



Overall Case Example

The Arthritis Research Campaign Experience

The Arthritis Research Campaign (*arc*)—later renamed to Arthritis Research UK—is the United Kingdom’s (UK’s) largest funder of research into the cause, treatment, and cure of all forms of arthritis. As an organisation, *arc* creates knowledge to change the lives of people with arthritis by funding research, educating health care professionals, and providing information to people with arthritis and their caregivers. The aim of *arc* is to fund pioneering, high-quality research that will develop the best treatment for and prevention of arthritis in the world. This organisation relies on independent supporters to achieve this and does not receive government funding.

In 2002, *arc* set out to inform the development of a new five-year strategic plan through a review of its activities. Through this review, *arc* identified a gap between the aspirations of people affected by arthritis and what the research could actually deliver. This realization initially led *arc* to commission a single assessment of its funded research to identify opportunities for development. Over time, *arc* also continued to work on better understanding the impacts of the research it funded. These assessment efforts can be considered in three phases:

- Phase I – conduct an assessment of the research funded by *arc*
- Phase II – build tools and systems for the ongoing analysis of the *arc* research portfolio (across the spectrum of research and impacts)
- Phase III – generalise *arc*’s research portfolio analysis tools and systems to other research funders

In Phase I, *arc* contracted RAND Europe and the Health Economic Research Group (HERG) at Brunel University to undertake an assessment of 16 research grants awarded by *arc* in the early 1990s. The main objective of the assessment was to develop a system for assessing arthritis research, with a view to allowing *arc* to stimulate and manage the exploitation of research advances so that they could be translated into outcomes of practical benefit to people with arthritis. In particular, Phase I was developed to:

- Review and document the long-term outcomes of *arc* research grants awarded in the early 1990s
- Identify the factors associated with the successful translation of research
- Illustrate the strengths and weaknesses of different modes of funding
- Identify “good news stories” that *arc* could use in its public engagement and fundraising activities

With the findings from Phase I (which included the diversity of research impacts; a comparison of funding approaches; the benefits of flexibility in funding; and the importance of individuals in delivering impacts), *arc* decided to follow with a second phase to develop a better understanding of its research portfolio and the impacts arising from *arc*-funded research across the entire portfolio. The knowledge acquired in Phase I about impact areas guided the development of a tool that could be used by *arc* to assess the impacts of its entire research portfolio while placing minimal burden

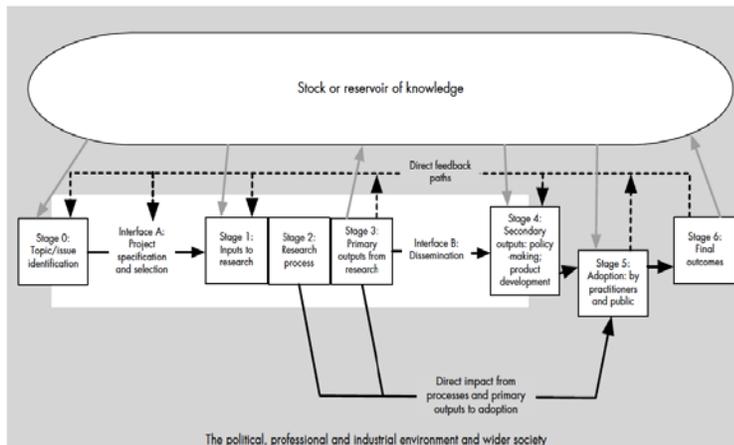


on *arc* researchers (Phase II). In particular, an online survey tool was developed in Phase II that could be completed by *arc*'s funded researchers and analysed in multiple ways to allow greater understanding of the impacts and its facilitating factors.

In Phase III, *arc* extended the learning from the survey tool to other research funders. This included operationalising the tool to work for UK universities (beyond research exclusively on arthritis) and in a Canadian context (solely in relation to musculoskeletal health). Both of these pieces of work suggested that the impact assessment survey tool could be used in a variety of contexts.

Block 1: Understand the Context

arc provided, and continues to provide, funding across the full spectrum of arthritis research, from basic biomedical to applied clinical and health services research. This meant that any impact assessment needed to take into account the wide variety of impacts that were possible from *arc*-funded research. In addition, *arc* had been funding research through several mechanisms (e.g., grants, programmes, fellowships, research units) and for a number of years since being founded in 1936, allowing for a long-term retrospective assessment of the research it had funded. Based on these factors, the research impact assessment team chose to use an impact framework called the Payback Framework (Figure 1). This framework allowed categorisation of impacts across multiple types of research as well as a narrative understanding of how impacts arose from *arc*-funded research (regardless of where the research was situated within the spectrum).



Impact category

1. Knowledge production
2. Research targeting and capacity building
3. Informing policy and product development
4. Health and health sector benefits
5. Wider economic benefits

Figure 1. The Payback Framework and impact categories for the *arc* research impact assessment (Phase I) (modified from Wooding *et al.*, 2005a)

Phase I confirmed that the Payback Framework met the needs of *arc*. The Payback Framework was then used by the research impact assessment team in Phase II to build a tool that could be used to identify and assess the impacts of the full portfolio of research funded by *arc*. Phase III looked to build on the diverse applications of the Payback Framework to other areas of research.

Block 2: Identify the Assessment Purpose

The aim of Phase I was to support *arc* in linking the research it funded to the expected impacts of its stakeholders. The main stakeholders for Phase I were *arc* as an organisation, its donors, and the people with arthritis who could benefit from *arc*'s work. In Phase II, the key stakeholder for the assessment was *arc* as an organisation (since the work was specifically for its benefit); however, there was also a secondary set of stakeholders in the research community who would be heavily impacted by the findings. In Phase III, the assessment stakeholder was the wider research funding community.



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For *arc*, the purpose of the assessment in Phase I was to demonstrate the impacts of its funding (being accountable to its donors), to showcase positive impacts from *arc*-funded research (advocacy), and to understand how *arc* funding led to different types of impacts (analysis and learning). In addition to these overarching purposes, the research impact assessment team had a secondary purpose of understanding how the Payback Framework could be used to assess an entire funding organisation.

In Phase II, the primary assessment purpose was to develop a tool that could provide impact information on all of *arc*'s funded research (analysis and learning) while also laying the foundation for the better use of research funding in the future to achieve certain types of impacts (allocation).

Phase III of the work looked to build on this tool for other research funders depending on their specific needs (analysis and learning).

Key assessment questions for the *arc* assessment project were:

Phase I:

- What are the long-term outcomes of *arc* research grants?
- What factors are associated with the translation of research?
- What could be “early success indicators” that can facilitate the translation of research into practice?
- What are the strengths and weaknesses of different modes of research funding, which could inform current practice?
- What “good news stories” and vignettes of the research process could *arc* use in its public engagement and fundraising activities?

Phase II:

- What has been done?
 - Cataloguing outputs and outcomes from *arc*-funded research to obtain information about the range and character of what is produced
- What is being done?
 - Mapping the portfolio of what *arc* is currently funding to understand how *arc*-funded research is spread across the health research landscape from laboratory to patient
- What are the next steps?
 - Looking ahead and assessing which individual *arc*-funded research projects would be most appropriate to develop for patient benefit

Phase III:

- How adaptable is the *arc* research impact survey tool to other strands of research?
 - Specific questions based on the stakeholder using the tool



Block 3: Measure: Define Indicators of Success

The *arc* impact assessment was built around the Payback Framework. The Payback Framework is based on a logic model of the research process (Figure 1) that provides a theory of change that explains the research to impact process (i.e., how research leads to impacts) in a narrative structure. In addition to this narrative, the Payback Framework provides five impact categories into which specific impacts can be classified (Figure 1).

In Phase I, the indicators of research impact were not identified prior to the data collection. Rather, all possible impacts were left to emerge through the assessment (which used a case study methodology to develop a narrative following the format of the logic model). Based on the findings in Phase I, Phase II used the existing indicators of research impact within the Payback Framework's five impact categories to populate a comprehensive survey of research impacts. This also built on the research impact assessment team's understanding of potential impacts. Phase III used similar indicators as that of Phase II, supplemented as necessary with other indicators for customisation purposes.

Block 4: Develop the Design, Methods and Data Collection

A case study design was used for Phase I since this phase was developed to retrospectively assess research that had been funded in the nearly 15 years prior to the impact assessment. The case studies were built using the Payback Framework (the logic model was used to develop the case narrative and the impact categories were used to classify the findings). Case studies allowed the collection of detailed information on the impacts that arose from the research, the factors that supported those impacts, and the timelines to the impacts. Detailed qualitative information was also of specific interest to *arc* as it allowed for the factors that influenced impact to be described and it provided narratives about the impacts that could be used in advocacy efforts.

Cases were selected according to a selection matrix that was used to assess all research funded by *arc* in the early 1990s. The selection matrix, which was used to identify a total of 16 case studies, was based on:

- Funding approach (grants, fellowships, institutes, programmes);
- Type of research (clinical vs. biomedical vs. allied health professional); and
- Success of research (high vs. mid as per bibliometric analysis of research funding outputs)

Data collection for the case studies was completed by the research impact assessment team using information provided by *arc* and its researchers. This included document analysis of *arc* and project documents; semi-structured interviews with principal investigators, research staff, and other stakeholders in the research; and bibliometric analysis of research outputs, including developing a publication portfolio for each case. Data for analysis was a combination of expected research impacts (e.g., publications, presentations, collaborations) and unexpected impacts (those that did not necessarily align with *arc*'s desired outcomes). Cases were analysed by the assessment team using a qualitative cross-case analysis. In addition, cases were scored quantitatively for impact level by independent experts in arthritis research using a specially designed impact scoring system.



For Phase II, the research impact assessment team used a survey approach to assess all *arc*-funded research. The survey was built by the assessment team through a combination of *arc* document reviews, interviews with *arc* researchers and staff, and document analysis to identify potential research impacts to populate the survey. The survey itself was an online survey of researchers that looked at specific years of research funding as a pilot. The survey was administered by the assessment team and was analysed using quantitative and qualitative techniques to develop an analysis output called an array (Figure 2). This array allowed comparison of impacts from a large number of funded projects.

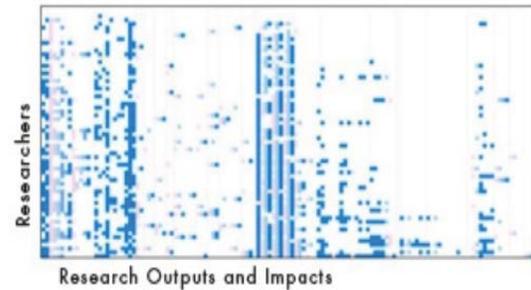


Figure 2. 'Array' produced by the survey (modified from Wooding *et al.*, 2009b)

Phase III looked to develop the impact array approach for other research and therefore used the survey in other contexts (in Canada, for example) to assess if the survey approach could work outside *arc*.

Block 5: Communicate and Use Findings

The assessment work was primarily undertaken to assist *arc* in better understanding the impacts of the research it funded and how to use it. As such, the majority of the assessment findings were communicated to *arc* by the contractors (RAND Europe and HERG) using written reports designed specifically to inform *arc*. In addition, *arc* senior management was heavily engaged in the research impact process itself. This ensured that results were communicated to *arc* as they arose and that *arc* would be capable of taking on further assessments in the future. It is also notable that during Phase II, the research impact assessment team developed a visualisation approach for impact data to effectively communicate large amounts of complex impact information.

In addition to communicating the findings to *arc*, there was an element of using the findings to inform others. For *arc* donors, this was primarily achieved through *arc* publications such as its annual report and website. To inform other research funders (or stakeholders interested in the use of research impact assessment), the research impact assessment team produced methodological reports outlining how the work was conducted; a number of peer-reviewed journal publications on the studies; and several short summaries of the projects that outlined the work, its importance, and its applicability to other research funders. Finally, the assessment team also produced a version of the survey tool that could be purchased and applied in different contexts.

Block 6: Manage Assessments

The work in Phase I was managed by the two organisations that were contracted by *arc* to perform the assessment, namely RAND Europe and HERG. While these organisations also conducted the work in Phase II and Phase III, these phases were managed by only one organisation in order to ensure smooth project management and easy client contact. In each of the first two phases, the work was steered by *arc* senior management to ensure that the impact assessments aligned with *arc*'s needs and expectations. As well, this approach allowed both *arc* and the research impact assessment team to manage expectations of what the impact assessment could produce and it prepared *arc* to receive and use the results of the impact assessment for its needs. For Phase III, the



work on operationalising the impact survey tool outside of arthritis research was steered in Canada by the Canadian Institutes for Health Research (CIHR) and by the Medical Research Council (MRC) in the UK.

Key Documents

Hoorens, S. & Wooding, S. 2009. *Possible approaches for evaluating Arthritis Research Campaign grants: An options paper*. RAND Europe. http://www.rand.org/pubs/working_papers/WR662.html

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Wooding, S., et al. 2005b. *The returns from arthritis research - Volume 2: Case studies*. RAND Europe. http://www.rand.org/pubs/technical_reports/TR176.html