation of outputs and outcomes ('Ex-post evaluation')

- At the point of completion, the HRB collects a comprehensive evaluation data set from all grant holders via *Outcome Tracker*, based on the impact categories and metrics of the Payback Framework (see Section 4.2). This information is collated into a detailed bi-annual report, and contributes to other evaluation assessments.

- In addition to published evaluation reports, the HRBs Annual Reports convey aspects of impact generated by the HRB by including a range of case studies and a set of performance metrics.

- The HRB also undertake their own evaluations, focussed on specific projects, investments, processes or areas of activity. The results from such evaluations feed into decisions on the content of new calls or strategic decisions on funding. The approach to evaluation will normally reflect amount of spend, novelty and political and strategic importance. In some cases the evaluations will be done jointly with external expert (partially commissioned) or may be wholly externally commissioned (e.g. bibliometric analysis.)

## 4.2   Evaluation Methodologies

The HRB employs a mix of quantitative and qualitative methodologies, depending on the goals of the evaluation, the key questions being asked and the type of information and data to be collected. Table 3 below provides a brief description of the different methodologies available. However, this is not an exhaustive list and the HRB may employ other methodological tools from time to time where appropriate to the evaluation study.

**Table 2:        Main evaluation methodologies available to the HRB**

| Method | Description |
|---|---|
| Expert opinion or peer review | Opinions and recommendations are sought from experts specific to the field e.g. *ad hoc* working group |
| Survey Questionnaire | Asking researchers, past and present, a series of questions to generate both quantitative and qualitative outputs/outcome data |
| Application/Award analysis | Desk analysis of applicant information, success rates, demographic information, breakdown of awards using database and archived data |
| Logic chart & Document review | Review of logic chart as evaluation framework for scheme, as well as relevant documents relating to the establishment and design of the scheme |

| Method | Description |
|---|---|
| Bibliometric analysis | Analysis of publications and citations data, using it as an indicator of scientific quality |
| Impact assessment | Identifying the wider health and socio-economic impacts from research funded under the a HRB scheme or broad research area |
| Case studies | In-depth analysis of a sample of research studies or research participants |
| Key informant interviews | Semi-structured interviews with internal scheme personnel and external stakeholders to develop knowledge of scheme processes and wider context |
| International benchmarking | Comparison of scheme with similar programmes in other countries using benchmark data or reports where possible |

## 4.3   The Payback Framework

Since 2008, the HRB has been using the Payback Framework of Buxton and Hanney[1] to guide the collation of outputs and outcomes from its funded research on an ongoing basis (see Table 3). Over time, it has developed sub-category impact indicators that reflect its particular strategic focus and has built up a portfolio of evidence for the impact of its funded research. Therefore, this systematic collection of evaluation data enables the HRB to assess the impacts accruing from its investment in health research.

In 2016 this cumulative data were collated into a single database, to facilitate 'look-back' analysis across the HRB portfolio in the future. In addition, a bank of case studies across the portfolio of HRB-funded research has been created, that will allow for strategic comparisons across funding modes and research areas. Finally, as adoption of the Payback Framework by other national and international agencies increases through the use of ResearchFish™, this will allow the HRB to benchmark its outputs, outcomes and impacts across sectors and countries.

**Table 3          HRB Impact Assessment Framework**

| Impact Category | Sample indicators |
|---|---|
| **Knowledge Production** | o   Peer reviewed publications and citations<br>o   Other publications such as books, book chapters, editorials or bulletins<br>o   Presentations to national and international conferences<br>o   Research reports and 'grey literature' produced<br>o   Cochrane systematic reviews produced or findings included in a review |
| **Research capacity-building and targeting** | o   Education and training of personnel such as clinicians, health professionals and scientists<br>o   Higher degrees, such as PhD, obtained by research personnel<br>o   Retention rates of research personnel in national research system<br>o   Research personnel attracted from overseas |

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[1] The Payback Framework explained: https://academic.oup.com/rev/article/20/3/181/1560281/The-Payback-Framework-explained

| Impact Category | Sample indicators |
|---|---|
|  | o Spin-off projects developed and further research funding leveraged<br>o Development and use of novel research techniques<br>o Establishment of new datasets, databases or research data lodged in national database<br>o New national/international collaborations or strategic partnerships formed with other research teams, industrial partners or health agencies<br>o Level of all-Ireland collaboration and benefits accruing from this<br>o Internationalisation of research: Involvement of HRB-funded researchers with EU and global health research initiatives |
| **Informing policy, practice and product development** | o Influencing national and international research policies and strategies<br>o Dissemination and knowledge-transfer events or networks established with research 'users', such as policy-makers and health professionals<br>o Advisory roles of HRB-funded researchers to government or policy-makers<br>o Commissioned reports or projects from government departments or agencies<br>o Policy briefing papers, practical handbooks and other grey material produced and disseminated to research users such as policy-makers and health professionals<br>o Contribution of research to clinical treatment or best practice guidelines<br>o Evidence of public outreach and dissemination through media and other fora<br>o Patents and other IP applications and award of commercialisation support grants to develop marketable products or devices<br>o Licence agreements and revenues generated as a result<br>o Spin-out companies or formal collaborative partnerships between researchers and industry |
| **Population health and health sector benefits** | o Contribution of HRB-funded research to health promotion initiatives<br>o Randomised control trials completed and new interventions established as a result<br>o Numbers of patients enrolled on clinical trials or engaged with studies undertaken in clinical research facilities supported by the HRB<br>o Contribution of HRB-funded research to actual health benefits within Irish population<br>o Savings to the health system through gains in health service efficiency, improved primary care or introduction of preventative health measures, where research and evidence generated by HRB-funded researchers contributed to this<br>o Reduced health inequalities in health status and healthcare through better, targeted information and policies towards vulnerable groups, where research and evidence generated by HRB-funded researchers contributed to this<br>o Increased availability of local pool of evidence and evidence "generators" to Irish health policy-makers and health practitioner |
| **Wider economic impacts** | o Improved international reputation of Ireland for health and medical research (e.g. by attracting pharma industry R&D and collaborative partnerships with HRB-funded researchers invited keynote addresses to international conferences, involvement of HRB-funded researchers in international research programmes)<br>o Benefits of improved population health such as reduction in work days lost to ill health, greater productivity, greater longevity and quality of life, where link to HRB generated research can be established<br>o Success of HRB-funded personnel in attaining international research funding, for example though the EU's Framework Programmes<br>o Success of HRB-funded research facilities and centres in attracting and maintaining a high-quality research workforce in Ireland |