# Funder Forum: Aligning For Impact

## Pre-reading Background Document

# Global Landscape of Research Impact Assessment: Current State and Opportunities


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The document was produced to support objective two of the Forum, to “review research impact assessments to identify gaps and opportunities to advance knowledge and action”. It will also help inform subsequent objectives related to aligning around actions and identifying concrete next steps.

**This post-workshop version retains the tight page limit of the original, but has benefitted from a light edit, including clarification of a few key points.**

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## Executive Summary

### *Research Impact: Background*

- There are many ways to both define and describe research impact.
  - For our purposes, research impact is interpreted inclusively and could include the productive interactions researchers have with others related to the research; the outcomes directly or indirectly associated with the research in terms of changes in policy, practice and public opinion; and associated effects on the economy, society, culture, the environment, health, well-being and more.
- There are also many ways to define and describe research impact assessment.
  - For our purposes, research impact assessment is the application of one or more of a range of techniques to assess whether, and how much, impact has occurred.
  - And the field of research impact assessment involves the development and application by an interdisciplinary community of scholars and research managers of one or more of the range of techniques to assess whether, and how much, impact has occurred and for whom.
- The adoption of standard terms and definitions for research impact and research impact assessment is not realistic; what's important is to define these terms as they are being used (e.g., in studies, assessments, projects, documents).
- While there is no consensus among those who conduct and/or commission research impact assessment on the purposes of research impact assessment, there is one frequently used framework for considering the purposes, and some agreement about the range of potential audiences.
  - This framework suggests the main purposes of research impact assessment are accountability, allocation, advocacy and analysis, collectively called the 4As.
  - Key audiences are funders, government, donors, community members/public, organisational trustees/board members.
- Factors to consider when deciding on the timing of a research impact assessment, include how long it might take for research to make an impact, the type and purposes of assessment, the assessment questions and accountability pressures on funders.
- Two main approaches to research impact analysis are retrospective, or those conducted after the work is completed; and prospective, which has various meanings, two of which are: 1) a focus on how research is planned to position it for impact, and what happens during the research that can help lead to impact; 2) an assessment of what extra knowledge the study – or additional research on a particular topic - might provide, and whether it would be worth spending resources on it.
- Mixed methods and multiple data sources are often used in research impact assessments. Common methods include: desk-based research/documentary analysis; surveys; semi-structured interviews; case-studies; peer review; and statistical databases.

### *Research Impact: Evolution of the field to current state*

- Interest in research impact started centuries ago with the creation of the scientific method, but the evolution of the field effectively began with economic studies over six decades ago, primarily in the US, and has broadened across disciplines, sectors and countries.
- Economic studies have usually estimated that the rate of return on research is above the rate often required by governments to justify the investment of public funds; these studies have proved useful in advocating for continued investment in research but have sometimes been criticized for an excessive focus on advocacy.
- More recently, but still dating back three decades, research impact assessment frameworks broadened beyond economic impacts to estimate advances in knowledge, influence on decision-making, and broader sector-specific and societal impacts.
- The majority of the literature on research impact assessment to date outside the assessment of the contribution to the economy or monetary value of research has been on health or health care, and in high-income countries. But there are significant contributions elsewhere, including in agriculture, the environment, social sciences and humanities, and development, and from countries including, Brazil, Hong Kong, Iran, South Africa and others, which continue to increase.
- Review articles in the research impact assessment literature point to the growth of research impact assessment studies across sectors, jurisdictions and the development of many frameworks.
- Beyond such retrospective studies of research from named funders, UK Higher Education Funding Councils use the Research Excellence Framework assessments of 13,000 impact case studies across all disciplines, irrespective of funder, to inform future allocations. Most are available in databases.
- Prospective assessments are important for funders like the US National Science Foundation and EU.
- Several efforts have been made to align research impact assessment as a field and improve its collective work, including:
  - The creation of the International School for Research Impact Assessment (ISRIA) with courses from 2013-17 across numerous countries. Although the school had run its course, its guidelines are still drawn on, for example by Abudu et al (2024) in their proposal of a checklist for funders.
  - Common data tools such as ResearchFish, which have been used by funders across countries.
  - Association of Australian Medical Research Institutes proposed alignment to a common impact framework and measures to plan, track and communicate impact.
  - William T Grant Foundation funded the development of the Use of Research Evidence Methods Repository, an open resource in partnership with Overton.
- The literature includes examples of how both retrospective and prospective research impact assessments are being used to inform strategic investing; this works most effectively where achieving impacts is built into diverse elements of a funder's overall strategy.
- The literature also includes examples of how research impact assessments are being used to demonstrate the impact of investments and the value of research more broadly. Research impact assessments seem especially able to show value when they display one or more of being: rigorously conducted, effectively disseminated, and integrated into research systems. Further, studies are more likely to show value, of course, when the research assessed is impactful, perhaps as a result, e.g., of it being informed by the needs of potential users that emerged through engagement.

### *Research Impact: Opportunities for future state*

- Based on the review of the literature, conversations with those working in the field, and their own expertise and experience, the authors highlight the following opportunities for the field of research impact assessment:
  - Making assessments fit for purpose
  - Linking with global research reforms
  - Assessing engaged research
  - Exploring the role of AI
  - Advancing methodological opportunities

# Global Landscape of Research Impact Assessment: The Current State and Opportunities

## Section 1: Definitions of Impact Assessment, Purposes, Audiences, Timing, and Methods

This section provides a brief background on the diversity of definitions of impact/research impact assessment, before outlining a widely accepted description of key purposes and the broad audiences to which each purpose might be applicable, and some options for timing and multiple methods.

### *1.1. Range of definitions of research impacts*

Many definitions of research impacts exist, and often multiple terms are used interchangeably (Boaz et al, 2009; Louder et al, 2021). In this document we use the term broadly to mean most of what is described below. A logic model structure (i.e., inputs, activities, outputs, outcomes and impacts) is often used as part of an overall framework, one example being the multi-sector South African National Research Foundation (NRF, 2025). The term "impact" is sometimes used for the whole framework, but, in other cases, including national assessment systems, the definition of research impact may be restricted to ultimate effects in specific dimensions such as the economy, health, environment or society, in some way caused by or influenced by research findings. Usually, this will be understood as resulting from research-influenced outcomes like changes in policies, the practices of service providers and/or the behaviour of the public. Some funders do not use the term impact, e.g., the Canadian International Development Research Centre (IDRC) developed the Research Quality Plus (RQ+) framework that focuses on how well the research is positioned for use (McClean et al., 2022). Impact definitions can include the process of getting to impact (Spaapen & van Drooge, 2011), and also traditional academic impacts (e.g., advancing knowledge as measured using publications, citations and trained researchers). Umbrella terms for non-academic impact include wider impact and societal impact.

### *1.2. Definitions of the assessment of research impact and use of RIA abbreviation*

An interdisciplinary community of scholars, research managers, evaluators and policymakers have been using the term research impact assessment to describe a wide range of approaches to assess actions that happen after research has been conducted (and sometimes ex-ante and/or prospectively). The research might have been a trial on an intervention in education, justice, the environment, health etc, an observational study, action research, an evidence synthesis or any other type of study. Drawing on the categorisation described above, the impact assessment that follows, or occurs, might examine the impact of the research by considering the number and citations scores of the papers describing the research (academic impact) and/or the processes by which the study findings make a wider, societal impact, and/or the outcomes from the study, and/or the wider or societal impacts. The assessment of impact can be at different units of assessment, including bodies of research (especially in economic studies), not just of single studies. Here, we use the abbreviation RIA for such research impact assessments – see Glossary for other interpretations.

Of two major approaches that define Research Impact Assessment (RIA), one concentrates on the "effects" resulting from research, alternatively, the second focuses on the "interactions" (see box below).

The term effect broadly includes the impact and the outcomes parts of a logic model. The Research Excellence Framework (REF) of UK universities' funding councils defines impact as being: ***"an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia."*** (Research England, 2026).

Drawing on the work on *"productive interactions"* by Spaapen & Van Drooge (2011), Budtz Pedersen & Hvidtfeldt (2023) use alternative terminology: ***"We define micro-impacts as interactions and connections where information is exchanged between a researcher or research group and external audiences, stakeholders or co-producers. Micro-impacts are elements in highly complex causal relations between research activities and larger societal macroshifts."***

### *1.3. Purposes for conducting research impact assessments and potential audiences*

It is often recommended that RIAs should start by agreeing on the purpose(s) of why a funder may want to assess the impact and subsequently identify assessment questions. One frequently used framework for considering the purposes is the 4As of Accountability, Advocacy, Allocation and Analysis (Morgan Jones & Grant, 2013). Each element relates to a specific reason a funder might want to assess their portfolio of funded research and suggests a set of mixed methods. The 4As are listed in Table 1 in relation to a three-fold categorisation of research funders that might be relevant for this discussion (i.e., public, philanthropy through foundations etc, charities through donations and fund-raising etc). In this context, advocacy means campaigning to maintain or increase funding.

**Table 1: An illustrative example of applying the 4As purposes of conducting RIAs to funders**

| Funder | Accountability | Advocacy | Allocation | Analysis |
|---|---|---|---|---|
| **Public** | Yes: to Gov't Depts & public (& user communities) | Yes: within Gov't Depts (eg Justice, Finance) & public | Can be - by funding organisation panels & managers | Yes: to funding organisation managers & ecosystem policymakers |
| **Philanthropy: Foundations** | Yes: to trustees (& user communities) | N/A or to new possible donors (& in ecosystem) | Can be - by funding organisation panels & managers | Yes: to organisation managers & trustees |
| **Charities: donor-funded** | Yes: to trustees & donors (& user communities) | Yes: to donors (& in ecosystem) | Can be - by funding organisation panels & managers | Yes: to organisation managers & trustees & to donors |

### *1.4. Key timings and methods for conducting research impact assessment*

Traditionally, RIA has mainly been applied retrospectively. But, the timing of RIA has to balance factors including: how long it might take for research to make an impact (possibly 17 years, e.g, Morris et al, 2011, but it can be much less e.g., Hanney et al, 2022); the type and purposes of assessment (interactions can be considered earlier, and over a long period); accountability pressures on funders, some short term. Abudu et al, 2024, recommended funders should leave at least three years before conducting an RIA. Monitoring of progress to impact can also occur during the funding lifecycle, in addition, some funders are applying *ex-ante* or prospective assessment of societal impacts to proposals in the planning stage, sometimes leading to an 'impact management' system integrated throughout the research funding lifecycle (Balling et al, 2025). Mixed methods and multiple data sources are often used in RIAs in various combinations with triangulation of evidence. Abudu et al, 2022, reviewed 44 articles presenting RIAs for health research funders. The five most used methods were: bibliometrics (used in 82% of studies), desk-based research/ documentary analysis (80%), surveys (40%), semi-structured interviews (39%), case-study analysis/structured narrative (25%). Budtz Pedersen et al, 2021, included 120 Social Science and Humanities (SSH) "impact" studies - the five most used methods were: interviews (42%), case-studies (narrative approach) 42%, surveys (40%), peer or expert reviews (36%), statistical databases (35%).

## Section 2: Evolution of the Field: Economic Studies, Growth Across Sectors, and Alignment Attempts

Original interest in research impact started centuries ago with the creation of the scientific method, but evolution of the RIA field effectively starts with economic studies, primarily in the US. On the use of research in policymaking, the analysis of US scholars such as Carol Weiss not only had continuing influence on the rich studies in the US but also helped inform the development of what became called the research impact assessment field, initially mainly in the UK health field. Then the diverse field moved out across disciplines and nations, e.g., with the productive interactions approach. Increasingly the field also includes prospective RIA and attempts to boost alignment.

### *2.1. Economic impacts: Probably the first impact studies and extensively used for advocacy*

From about 1960, studies measured the socio-economic benefits and returns on investment from research (Marjanovic et al, 2009). An early example estimated a 35-40% internal rate of return (see Glossary) on research in the US to develop and use hybrid corn seeds (Griliches, 1958). Many examples followed across sectors, with Mansfield's US studies influential (e.g., 1991) in showing a social rate of return, i.e., benefits to society, of 28% for academic basic research conducted between 1975-78, but with variations between users - research being most important to the instruments, information processing and drugs industries. Reviews included, "*Returns to food and agriculture R&D investments in Sub-Saharan Africa, 1975-2014*" - the internal rates of returns of the 113 studies averaged 42%. (Pardey et al, 2016) The recent impact report from the Consultative Group on International Agricultural Research (CGIAR, 2025) claimed high rates of return on the research from its global multi-funder non-profit agrifood research network – see 2.3. In Australia, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a large multi-sector public intramural (i.e., in-house) research funder. To inform

its reporting mechanisms, it regularly commissions case studies on research from its portfolio to estimate the benefit-cost ratio - see box below.

In health, a review by Buxton et al, 2004, categorised each identified study into one, or more, of four types by what was measured: cost savings to the health system; the value to the economy of a healthy workforce; product development; and the intrinsic value to society of the health gains. A study of US National Institutes of Health (NIH) funded research showed major benefits in the first two categories (NIH, 1993). A stream of US studies considering the last of Buxton et al.'s categories, i.e., the value of the health gain resulting from research, did so at a generic level of considering reduced mortality in certain medical fields and indicated high rates of return. Some of the detailed analysis was described in Murphy and Topel (2003), but the title of a promotional pamphlet "*Exceptional Returns*" linked to work from a campaigning group, Funding First, was subsequently criticised (Macilwain, 2010). The Exceptional Returns approach was replicated in studies in Australia, the second of which made methodological improvements on the first (Deloitte Access Economics, 2011), and in Sweden (Roback, 2011).

Recognising limitations in this stream, a UK team funded by Wellcome and others developed an alternative approach that worked from the bottom-up to identify health gains from specific research-based improved interventions, and compared that to an estimate of the total (not just contributing) funding in the relevant field provided by identified UK non-commercial funders (HERG, 2008; Glover et al, 2014, 2018, see box). These UK studies were also accompanied by parallel estimates of the contribution to the economy from this research funding. A similar dual approach was applied to public and charity funded cardiovascular research in Canada (de Oliveira et al, 2013). More recent UK studies have partly built on this work, and also added new methods (Craig et al, 2020; Frontier Economics, 2025; National Institute for Health Research – NIHR, 2025). Further studies on NIH-funded research ranged from one suggesting a high value for the health gains from a clinical trial programme (Johnston et al, 2006), to studies by United for Medical Research (UMR), an advocacy group whose 2026 update described NIH's role in "*sustaining the U.S. economy"*, including estimates of the number, and value, of jobs created/added by NIH funding in each state, and that in the last decade "*NIH research funding has driven more than $822 billion in new economic activity and supported more than 3.7 million jobs*."

Given the many global studies, some differences would inevitably be expected from different sectors, and from studies conducted for different purposes and audiences, and using different methods. But recently, difficulties with this important stream of RIA evidence, often used to justify research budgets, have again been voiced. Foundations such as the Alfred P. Sloan Foundation are collaborating to offer funding for studies to be published in the US philanthropy-funded Pop-up Journal Initiative on "*The Griliches Question: What is the return on investment of R&D?"*. It states: "*Since published assessments of the ROI on R&D vary so widely, the initiative's funders are challenging researchers to converge on more trustworthy estimates by working together in new ways.*" (The Pop-Up Journal Initiative, 2026).

**Examples of studies of economic impact of research: used especially for advocacy**

Grant & Buxton, 2018: drew the findings from the three studies (HERG et al, 2008/Glover et al, 2014/18) on *Medical Research: What's it Worth* together to show an estimated annual rate of return of around 25%, with similar returns for the health element across the four major disease areas in the three studies that had estimated the internal rate of return on UK economic impact in 2 ways described above. In each case the value of the health gain alone was higher than the Government required for public investment. Each study was widely promoted to show the research benefits. They carried weight with the first described as one of the " *few studies that have made a genuine attempt objectively to assess the economic outcomes of research"* (*Nature* editorial, 2010), but the editorial also noted such papers *"highlighted vast swathes of uncertainty."*

CSIRO multi-year, with 2017 as an example: 28 case studies were conducted on examples from across its funding, including coastal communities, mining, salmon breeding, cereal rust and water resources. In total, the case studies indicated CSIRO's portfolio provided an estimated return of over 5:1, and up to 8:1 in 2024.

### *2.2. Payback framework: Possibly first systematic research impact assessment framework*

The Payback framework was possibly the first systematic RIA approach with a multi-dimensional categorisation of benefits, or impacts, and a model informing data collection (interviews, surveys and documentary analysis) and the write-up of case studies of examples from a specific funder's research (Buxton & Hanney, 1996; Hanney et al, 2004). The model combined a modified linear approach with emphasis on the importance of user/researcher collaboration in agenda-setting etc. based on Kogan & Henkel, 1983 & 2006 (a 7-year prospective evaluation of the users' role, plus brokerage, informed by Weiss, 1977). The elements and categories in the framework aim *"to capture the diverse ways in which impact may arise, notably the bidirectional interactions between researchers and users at all stages in the research process"* (Greenhalgh et al, 2016). Non-academic categories of impact include informing health policy; health and health system gains including increased health equity; and broader economic benefits.

The Payback framework was developed with officials in the UK's Health Department's Research & Development Division (Henshall, 2011) to identify ways health research that was more explicitly meeting the needs of the healthcare system could be appropriately evaluated by approaches that were additional (not alternative) to the traditional academic focus on assessing research outputs. The framework has been widely used for 30 years, in studies conducted for, or by, charitable/philanthropy or public sector funders in fields including social sciences – see Klautzer below – but mostly in health, with some examples from a range of countries listed here, and a few described in more detail in the box below. Examples include: Wooding et al, 2005 (UK), Kwan et al, 2007 (Hong Kong), Nason et al, 2011 (Ireland), Donovan, et al, 2014 (Australia), Guthrie, et al, 2015 (UK), Fun et al, 2019 (Malaysia), Rollins et al, 2021 (US), Yazdizadeh et al, 2022 (WHO Eastern Mediterranean Region), Medellin-Lacedelli et al, 2024 (Mexico).

**Global examples of RIAs applying Payback Framework: Accountability, advocacy & analysis**

Hanney et al, 2007: Payback study– 60% projects from UK Health Technology Assessment (HTA) programme of the NIHR made impacts on policy & some on health. Factors linked to impact: users included in assessing needs **& often policy bodies ready to use the findings.** The evidence supported continued programme funding. Key methodological issues included use of surveys & documentary analysis for all projects, with interviews for case studies selected by stratified random selection not cherry-picked. It allowed survey validity to be explored using interview data & projects were scored on 2 dimensions: the degree of the impact & the level.

Klautzer et al, 2011: applied the Payback Framework to assess the impact of the Future of Work programme funded by the UK's Economic and Social Research Council. Some researchers could identify specific impacts but generally thought they had influenced policy in an incremental way and informed the policy debate.

Yazdizadeh et al, 2018: the mixed methods used to assess the impact of the Iranian HTA programme were informed by the Payback Framework, e.g., the questionnaire to the PIs of each of 23 projects. The findings of 7 of 20 projects which replied had informed policy: the RIA recommended researchers conduct more early engagement with potential users & proposed RIA findings be used alongside other reports to improve HTA.

### *2.3. Using reviews and case studies to illustrate the growth of research impact assessments across countries and disciplines*

Over a decade ago, there were sufficient examples of RIAs for review articles to provide a broad discussion of RIA meanings, purposes, frameworks and challenges such as causality and attribution, costs, and the time needed for impacts to arise. Examples of widely cited narrative RIA reviews include Bornmann, 2013, and Penfield et al, 2014. More recent systematic reviews include ones from Iran (Razmgir et al, 2021 – 47 studies with RIA models in any field from 1996 (payback) to 2020 – but 70% were in health) and from Germany (Pfeifer & Helming, 2024 - 70 non-health RIA approaches). Also, analyses can focus on RIA approaches in one country e.g., Canada (Phipps et al, 2025).

Reviews for sectors include: Guesmi & Gil, 2025, for agriculture RIAs, some with an increasing equity focus; Boaz et al, 2009, & Louder et al, 2021, for environment – especially focusing on policy impact, including Edwards and Meagher's (2020) framework – see below. Budtz Pedersen et al, 2020, analysed 10 RIA approaches used for assessing societal impact from SSH research. Some were general approaches, such as the REF, others were developed for SSH, including Social Impact Assessment Methods for Productive Interactions (SIAMPI) (Spaapen & van Drooge, 2011) - see also a review for the EU's IMPACT-EV project on evaluating impact of SSH research (Reale et al, 2018). Of many reviews of health RIAs, these are used in later sections: Milat et al, 2015 – 16 model, 31 applications, discussed a range of challenges; Greenhalgh et al/ Raftery et al, 2016 - 20 models, 110 applications for which they summarised claimed impacts on health policy, health gains and economic benefits; Hanney et al, 2017 - showed about a third of projects across 36 RIAs of multi-project programmes (identified from two reviews) claimed policy impacts; and Abudu et al, 2022 - reviewed methods/frameworks used in 44 health research funders' RIAs: e.g., Payback framework, Canadian Academy of Health Sciences (CAHS) framework (Frank & Nason, 2009), and Framework to Assess the Impact from Translational Health Research (FAIT) (Dodd et al, 2019).

scaling of *"analysis of impact to the level of the organization."* It aimed to provide lessons (RIA *"is foremost a tool for learning"*) & accountability. Network analysis key.

Edwards & Meagher, 2020: describe a framework to evaluate impacts of research on policy/practice & its application to 12 cases of research funded by Forest Research, a **UK** Government research agency. Diverse impact types identified in the framework functioned *"as a launch pad for research teams and stakeholders to translate isolated examples of impact…into narratives for both learning and dissemination."*

Arnott et al, 2020 & 2021: analysed research projects funded by **US** National Estuarine Research Reserve System. The assessment found funding requirements encouraging more scientist/user interactions substantially influenced research practice, & such changes, especially related to co-production, resulted in more knowledge use, but what constitutes 'use' often remains elusive, especially at the time of a grantee's reporting, let alone in the conscious awareness of a grantee.

Lykke et al, 2023: examined whether the ReAct taxonomy developed to register data about productive interactions within SSH would be relevant to STEM disciplines: 9 **Danish** STEM researchers interviewed. Focusing on researchers' perspectives, they obtained insights into how STEM researchers assessed the importance of mapping societal activities & impact, which could be used for measurement of impact, profiling, or career development. *"synergy between academic and societal activity"* was important.

Health Research Council (HRC) of **New Zealand**, 2025: this Investment Impact Report for the years 2022-24 presents data collected by the HRC throughout the duration of contracts, and post-contract surveys at 2 & 5 years. It provides overall figures, e.g., over *"100 innovations to service delivery, over 120 influences on health policy and over 30 changes to clinical guidelines or practice".* Additional case study *"success stories"* took a wider perspective.

Nadigel et al, 2025: applied the CAHS framework, and a **Canadian** policy and social science research framework informed by it, to conduct an RIA of the Canadian Institutes of Health Research's (CIHR) digital health innovations program. Impacts included informing decision-making and health

### *2.4. Retrospective research impact assessments by funders to inform allocation with new secondary uses for analysis*

Higher education funding councils in the UK conduct REF assessment of university research, irrespective of funder, primarily for allocation of their annual GBP2billion research fund (Reed, et al, 2021; Research England, 2026). The first two elements of the REF include traditional academic assessments of research outputs, training etc. The assessment of research impacts constitutes the third element, contributing about 25% of the overall rating. For REFs 2014 and 2021 combined, the 13,000+ impact case studies submitted by universities had to use a common structure, including a description of the research, claimed impacts, and evidence to corroborate the claims, such as citations in policy documents, testimonials etc. Each case study was peer assessed by one of 34 funding council sub-panels for the specific disciplines, using the criteria of the significance and reach of the impact with some discretion on how best appropriately to apply the criteria. Subsequently, panels report on the application of the REF impact criteria to their discipline – see next page for the REF2021 physics report. The publicly available database of REF case studies is now increasingly also being used for analysis (next page), sometimes by funders who focus on case studies based on funding they supplied, and this could go further. While the REF has been criticised, e.g., for its focus on "effects" which are difficult to achieve (Budtz Pedersen & Hvidtfeldt, 2023), it is a major scaling up of RIA. Despite its small contribution to the overall research score for a university, it provides incentives and informs strategies in ways many experts in other countries call for (see section 3 & Bednarek et al, 2025).

**1) Four examples from the 13,000+ REF impact case studies – taken from REF2014 database – REF (2014)**

Environmental lab research generated substantive evidence supporting the regulation of pharmaceutical discharges into rivers which led to major changes to primary EU policies to protect European water bodies.

Research on novel magnetic sensors & advanced signal processing & coding techniques led to development of a specialist security thread in banknotes adopted by De La Rue a global printing company, who used it to increase security.

History – Leverhulme & Arts & Humanities Research Council funded research led to an exhibition of textile tokens left with abandoned infants at the London Foundling Hospital, with the mother keeping another part. It had many visitors & well-reviewed in the UK, & when it went to USA, & online. It raised significant public awareness about tokens, a little-known area.

A health screening MRC-funded trial was targeted at the relevant policy customer/receptor body (National Screening Committee) which wanted the evidence to inform its planned policy on whether to adopt Abdominal Aortic Aneurysm Screening. The trial was the main global evidence on this & had a major policy influence in UK etc. It was expected to generate health gains valued at GBP4billion over 20 years.

Retrospective assessments similar to REF can inform multi-year allocations, to institutions/ teams thought most likely to produce impact e.g., in Hong Kong. A recent RIA of Brazilian Health Ministry dengue research concluded by saying the findings identified impactful areas for targeted future research (Tavares Melo, et al, 2025). Increasingly funders invite researchers to show previous impacts on their CV for new proposals (e.g., CIHR).

**2) Two examples of how case studies in the 2021REF database used for analysis by research organisations**

The REF2021 Physics sub-panel: reported *"The impact cases focusing on economic impact were extremely well evidenced and demonstrated how they have fed into a broad range of industry sectors and the wider economy. Similarly for policy…physics-based advice…resulted in changes being adopted and implemented* [others showed physics] *as a vehicle to improve wider scientific understanding."* (Research England, 2022).

The British Academy, The SHAPE of Research Impact, 2023: The British Academy, in association with the Academy of Social Sciences, commissioned a team at the Leverhulme Centre for Demographic Science to explore research impact for the SHAPE (Social Sciences, Humanities and the Arts for People and the Economy) disciplines looking at the body of impact case studies submitted to REF2021. The report provided insights into research impact across the SHAPE disciplines. It generated a new typology for SHAPE research impact, which has been used to construct ten Grand Impact Themes for SHAPE disciplines. Outputs include a short, policy-focussed summary document with key messages for policy audiences about the impact of the SHAPE disciplines for the UK: e.g., SHAPE research: is bolstering UK expertise and strength in areas of competitive advantage; is tackling societal challenge; helps to understand people & empower communities in the UK; is a smart investment, with impact providing value for money.

### *2.5. Prospective research impact assessments to inform allocation and impact management*

Here we focus on the use of prospective RIA in making decisions about funding individual projects or specific funding calls, which overlaps with the analysis of the use of prospective RIA to help inform investment strategies described in section 3. Funders including the US National Science Foundation (NSF) and the EU, have long asked applicants for statements in proposals on possible societal benefits, or societal impact pathways. Early analysis found the way these approaches influenced respective funding decisions varied, with the EU becoming more specific about the impacts sought (Holbrook & Frodeman, 2011). The NSF-funded Center for Advancing Research Impact in Society (ARIS) has wide membership across the US and *"supports the impact ecosystem at every level"* – individuals, institutional teams and cross-sector partners. It has developed tools to assist researchers completing the broader, now societal, impacts section of research proposals (ARIS, 2026). See box for NSF's review of its approach (NSF, 2025).

The EU processes have now also been analysed e.g., de Jong & Muhonen, 2020, examined 60 funded project proposals (from 16 countries across Europe) from the Societal Challenges scheme in the EU's Horizon 2020 programme. Potential societal impact determined one-third of a project's success, with greater success being associated with more details e.g., on wider engagement. Some papers describe how prospective RIA has now been taken further and can even inform impact management: Balling et al, 2025 - below; Graham et al, 2026 – next section. Technical aspects of prospective RIA long analysed in health research in the US (Eddy, 1989; Institute of Medicine, 1992) and UK (Townsend & Buxton, 1997; Claxton & Schulpher, 2006), are valuable for the development of structured impact pathways. Funders commissioned some such prioritisation approaches to estimate the probability that a research topic, or a specific proposal, would provide sufficient decision-relevant information to justify the research.

**Examples of funders use of prospective RIA: allocation, analysis & accountability**

Yaqub et al, 2023: had funding support from the European Research Council & examined impacts claimed in 209 REF impact case studies across all disciplines that described research funded by a UK research council, where intended impact had been identified in the proposal. They reported 76% showed *"alignment between anticipated impact at funding stage and the eventual claimed impact in the REF. Co-production…was featured in just over half of our cases."* While the alignment intensity was usually not very strong, co-production helps address the balance of predictable & unpredictable impact outcomes.

Benneworth & Olmos-Peñela,2024: claimed little was known about how to evaluate impact when considering proposals & suggested an approach to strengthen *ex-ante* evaluation of impact promises by considering 2 elements - how far the applicants coupled their knowledge with that of potential users & *"the interdependency and consistency of such activities throughout the overall project proposal."*

NSF, 2025: a major review of its approach to assessing proposals, including use of broader impacts & concluded it was beneficial (with a name change to *"societal impacts"*) to achieving the vison: *"make sure everything NSF funds from basic research to technology translation… benefits the American people."* It *"elevates the need to strategically build and track a portfolio of awards that aligns with NSF's mission"*

Balling et al, 2025: Novo Nordisk Foundation (NNF) in Denmark make extensive use of prospective impact assessment for their grants on health & sustainability research but go further and use the detailed process to guide a 5 step *"continuum from project inception to data collection and assessment. The first step entails preparing the project's narrative in alignment with the project's vision."* Step 5 involves developing a monitoring and impact management plan, which is applied once the grant is agreed.

### *2.6. Efforts to boost the evaluation of the research impact assessments field through alignment and increased standardization*

The creation of the International School for Research Impact Assessment (ISRIA) (Adam et al, 2018) reflected the growing interest in RIA across sectors, disciplines and countries. It was an early attempt to meet the desire to improve RIAs and boost the alignment of the RIA field to increase credibility and comparability for purposes such as analysis. ISRIA courses and workshops (2013-17) were held in: Australia, Canada, Chile, Denmark, Jordan, Qatar, Spain (the first) and The Netherlands. Guidance collated and issued by ISRIA was based on the "pracademic" experience of 450 international school staff/participants from 34 countries. ISRIA Guidance provides strategic advice covering 10 issues, e.g., the need to clarify RIA purpose, use of a conceptual framework, responsible indicator selection, engagement and sharing the lessons with the RIA community (see Appendix).

ISRIA has been widely used, and several of the co-authors drew on it in RIA activities, including Balling et al, 2025, see above; similarly, Graham et al, 2026 who proposed a "fit for purpose" approach for RIAs

depending on context, purpose and decision makers' questions, using a good practice, rigorous decision-making tool for making strategic decisions and choice of methods for conducting RIAs across the research lifecycle. ISRIA is also referenced in the new impact strategy of the South African NRF (2025). Abudu et al (2024) used ISRIA as a starting point for their proposal to enhance the status and credibility of RIA presentations. They proposed the development of a checklist to use in RIA reports in the same way that there are checklists for many other areas, such as systematic reviews, economic evaluations etc. In their proposals Abudu et al drew on a sample of best practice guidance, including not only ISRIA, but also Graham et al, 2018, Collado et al, 2019, and Reed et al, 2021. Their proposals included building a culture of *"impact literacy"* within the funding organisation (Bayley & Phipps, 2019) and working with organisational leadership to champion RIA's role (Kamenetzky and Henrichs-Krapels, 2020).

There have been various other attempts to align RIA. A common data collection tool, ResearchFish, has been used by funders across countries. It could be partially adapted to meet the needs of a specific funder (Abudu, 2022). However, by requiring PIs to submit annual impact data, the criticism became so great UK officials commissioned a study. Despite a recommendation to consider alternative options, major funders such as UK research councils found RIA information was too valuable to stop us, so, in the short run, continued using it (McKie, 2025), despite its owner announcing its closure in 2027. Other examples include the Association of Australian Medical Research Institutes (2021) proposed alignment to a common impact framework and measures informed by CAHS to plan, track and communicate impact. The William T Grant Foundation funded development of the Use of Research Evidence Methods Repository in partnership with Overton, and available on the Transforming Evidence website: https://uremethods.org/ It is an open resource, and *"strives to be a site of collaboration where researchers can share and build upon the work of others in the community."*

Definitions of research impact differ between ones like the REF that emphasise effects, and ones about processes. However, Research England, 2026, announced for REF2029 researchers will be encouraged to describe how engagement had contributed to the claims made in their case studies for impacts in terms of effects on the society, economy etc. This shift formalised what teams producing high-scoring impact case studies had often been doing in previous REFs. The draft definition of impacts by the Canada's Social Science and Humanities Research Council (SSHRC) takes a comprehensive, inclusive approach.

## Section 3: Examples of Using Research Impact Assessments to Inform Strategies and Investment

The literature includes examples of how research impact assessments are being used to inform investments. Here, both retrospective and prospective assessments have an important role, especially where achieving impacts is built into diverse elements of a funder's overall strategy.

Aiming to conduct analysis that would help inform, or legitimise, strategic investment decisions intended to boost impact was an element in RIA development from early on (Henshall, 2011). Frameworks like Payback (from 1996) were explicitly structured also to collect evidence about whether potential users

being engaged in the agenda-setting and/or the creation of receptor or policy bodies to receive/use research evidence, were associated with higher levels of impact, and often found they were – see Hanney et al's, 2017 review. Such findings led RIA authors to promote continued, or further, use of such engagement to enhance impact, e.g., Yazdizadeh et al, 2018. Sometimes RIA authors make wider suggestions for revising research strategies, e.g. Angula-Tuesta & Santos, 2015. Further, some RIAs were conducted for funders mainly to identify factors associated with achieving impact, e.g., from clinical and basic research (Wooding et al, 2014), in the study by Arnott et al, 2020 and 2021, and plans of Joly et al, 2015. Additionally, for some RIAs, informing funder strategies was always part of the plan e.g., for the Australian National Breast Cancer Foundation (Donovan et al, 2014) and the UK medical research charities for arthritis (Wooding et al, 2005) and for asthma (Hanney et al, 2014 – the paper, co-authored with the charity, explained how the RIA had been used). At a strategic investment level, it is important that funders can implement ideas for informing investment strategies, often this comes from ideas developed for prospective RIA. Bednarek et al, 2025, collated various examples of funders, including IDRC, piloting approaches to improve their ability to assess the quality of engaged research proposals including *"ensuring proposals align with information gaps surfaced by community leaders, policymakers, or other partners, and that they include meaningful engagement."* (Also, Abma-Schouten et al, 2023).

Beyond approaches for informing investment strategies by using RIAs - retrospective, or prospective (section 2.5) - there is growing interest across funders to strategically align to invest for impact. In relation to the climate crisis, for example, the article by Lemos et al, 2025, *"Scaling up actionable climate knowledge"* identified ways in which organisations could work together. In Alberta, three funders given Government funds to undertake an environmental initiative, agreed the co-investments from the start, along with an impact by design approach and, also, the RIA methods to be used (Graham et al, 2026).

Alignment between funders might involve more than just topics; it could also cover possible changes in research systems. There is increased realisation that even if researchers welcome the focus RIA places on analysing the benefits from their research activities (e.g. Edwards and Meagher, 2020), they are more likely to devote time to actions to increase the chances of impact arising, such as engaging with potential users, if there are appropriate incentives within the system (Ozer et al, 2023). By contrast, as noted, where RIA is in place this can help boost strategies to achieve impact. Research England is aware that REF, and the importance UK universities place on doing well, means that its requirements can have a noticeable influence on institutional policies and the behaviour of individual researchers, as they seek greater impact through more systematic approaches, including promoting engagement (Hill, 2026). Lessons about key strategic roles RIA can play in National Health Research Systems (NHRSs) were learnt early by WHO which incorporated RIA into its NHRSs framework along with other items considered important to achieve the goal of *"Knowledge for Better Health"* (Pang et al, 2003) such as priority-setting, capacity building, and knowledge translation. Assessments can play an important role for funders who take a strategic systems approach to maximise outcomes and/or impacts, e.g., in some ways NSF's 2025 report, IDRC (McClean et al, 2022), and South Africa's NRF (2025). See box for: an example of NIHR's various approaches to strengthen its investment strategy, the crucial importance of Knowledge Mobilisation for achieving impact highlighted in a new CIHR strategy (CIHR, 2026), and a holistic strategy featuring prospective RIA from the multi-sector Alberta Innovates (Graham et al, 2018).

Morgan Jones et al, 2016: conducted an evaluation of the NIHR on its 10th anniversary. One hundred examples of positive change were identified & combined under the heading *"NIHR at 10: 100 examples, 10 themes, 1 transformation"*. This highly significant title underlines that NIHR should be seen as a research system. The analysis found a lot of evidence of NIHR impact, including: *"Putting patients and the public at the heart of research…Working with charities and the Third Sector on common agendas"* Linked to this there is now increasing evidence from almost 100 global examples of a different type of RIA reviewed by Boaz et al (2024) that NIHR strategies of embedding research into the healthcare system brings improvements.

Graham et al, 2018: developed an impact strategy for Alberta Innovates to apply across sectors such as energy, environment, agriculture & health - *"the focus will be on incorporating impact prospectively through the identification of the ultimate intended impact(s) as well as the pathways for achieving them. The goal is to understand the diverse impact pathways so that the organization can better accelerate the translation of research and innovation to optimize societal impact."*

CIHR, 2026: a new strategy is compatible with lessons from analysis of impact, as in the title: *"Mobilizing Knowledge for Health, Societal and Economic Impacts. A Canadian Knowledge Mobilization Strategy and Action Plan."* The Strategy outlines Canada's long leadership in Knowledge Mobilisation (KM) (Straus et al, 2013) & describes four intersecting streams of impact-oriented work within the health research landscape that are: *"focused on addressing pressing KM challenges and opportunities"*. For example, the Transform stream emphasises the importance of taking steps to ensure *"research can be meaningfully driven by the needs of Indigenous communities."* That is also highlighted in the general principles of KM, as is the importance of considering Gender Based Analysis Plus (including intersectionality) to ensure implementation is equitable and effective

## Section 4: Research Impact Assessment and its Contribution to Demonstrating Value

The literature includes many examples of how research impact assessments are being used to demonstrate the impact of investments and the value of research more broadly, and in diverse ways. This section builds on a selection of these assessments that were described in sections 2 and 3 which presented examples from various countries, sectors and disciples. We also saw how this can be undertaken at scale with the searchable database of 13,000+ REF impact case studies from all disciplines in the UK demonstrating value in ways appropriate to each discipline (REF2014 & 2021).

The basic requirement for RIA to demonstrate the value of research, is, of course, that the studies assessed were impactful. Perhaps, for example, by being informed by the needs of potential users that emerged through engagement (Bednarek et al, 2025), and/or through feeding the findings through to a recognised policy customer or receptor body (Hanney et al, 2007). Beyond that, research impact assessments seem especially able to show value when they display one or more of being: rigorously conducted, effectively disseminated, and/or integrated into research systems.

These general points have been illustrated by various case studies cited in this report, which set out to collate many and diverse examples. The examples below are intended only to be illustrative of key features associated with achieving impact and not a comprehensive list of such examples.

**Examples of RIAs demonstrating the value of research**

Soper, 2006: described how in early 1990s the UK Department of Health drew, in part, on Kogan & Henkel (1983) in building a new system of user/researcher collaborative research. It soon funded the Payback framework, also in part informed by Kogan & Henkel, to assess the benefits (Henshall, 2011). Atkinson et al, 2019 showed how in the subsequently created NIHR, RIA can play iterative roles with the health research system to both demonstrate the impact from funding, & to inform, or at least support, various elements of the comprehensive strategy: *"Two measures likely to contribute to political support are to place the greatest emphasis on 'problem' rather than 'investigation' research, and to devote attention to measuring and reporting research payback."*

Donovan et al, 2013: the Australian National Breast Cancer Foundation RIA was successfully promoted with considerable publicity to the public, including donors & fund-raisers. This success did not occur by chance: a carefully planned communications strategy involving the CEO & President resulted in wide coverage including TV and radio stories, & in papers (e.g. Owens, 2013).

Lebel & McLean, 2018/McLean et al, 2022: respectively describe how IDRC's new Research Quality Plus (RQ+) approach was successfully applied in 2015 across 170 case studies from the previous five years to more appropriately align with & show the quality of research it funds in the Global South & how it has been managed to enhance the probability of use; with a repeat in 2020/21.

Wellcome, 2018: on behalf of other funders (NIRH, Medical Research Council, medical research charities) led the policy brief launch of the third *Medical Research: What's it Worth* study. As with the first study described above as being objective (*Nature* editorial, 2010), they were all widely promoted by the funders and then cited by many other research funders and organisations such as the Royal Society, Association of Medical Research Charities, the European Medical Research Councils, 2011, to support the case for research funding. The UK Science Minister said the 2008 study was seen by officials as being rigorous & it was used in the vital 2010 Government spending round to help protect the public research budgets across fields.

## Section 5: From Current State to Future Potential: Opportunities for Research Impact Assessments

Based on the review of the literature, conversations with those working in the field, and their own expertise and experience, the authors highlight the following opportunities for the field of research impact assessment.

### *5.1. Making assessments fit for purpose*

The context of assessing impact is one in which many trade-offs are required to address the needs of different audiences across diverse purposes. Research impact assessment continues to have its challenges. Key methodical challenges include long time lags, establishing attribution (causation) versus contribution, marginal differences (how we distinguish between high and low impact without shared

standards), transaction costs and the appropriate unit of assessment given multi-disciplinarity and multiple impacts (Morgan Jones, 2013). Different groups within a research system may have different perspectives, including funders, policymakers, commercial and non-commercial users, beneficiaries, the wider public and researchers. This context creates various overlapping challenges and further trade-offs that include questions and decisions about: when best to conduct the research impact assessment; the choice of which frameworks and methods to use; the cost of producing a rigorous, credible RIA; what constitutes use; and opportunities to position RIA for use (e.g., Penfield et al, 2014; Milat et al, 2015; Greenhalgh, et al, 2016; Chubb and Watermeyer, 2017; Arnott and Lemos, 2021; Kamenetzky & Hinrichs-Krapels, 2022; Budtz-Pedersen & Hvidtfeldt, 2023). There are opportunities for using or developing decision tools that align to good practices and guidance. (Abudu et al, 2024; Graham et al, 2026), that themselves were informed, in part, by ISRIA (Adam, 2018).

### *5.2. Linking with global research reforms*

Many global initiatives are calling for a more holistic and nuanced approach that accounts for diverse contributions and impacts as well as considering the value of research. Global initiatives include DORA, CoARA, the Barcelona Declaration on Open Research Information, UNESCOs open science, the Research on Research Institute, research reproducibility networks and more. These initiatives collectively represent a global shift to responsible research assessment, transparency and open science. In general, they are advocating for the recalibration of a broader set of evaluation criteria that considers quality and a more holistic assessment that also values qualitative approaches. These evolving reforms are seeking to align the research ecosystem (e.g., on incentives, rewards, consensus on standards and practical guidelines) and are interested in research impact assessment.

### *5.3. Assessing engaged research*

Lessons about researchers/potential users' engagement that links to impact is an area of opportunity. In various initiatives, engagements are now being emphasised, including the new guidelines for REF2029 (Research England, 2026), in Horizon Europe, and in an increasing focus on co-production as a way of boosting achievements (IDRC, 2026). There is a movement across various sectors to build engagement with evidence users and beneficiaries more widely into policies and strategies of research funding bodies, including through trusting relationships necessary for equitable societal impact and relevance (Bednarek et al, 2025). This includes broadening who is engaged not only in the research but in the impact assessment process (e.g., inclusive governance, citizen engagement, diverse users' questions) and strengthen links between various streams of important work on this topic. Engagement supports the important work of making transparent to the public where research funds are being allocated, and the outcomes/impacts of this funding. Related to engagement is the opportunity to understand conditions for fostering a positive impact culture across organisations as well as its assessment.

### *5.4. Exploring the role of AI*

There is uncertainty about how far new Artificial Intelligence (AI) developments should have a role in assessing impact, but recognition that they almost certainly will, and do provide opportunities. As illustrations, a report for REF2029 suggested they should be used, with caution (Watermeyer et al, 2025), an evaluation for Australia's National Health and Medical Research Council, 2025, combined next

generation bibliometrics and generative AI to show 17 cases of economic, environmental, social, or health impacts in one exercise. However, data are needed for AI. Data platforms such as Dimensions, Overton and OpenAlex are currently being used to capture data that link to research outputs and impacts. Access to data at a large scale, across multiple platforms and across multiple funders, is a promising funder practice. (Abudu et al, In progress). Using research on research expertise could help answer various prioritised "now what" research questions related to research impact assessment findings. In addition to enhancing the ability of funders to identify funders' contribution to realizing impact, these platforms are also beginning to be used to speed up impact. An example of such acceleration comes from Wellcome-funded initiatives such as the Evidence Synthesis Infrastructure Collaborative (ESIC). This produced a roadmap for facilitating greater progress in achieving the UN Sustainable Development Goals by making evidence synthesis more affordable, relevant and timely (ESIC, 2025), including the use of AI-enabled living evidence syntheses - valuable for enhancing the role of evidence in guidelines (Elliott et al, 2021) and policy briefs (Turner et al, 2023).

### *5.5. Addressing methodological opportunities*

There are opportunities to advance the science of RIA by experimenting with rigorous approaches in the field that address attribution and at the same time expand research on contribution analysis that acknowledges the multi-actor contributions to outcomes and impact (including using methods such as outcome mapping, outcome harvesting, and contribution analysis) (Kok & Schuit, 2012; Morton, 2015). Comparative analysis studies and systematic synthesis of research impact assessments can better inform transferability and generalisation of results. Especially in the context of moves to align the field, a major area for re-analysis might be how generalisable are the opportunities that exist for impacts to arise and be assessed for some types of health research (e.g., HTAs). Are the mechanisms for engagement to identify needs, and structures to receive and use the research (Raftery et al, 2016), so distinct that the transferability of the lessons is limited? Or, is there now momentum behind attempts to institutionalise evidence use (Kuchenmüller et al, 2022), thus creating more opportunities for RIA to identify examples of research impact? Further discussion on how to communicate negative, hidden or no impacts of research as well as at the ecosystem level how to respond to unintended consequences such as "grimpacts" and "impact washing" would be helpful. These issues can erode public trust and hinder genuine efforts to enhance the impact of research investments. Furthermore, some research impact assessments have employed both forward and backward tracing approaches in conducting impact cases studies of research with multiple funders. (Wooding et al, 2013). Combining aspects of the two approaches has been identified as promising (Newson et al, 2015). New AI-enhanced tools might help address some of the previous challenges to backward tracing from impacts to multiple funders whose research contributed to such impact. Considerations include identifying the right balance between the two approaches (depending on assessment purpose) and monitoring progress across pathways to impact to mitigate some of the identified risks of both assessment approaches. (Graham et al, 2026).

## Section 6: Conclusion

This document has provided a review of the current state of research impact assessment and ends with opportunities for advancing the science and practice of research impact assessment.

## Abbreviations (selective)

| | |
|---|---|
| AAMRI | Association of Australian Medical Research Institutes |
| ARIS | Advancing Research Impact in Society |
| ASIRPA | Assessing Impact of Public Agricultural Research |
| CAHS | Canadian Academy of Health Sciences |
| CIHR | Canadian Institutes of Health Research |
| CGIAR | Consultative Group on International Agricultural Research |
| CoARA | Coalition for Advancing Research Assessment |
| CSIRO | Commonwealth Scientific and Industrial Research Organization |
| DORA | Declaration on Research Assessment |
| ESIC | Evidence Synthesis Infrastructure Collaborative |
| EU | European Union |
| FAIT | Framework to Assess the Impact from Translational Health Research |
| GBP | Great British Pound |
| HERG | Health Economics Research Group |
| HRC | Health Research Council |
| HTA | Health Technology Assessment |
| IDRC | International Development Research Centre |
| ISRIA | International School on Research Impact Assessment |
| KM | Knowledge Mobilisation |
| MRC | Medical Research Council (UK) |
| NIH | National Institutes of Health |
| NIHR | National Institute for Health Research |
| NHRS | National Health Research Systems |
| NNF | Novo Nordisk Foundation |
| NRF | National Research Foundation |
| NSF | National Science Foundation |
| REF | Research Excellence Framework |
| R&D | Research and Development |

| | |
|---|---|
| RIA | Research Impact Assessment |
| ROI | Return on Investment |
| RORI | Research on Research Institute |
| SIAMPI | Social Impact Assessment Methods for research and funding instruments through the study of Productive Interactions |
| SHAPE | Social Sciences, Humanities and the Arts for People and the Economy |
| SSH | Social Science and Humanities |
| SSHRC | Social Science and Humanities Research Council |
| STEM | Science, technology, engineering, and mathematics |
| UMR | United for Medical Research |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |

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## Glossary

**Accountability:** Demonstrating to funders, governments, and the public that research funding is delivering against its stated goals and producing tangible outcomes.

**Advocacy:** Using impact evidence to make the case for investing in research and highlighting its importance to stakeholders and the public.

**Allocation:** Using impact assessment outcomes to inform the distribution of funding, rewarding institutions that deliver impact and incentivizing further productive research.

**Analysis:** Analyzing evidence to understand how research produces impact, which informs better research policy and improves future research strategies.

**Attribution:** The ascription of a causal link between observed (or expected to be observed) changes and a specific study/programme.

**Contribution:** The role or part played by a study/programme, together with other studies, in bringing about an observed (or expected) result. The way(s) a study helps to advance towards a goal.

**Contribution analysis:** An approach for determining if – and how – a study contributed to an observed result, based on verifying the underlying theory of change

**Ex-ante evaluation (prospective)**: An evaluation that is performed before the implementation of a study/programme.

**Ex-durante evaluation (during/prospective):** An evaluation that is performed during the implementation of a study/programme (while it is ongoing).

**Ex-post evaluation (retrospective):** Evaluation of a study/programme after it has been completed.

**Impact management:** A management strategy focusing on performance and achievement of impacts. This management approach provides the framework, tools and guidance for strategic planning, risk management, performance monitoring, evaluation and knowledge management.

**Internal Rate of Return:** This term has a highly technical meaning describing how it is calculated, but at a basic level, the internal rate of return (IRR) reflects the growth rate of an investment (in this case funding for research), taking account of the timing of investments and returns.

**Monitoring:** A continuing process that involves the systematic collection or collation of data. Provides the management and other stakeholders of a study/programme with indications of the extent of implementation progress, achievement of intended results, occurrence of unintended results, use of allocated funds and other important intervention and context-related information

**Research Impact Assessment:** An interdisciplinary community of scholars, research managers and policymakers have been using the term research impact assessment to describe a wide range of approaches to assess actions that happen after research has been conducted (and sometimes prospectively and/or consecutively). This document is focusing on assessing the impact of research, but notes that the term RIA can be used for regulatory impact assessment. Many countries have regulatory impact assessment requirements (e.g. for the environment) with very specific requirements and methods, as well as conducting ex-ante impact assessments to inform the development of new policies. In practice, organisations often integrated their monitoring, evaluation and learning processes as part of their research impact assessment.

## Appendix: The ISRIA ten-point guidelines for an effective RIA process (Adam et al, 2018)

