

Assessing the impact of social science research: conceptual, methodological and practical issues

A background discussion paper for

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Assessing the impact of social science research

Summary

What is the key issue?

There are growing demands that policy choices, organisational management and professional practice should be underpinned by rigorous social science research. Research funders are concerned to ensure that the research they fund is taken up and used in these areas. The key issue is whether we can assess if these desired research impacts are achieved.

Why is this important?

Effective use of research has the potential to improve public policy, enhance public services and contribute to the quality of public debate. Further, knowledge of when and how funded research makes a difference should enable research funders to make better decisions about how and where they allocate research funds.

What are the problems?

The routes and mechanisms through which research is communicated to places where it can make a difference are many and varied. The ways in which research is then used are also complex. For example, research may directly influence changes in policy, practices and behaviour. Or it may, in more subtle ways, change people's knowledge, understanding and attitudes towards social issues. Tracking these subtle changes is difficult, but is perhaps more important in the long run. Additional problems include: knowing *where* to look for research impacts (who are the research users?); knowing *when* to look for these impacts (how long is sufficient for research to take effect?); and knowing *how* to assess the specific contributions made by the research (was the research really the key factor in any changes observed?).

How can these problems be addressed?

We can begin to explore research impacts by tracking forwards from completed research to see where and how it is communicated, and to what effects. Alternatively, we can start by examining policy choices, organisational management and professional practice to explore how research is sought out and used in these areas, and to what effects. Whatever approach is taken, we need clear frameworks to help us model the processes of communicating and using research findings.

How this paper helps

This paper lays out the reasons *why* we might want to examine the difference that research can make. It then explores different *ways* of approaching this problem, outlining the core issues and choices that arise when seeking to assess research impact. A wide range of *key questions* are raised in the paper, and consideration of these should help those wishing to develop work in this area.

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Growing interest in non-academic research impacts

The past decade has seen mounting interest in trying to understand the spread, use and influence of research findings in non-academic contexts. There are many drivers of this, but prime among these are:

- Political imperatives to move beyond ideological assertion to pragmatic considerations of ‘evidence’ and ‘what works’ – not just in policy environments, but also in service delivery organisations and as part of wider public discourse – while at the same time, recognition of the often relatively limited influence of research-based evidence on non-academic stakeholders.
- The need for research advocates, funding bodies, research providers and others to *make the case* for the resources directed into the research enterprise, together with demands for greater rigour in the *prioritisation of research efforts*. Such prioritisation is not just about the directions of research enquiry (aspects of the world under study) but may also consider the modes of research funding (e.g. the balance between projects, programmes, centres and various forms of research capacity building) and the organisation of the research efforts (e.g. the strategies made to encourage user involvement and post-research uptake activity).

Those in social science research – producers, funders or (potential) users – are increasingly aware of the limitations of simple models (descriptive or prescriptive) of research use and research impact. Further, the diversity of social science research, and the complexity of the means by which research findings may come into use, make understanding and assessing non-academic research impacts a challenging task. Moreover different stakeholders (government; funding bodies; research assessment agencies; research provider organisations; user communities etc.) may want information on impacts for different purposes – *and a consideration of these purposes should inform choices over what and how information on research impact is conceptualised, collected and presented.*

This paper is designed to stimulate thinking in the area of non-academic research impact by highlighting the conceptual, practical and methodological issues involved. In doing so, we review and comment on some of the key studies and reports in this area to date. As our purpose is to *open out debate* we resist drawing simple conclusions: instead we highlight crucial issues, including some key questions that help highlight the choices open to those

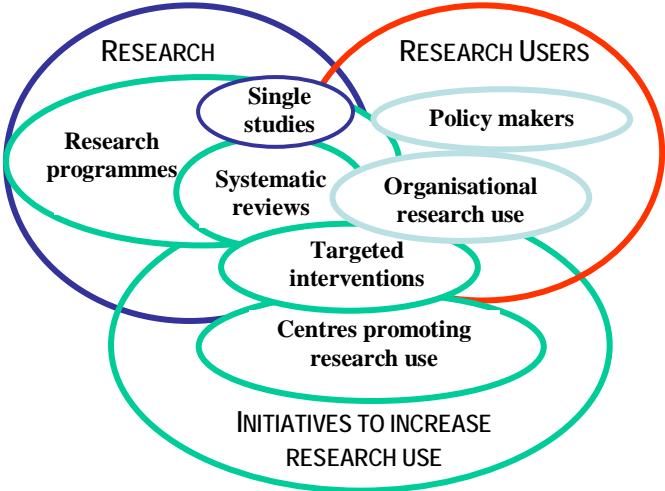
developing work in this field (a full distillation of the strategic, methodological and conceptual questions arising is presented in Appendix A).

We begin by highlighting the various ways the impact assessment task can be framed, and the methodological approaches that flow from these various framings. We then move on to address some underpinning conceptual and methodological issues. We conclude by observing the need for a diversity of approaches to impact assessment, drawing attention to the potential for dysfunctional consequences arising from such activity, before posing some broad questions for wider discussion. Finally, the discussion paper is augmented with a summary of responses to a pre-symposium consultation with symposium speakers (see Appendix B).

Approaches to assessing impact

There are several starting points from which an assessment of impacts can be approached (Figure 1). Our prime interest might be in research outputs (single studies, reviews or even whole programmes of work), how these findings make their way into user communities, and the impacts that they have there. Alternatively, we might be more concerned with user communities themselves (e.g. policy makers, service organisations, or service provider professionals), aiming to understand the extent to which their decisions and actions are impacted on by research findings. Then again, given recent efforts to increase research uptake and use, we may be concerned to assess the success or otherwise of a range of such initiatives.

Figure 1: Starting points in assessing impacts



These different ways of framing the impact assessment task take very different perspectives and have at their heart different core questions of interest. However these views are not independent: for example, the impacts of projects/programmes cannot be understood separate

from an understanding of the capacity of users to absorb and utilise findings; and any assessment of research use amongst user communities has to pay attention to the availability (or otherwise) of useable research findings.

Initial questions for consideration when designing impact assessment

- *How* is the research impact assessment to *be framed*? Will the focus be on research itself, user environments, or uptake initiatives?
- *Who* are the key stakeholders for research impact assessments, and *why* do they want information assessing specifically the *non-academic* impacts of research?
- Will any impact assessment be primarily for *learning* (hence examinations of process may need to be emphasised), or will the assessment be primarily to enable *judgements* to be made (hence examinations of output and outcomes will necessarily be privileged)?

Each of the approaches outlined above poses distinct challenges. Tracking *forwards* from research to impacts begs important questions of what and where to look, and over what time-frame. Tracking *backwards* from decisions or practice behaviours to identify (research-based) influences challenges us to disaggregate the impacts of multiple influences and multiple research strands. Finally, evaluations of uptake activities will often struggle to identify causality and/or demonstrate the generalisability of any programmes evaluated. We could ask therefore: what are the relative advantages/disadvantages of tracking forwards from research to impacts, or backwards from change to antecedent research? And should we do either of these in the absence of effective strategies that facilitate knowledge transfer and uptake?

Forward tracking from research to consequences

Traditionally, the success or otherwise of academic research has been judged in quite narrow ways, usually by an assessment of peer-reviewed published output. Extensions to this view have seen bibliometric analyses that have assessed not only the amount of published output, but also the quality of that output (e.g. by peer esteem or by impact factors of the outlets used), and the extent to which the output has influenced others in the same field (e.g. by citation tracking). Such approaches have long been used to assess the ‘productivity’ of individual researchers, projects or programmes, or to map networks of relations between researchers in similar or overlapping areas of study [Lindsey, 1989; Hicks, 1991].

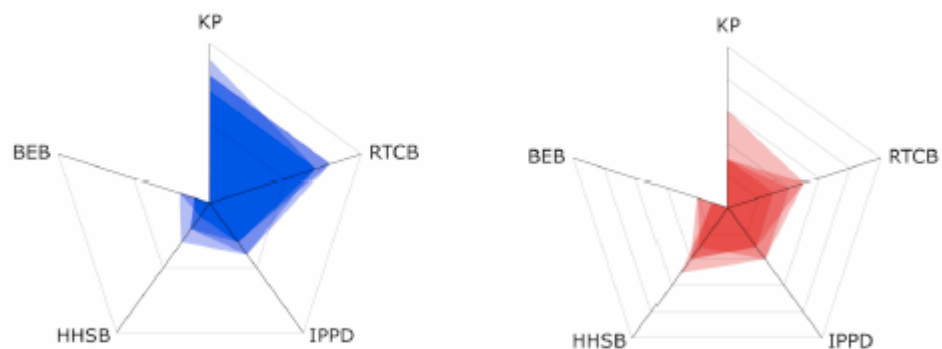
More recently, attempts have been made to go beyond simply examining research outputs to describe and quantify impacts of research, sometimes using models that call attention to ‘return on investment’ or ‘research payback’ [Buxton & Hanney, 1996; Hanney et al 2002;

Wooding et al, 2004]. These approaches typically identify a number of *categories* where outputs/impacts might be expected from research, for example:

- knowledge production (e.g. peer-reviewed papers);
- research capacity building (e.g. career development);
- policy or product development (e.g. input into official guidelines or protocols);
- sector benefits (e.g. impacts on specific client groups); and
- wider societal benefits (e.g. economic benefits from increased population health or productivity).

Assessments in each of these categories are derived from multiple data sources, including documentary evidence, routine data sets, bespoke surveys and interviews. The data so gathered are sometimes then scored in each category, perhaps using Delphi-type methods (where panels of relevant experts share their assessments through repeated rounds of consultation). Such approaches to impact assessment can then provide a profile of scores across each category (sometimes referred to as measures of ‘payback’ [Buxton & Hanney, 1996; Wooding et al, 2004]); and these data can be presented, for example in ‘spider plots’, and used to compare profiles of impacts across projects, programmes or other ‘units’ of research activity (see example in Figure 2).

Figure 2: Spider plot showing differential ‘payback’ between two groups of projects



KEY

- KP – Knowledge production
- RTCB – Research targeting and capacity building
- IPPD – Informing policy and product development
- HHSB – Health and health sector benefits
- BEB – Broader economic benefits

While not in all cases going so far as to score impacts, a number of recent reports have taken similarly broad and inclusive approaches to assessing the benefits and impacts of research (see Box). For example, the study prepared for the ESRC [Molas-Gallart et al. 2000]

developed two forward tracking approaches to assessing impact. The first of these, termed ‘networks and flows’, mapped ‘networks of researchers and relevant non-academic beneficiaries’, before tracing the impacts of these interactions in many and diverse ways with an emphasis on qualitative description. Their second approach (‘post research tracing’) examined the impact of a funded programme of research through the subsequent activities of funded researchers, including their employment outside academe, their consultancy/advisory roles, and the development of further research work. The contrast between this work and that, for example, of Wooding et al. [2004] who developed specific scores of impact in five category areas when assessing the payback from charity-funded arthritis research (see Figure 2), nicely illustrates the wide range of detailed study designs that can be accommodated within the forward tracking approach. Thus detailed study designs may emphasise the use of quantitative methods and relatively linear pathways between research products and research impacts, or may instead highlight non-linear interactive mechanisms of impact described through detailed qualitative study. Some studies may indeed incorporate multiple approaches, variants or hybrids, providing for a degree of triangulation, but these may also pose difficult challenges when the different approaches provide seemingly contradictory findings.

Box: Some examples of broader research impact assessment

‘That full complement of riches’: the contributions of the arts, humanities and social sciences to the nation’s wealth (The British Academy, 2004)

A first step towards identifying the broader contributions made by the arts, humanities and the social sciences, but one not fully focussed on the research outputs or impacts in these areas. Five core areas are identified: cultural and intellectual enrichment; economic prosperity and well-being; major challenges facing UK and wider world; public policy and debate; and educational benefits. Although many examples of benefit are presented these have largely been generated through wide consultation rather than by any formal methodology.

The returns from arthritis research (Wooding et al; a report for the Arthritis Research Campaign, 2004)

This evaluation attempts to improve understanding of how arthritis research funded by the Arthritis Research Campaign (a large charitable funder) is translated from ‘bench to bedside’. It uses a payback model to identify and score research impacts in five categories, gathering data across 16 case studies, and using a modified Delphi process to create the category scores.

The impact of academic research on industrial performance (US National Academy of Sciences, 2003)

An assessment of the contributions of academic research to the performance of five industry sectors: network systems and communications; medical devices and equipment; aerospace; transportation, distribution and logistics; and financial services. It concludes that research has made a substantial contribution to all five industries, including some significant impacts on performance. The data gathering used to come to these conclusions included: user informed opinions; expert judgements; literature review; email surveys; workshop discussions; and panel deliberations.

The societal impact of applied health research: towards a quality assessment system (Council for Medical Sciences, The Netherlands, 2002)

A methodology for the national evaluation of the societal impact of applied health research is presented based upon self-assessment by research institutes/groups and site visits. This is seen as something that complements the evaluation of the scientific quality of research outputs. Research teams are asked to self-assess based on (a) their mission with respect to societal impacts, and (b) their performance in relation to that mission. The report lists a number of relevant output categories, including: professional communication; guideline development; new programme/service development; and use of research output by targeted audiences.

The utilisation of health research in policy-making: concepts, examples and methods of assessment (Hanney et al, 2002; report to the World Health Organization)

An exploration of the nature of health policy making and the potential for cross-national studies of the utilisation of research in such policy making. Although previous work in this area is reviewed, and some potential approaches and possible tools are presented, no new empirical applications are developed.

Assessing the outputs and outcomes of Alberta's Health Research Fund (Magnan et al, undated poster presentation)

A postal survey of active grant-holders identified a range of (self-reported) outputs (e.g. presentations, publications and training) and outcomes (e.g. influences on policy and practice, health system benefits and further knowledge discovery). These data were used to support and direct the activities of this major applied health research funder.

Assessing research impact on non-academic audiences (Molas-Gallart et al; confidential report to the Economic and Social Research Council, 2000)

An examination of social science impact on non-academic audiences that develops three pilot projects studying the impacts of two ESRC-funded projects. Three approaches are explored: a networks and flows model; a user-panel assessment; and tracing post-research activity (see main text). The report also develops and presents an impact assessment 'toolbox'.

Understanding research use in user communities

Impact assessment work that begins with user communities usually takes a case-based approach but with a diversity of embedded methods. Often these consist of simple surveys of policy makers (asking about their use of research), but more detailed and sophisticated studies are possible. For example the ESRC study referred to above [Molas-Gallart et al. 2000] augmented its forward tracking approaches with an additional study of 'user panels'. These panels consisted of 'individuals who might be expected to draw upon the results of research', and to provide a longitudinal element these individuals were interviewed several times during the duration of the project, as well as participating in a wrap-up workshop. This provided 'a tool to trace not only the existing utilisation of the research outputs but also the forms of interaction between researcher and users'. Such approaches provide a flexibility of investigation that can explore not just specific channels of communication (as would be done in forward tracking methods) but can also identify unexpected channels, interactions and effects.

Hanney and colleagues [2002] developed similar work exploring research utilisation in health policy making. They suggested using documentary analysis, interviews (building on a stakeholder analysis) and questionnaires using scaling methods as a way of unpacking the role of research in influencing the development of health policy around specific policy themes. Their expectation was that this approach ‘will produce its own narrative or story of what caused utilisation in the particular context’, but they also highlight the need to ‘structure all such studies around a conceptual framework’.

Work with a stronger ethnographic flavour has also been used to explore the complexities of research application, for example the work of Gabbay and colleagues amongst health care professionals conceptualised as ‘communities of practice’ [Gabbay, le May et al, 2003]. The importance of this and other work by the same team [Gabbay and le May, 2004] lies in the way in which it draws attention to the unpredictable, non-linear and contingent nature of research impact processes.

Assessing initiatives aimed at increasing research impacts

A considerable research base has now been built up that examines the effectiveness of various strategies for increasing research impact (see for example, the work of The Cochrane review group on Effective Practice, www.epoc.uottawa.ca, and that of the Research Unit for Research Utilisation, www.st-and.ac.uk/~ruru). Such work may focus on increasing the uptake and use of specific research findings (e.g. through guideline implementation), examine the role of intermediaries or research translation activities, or even encompass the effects of whole centres aimed at increasing research/practice connectivity. What links all these areas of study is their use of programme evaluation strategies (experimental and quasi-experimental, as well as action research and qualitative/ethnographic work). This aspect of impact assessment merits detailed study in its own right. It is included just briefly here for completeness, but also to illustrate the need to ensure that consideration of impacts is not carried out in isolation from the wider context of these research uptake activities (see also later).

Before identifying some of the main methodological challenges to assessing impact, we explore some of the key conceptual issues that should underpin thinking about research use and impact.

Some core conceptual issues

Non-academic research impact is about identifying the influences of research findings on policy, managerial and professional practices, social behaviour or public discourse. Such impact may be *instrumental*, influencing changes in policy, practices and behaviour, or *conceptual*, changing people's knowledge, understanding and attitudes towards social issues. There are various models which seek to capture both these different *types* of research impact and the *process* by which this impact occurs. These models are important because they shape, and provide a means of assessing the appropriateness of, different approaches to assessing research impact. However, in exploring such models, the extent to which they are merely descriptive (providing an analytic framework) is often unclear – many also seem to embody notions of prescription (how things ought to be).

Some models focus on the micro-processes of research use. This includes those that have described different stages of research communication and use. One example, much used and cited, was developed by Knott and Wildavsky [1980], and elaborated by, amongst others, Landry et al [2001]. It characterises six stages by which research can be seen to have increasing impact: transmission of research; cognition of findings; reference made to significant studies; efforts made to operationalise findings; influence seen on decisions; and application of research to policy and/or practice. Staged models such as this can, however, tend to over-weight the instrumental uses of research at the expense of conceptual effects. They also have an implicit over-reliance on linear assumptions (for example, they tend to suggest that all stages will be traversed in sequence; that the stages are equally important and cumulative; and that similar efforts are required to move across stages).

In contrast, many empirical studies have shown that only rarely will research impacts be direct, instrumental and clearly identifiable, such as when research leads directly to specific policy choices, or when research is neatly captured and codified in tools and instruments such as guidelines, protocols or organisational processes. Instead, much important decision making is diffuse, and characterised by 'non-decisional processes' and the progressive establishment of new routines [Weiss, 1980, 1982]. When this is the case, research provides '*a background of empirical generalisations and ideas that creep into policy deliberation*' [Weiss 1980, p381]. Research may also be absorbed and internalised into professional tacit knowledge as it emulsifies with many other sources of knowledge (experience, anecdote, received wisdom, lay knowledge etc.). In doing so, it may leave few tell-tale signs of its passage, role or impact. Thus research can contribute not just to decisional *choices*, but also to the formation of

values, the creation of new *understandings and possibilities*, and to the quality of public and professional *discourse and debate*. Capturing these subtle and diverse impacts poses considerable conceptual, methodological and practical challenges.

In response to these challenges, some models have focused attention on the nature of researcher/user interaction. Lavis et al [2003], for example, characterise three basic types of research/user interaction: *producer-push*, *user-pull*, and *exchange*. The first of these emphasises the active role taken by researchers in communicating the messages from their research; the second highlights the need for potential research users to create an environment whereby research is actively valued, sought and used; and the third ('exchange') outlines models of interaction between researchers and users that emphasise joint actions in the defining, creation, validation and use of research. From this taxonomy Lavis et al go on to identify where and how research impacts might be sought and measured in each case.

The three models outlined by Lavis et al [2003] map to, and are extended by, the typology developed first by Weiss [1979] but used extensively by others [e.g. Hanney, 2002; Molas-Gallart et al. 2000]. Here six models of research use are identified, the first three of which largely duplicate those of Lavis et al [2003]. These models encapsulate different types and processes of research use and imply different ways of approaching the impact assessment task:

1. *Classic, knowledge-driven model*: a linear view that research findings may be communicated to impel action;
2. *Problem-solving, policy-driven model*: a second linear view that begins with the end-users of research and the problems they face, before tracking back in search of useful findings;
3. *Interactive model*: here the process is modelled as a set of (non-linear; less predictable) interactions between researchers and users, with research impact happening through complex social processes of 'sustained interactivity';
4. *Enlightenment model*: this models eschews the notion that research impacts are simple and instrumental in effect; instead research is seen to impact through '*the gradual sedimentation of insight, theories, concepts and perspectives*';
5. *Political model*: here research findings are seen as but more ammunition in adversarial systems of decision making;

6. *Tactical model*: in this model, research becomes a resource to be drawn on whenever there is pressure for action on complex public issues, and may be used not just to bolster decision making but also to stall and deflect pressure for action.

A useful additional way of thinking about research use, which differs from the above in its focus of interest, is proposed by Walter et al. [2004]. Their modelling of research use is not concerned with macro policy but instead focuses on the use of research in organisations charged with service delivery. They propose three ways of viewing how research is taken up and used:

1. *Evidence-based practitioner model*: this model highlights the role of skilled individual practitioners who are able to express their knowledge needs in terms of researchable questions, and then search for and appraise the research base to meet these needs.
2. *Embedded model*: in this model research is distilled and codified before being incorporated into organisational processes, procedures, protocols and guidelines. In this view, the incorporation of research evidence is a management responsibility, together with the establishment and maintenance of suitable compliance regimes.
3. *Organisational excellence model*: this understanding emphasises the importance of local strategies of continuous improvement that draw both on research and on local experimentation. What matters most here is reflexivity and research mindedness within organisations, together with a willingness to change.

The relevance of Walter et al.'s typology [2004] is that it helpfully categorises research use environments and suggests the need for a customised approach to impact assessments contingent on the dominant modes of research uptake and use. For example, in environments characterised by evidence-based practitioners, impact assessments may focus on individual knowledge, skills and behaviour; in contrast, environments where the embedded model operates require us to look for impacts in the organisational processes and routines. A further significance is that each model emphasises the unlikelihood of significant research impacts occurring unless substantial organisational initiatives are already in place.

Questions arising from more nuanced concepts of research use

- What types of research use/impacts are of most interest (e.g. instrumental or conceptual; immediate or longer-term)? And what steps can be taken to guard against a bias towards privileging those impacts that are most instrumental, up-front and readily identifiable?
- Can we identify research usage at the individual, organisational and system level?
- How will we access the hidden or tacit use of research?

General methodological considerations

Whatever the overall approach to assessing research impact, and whatever the underlying conceptualisation or models of research use proposed, all studies face a broad range of practical questions during methodological development. Research impacts may be far removed temporally from the source research – so one important question is *when* should impacts be assessed? What timeframes are most appropriate given the competing pressures of leaving it long enough so that impacts can reasonably occur, but not so long that the trail traversed by the research goes cold? Related to this is the issue of how wide to cast the net in looking for impacts, with a complicating factor being that potential research users are themselves not necessarily simple or readily identifiable. As Shove and Rip [2000] comment: ‘researchers and research funders have succumbed to the temptation of constructing and then believing in *users of their own making*’ (emphasis added). Actual and potential users may not in fact map so readily to those identified (and vaunted) *a priori* by research teams, research funders or research impact assessors. This challenges those who would explore research impacts to think more creatively about how such user communities can be identified, a challenge equally for studies that trace forwards from research to impacts as for those that begin with user communities.

Further methodological questions include: how can we balance qualitative descriptions with quantitative assessments, taking account of both subjective and objective judgments? How can (or indeed, should) impacts be scored or even valued within different categories? And how can we aggregate across different sorts of impact?

Impact assessments that take a forward-tracking or payback-type of approach may suffer from a number of significant limitations. First, the impacts from various projects, programmes etc. may be diverse and idiosyncratic: there is no reason why such impacts should necessarily be normal in distribution. Given this, a case-sampling approach may provide an uneven or misleading picture, suggesting the need for full inclusion (with consequently serious resource implications). Second, forward tracking models (and especially those that emphasise payback) can tend to highlight *linearity and proportionality* in moving from identification of research outputs to assessments of impacts. Such a view simplifies and under-specifies the complexity of the processes at work, and brings to the fore complex issues of *attribution* (was the research really the key driver?) and *additionality* (how does the contribution of the research

compare to that of other drivers?). Finally, these approaches can often be comparatively neglectful of the *context* within which research is communicated and acted upon.

Research uptake and subsequent impact are clearly not merely a function of the research findings themselves, but are likely to relate at least as strongly to the context within which those findings are delivered. Core aspects of this context that need to be considered include: the concomitant activities that are in place to increase the degree of research receptivity; the extent of local ‘absorptive capacity’ for new information [Cohen and Levinthal, 1990]; and an understanding of the unpredictable ‘policy swirl’ that sees issues surface/resurface as they compete for policy or organisational attention.

Questions to ask that acknowledge the importance of context

- Should impacts be assessed in the absence of initiatives to increase research uptake, or only in tandem with known effective approaches?
- Should we judge/value research on its *actual* or on its *potential* impacts?
- How can we take into account the receptivity of context, not just in terms of the concomitant strategies used to increase uptake but also in terms of the political acceptability of findings or propitiousness of message/timing?
- In making judgements about impacts, how can we acknowledge the role played by serendipity and the opening up of windows of opportunity?

Research with a focus on user communities can be more subtle in the effects explored (non-linearity; complexities of use etc.) and be more able to take account of the contexts of that use. Nonetheless, studies here can also suffer from a similar range of the methodological challenges outlined above (sampling, attribution, additionality etc.). A major challenge is to disentangle the specific effects of research findings from the myriad other influences on decision makers. In particular, assessing impacts on major policy choices may be especially problematic as research that feeds into policy choices is often synthesised, integrated with other research/knowledge/expert opinion, pre-digested in various ways, and mediated through expert or political intermediaries. Further difficulties can include: a lack of clarity over who indeed are the key decision-makers; the rapid turnover of staff in key roles, and the shifting in and out of focus of what are seen as pressing contemporary issues (with consequent confusion as to where impact assessment should be focused).

Some general methodological questions

- What settings for (potential) research use are to be examined and over what time-frames?

- Who are the actual and potential research users? Can we identify them all, even tracking through unexpected channels of diffusion?
- How can we disentangle the *specific impacts* of research, pay attention to *non-linearity* of effects, address issues of *attribution*, and identify the *additionality* of any research contribution?
- Can we track *all* types of research impact: expected and unexpected; functional and dysfunctional?

Concluding remarks

One size does not fit all: The foregoing discussion suggests that no single model or approach to non-academic research impact is likely to suffice. Instead, the appropriateness of the impact assessment approach will be a function of many factors including, *inter alia*: the purpose of the assessment; the nature of the research; the context of the setting; and the types of impact of key interest. *Perhaps key is the need for researchers and research assessors to agree beforehand the nature of the activities being funded and supported, and then plan assessments in the light of that.*

Acknowledging the potential for dysfunctional consequences: Like any intervention, the development of various strategies of research impact assessment can be expected to have some unintended and potentially dysfunctional consequences, especially when impact assessments are geared towards summative judgements. The application of any method of impact assessment will therefore also need to be assessed for its *own* impacts, not only on those who seek such information (i.e. how it impacts on funder policies) but also on those whose performance is being examined. Researchers are unlikely to be entirely passive in the face of additional scrutiny of their performance – they may well respond in sometimes unexpected and potentially opportunistic ways. *Whether such responses will be enhancing or damaging to the research enterprise may depend on one's perspective, but the range and scope of such responses should certainly be investigated.*

Impact does not equal worth: For all that assessing non-academic research impact may be both an imperative and an informative exercise, we should be cautious in our expectations that impact assessment will necessarily be a faithful guide. Two examples will suffice to indicate that 'impact' and 'worth' should not be conflated: Andrew Wakefield's initial study linking MMR vaccine with Autism Spectrum Disorders (ASD) undoubtedly had enormous non-academic impact; in contrast, Sir Douglas Black's examination of the nature and causes

of health inequalities ('The Black Report') knocked on a policy door firmly closed for well over a decade. *Yet who would now disagree about the relative worth of these two studies?*

Questions for wider discussion

On developing an impact assessment strategy:

- For any programme of research work under consideration, what impacts are desired, expected, or reasonable, and can impact assessments be framed in the light of these expectations?
- Should all research *have* identifiable non-academic impacts? What about the notion that individual studies should primarily feed into other academic work or into research synthesis?
- Are we interested primarily in *outputs* (what is produced by the research), *impact processes* (how research outputs are used), *impacts per se* (the initial consequences of research use in various decision arenas), or *outcomes* (the subsequent consequences of changes in decision arenas for clients or public)?
- What are the resource implications of carrying out impact assessments? How will we know what level of investment in impact assessment is worth it?

On using impact assessment findings:

- How can we draw policy implications from impact assessments?
- Could the need to demonstrate 'non-academic impact' influence funding bodies so that they alter priorities or even the nature of the research that they fund?
- Will knowledge of the role of impact assessments by researchers influence the nature of the questions posed and methods applied?
- Will the processes of impact assessment introduce new incentives/changed behaviours into the system: for gaming; misrepresentation etc?
- Will our interpretation of impact assessments be nuanced enough to identify and discount *inappropriate* impacts?

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Appendix A: An aide-memoire for impact assessors

Initial questions for consideration when designing impact assessment

- *Who* are the key stakeholders for research impact assessments, and *why* do they want information assessing specifically the *non-academic* impacts of research?
- Is assessment for summative or formative purposes? How will the information gleaned feed into decision-making?
- Will any impact assessment be primarily for *learning* (hence examinations of process may need to be emphasised)? Or will the assessment be primarily to enable *judgements* to be made (hence examinations of output and outcomes will necessarily be privileged)?
- Will the dominant mode of assessment be *quantitative* or *qualitative* – and what are the implications of this?
- For any programme of research work, what impacts are desired, expected, or reasonable, and can impact assessments be framed in the light of these expectations?
- Should all research *have* identifiable impacts? What about the notion that individual studies should primarily feed into other academic work or into research synthesis?

Questions arising from more nuanced concepts of research use

- What types of research use/impacts are of most interest (e.g. instrumental or conceptual; immediate or longer-term)? And what steps can be taken to guard against a bias towards privileging those impacts that are most instrumental, up-front and readily identifiable?
- What settings for (potential) research use are to be examined? Who are the actual and potential research users? Can we identify them all, even tracking through unexpected avenues of diffusion?
- What are the implications of casting the net close or wide when assessing potential impacts?
- Assessing impacts on policy choices may be especially problematic as research that feeds into policy choices is often synthesised, integrated with other research/knowledge/expert opinion, and *digested*. How will this be addressed?
- In such complex circumstances, how can we disentangle the *specific impacts* of research, pay attention to *non-linearity* of effects, address issues of *attribution*, and identify the *additionality* of any research contribution?

Further questions arising from a consideration of research use models

- Are we interested primarily in *outputs* (what is produced by the research), *impact processes* (how research outputs are used), *impacts per se* (the initial consequences of research use in various decision arenas), or *outcomes* (the subsequent consequences of changes in decision arenas for clients or public)?
- Can we identify research usage at the individual, organisational and system level?
- Can we track *all* types of research impact, both expected and unexpected?
- Should we try to identify and examine unintended and/or dysfunctional impacts, such as the *misuse* of research?

- How will we access the hidden or tacit use of research?

Questions to ask that acknowledge the importance of context

- Should impacts be assessed in the absence of initiatives to increase research uptake, or only in tandem with known effective approaches?
- Should we judge/value research on its *actual* or on its *potential* impacts?
- How can we take into account the receptivity of context, not just in terms of the concomitant strategies used to increase uptake but also in terms of the political acceptability of findings or propitiousness of message/timing?
- In making judgements about impacts, how can we acknowledge the role played by serendipity and the opening up of windows of opportunity?

Further questions that reflect key methodological choices

- What are the relative advantages/disadvantages of tracking forwards from research to impacts, or backwards from change to antecedent research?
- Research impacts may be far removed temporally from the source research – so *when* should impacts be assessed? What timeframes are most appropriate given the competing pressures of leaving it long enough so that impacts can reasonably occur, but not so long that the trail traversed by the research goes cold?
- How can we balance qualitative descriptions and subjective assessments of impacts with quantitative and more objective measures?
- When does scoring the extent of impacts become a useful tool, and what are its potential dangers?
- How can we aggregate across different sorts of impact?
- How can (or indeed, should) impacts be valued?

Strategic questions for impact assessors

- How can we draw policy implications from impact assessments?
- What are the resource implications of carrying out impact assessments? How will we know what level of investment in impact assessment is worth it?
- Could the need to demonstrate ‘impact’ influence funding bodies so that they alter priorities or even the nature of funded research?
- Will knowledge of the role of impact assessments by researchers influence the nature of the questions posed and methods applied, e.g. to ensure production of readily absorbed ‘policy messages’ that challenge little but can readily be tracked through to impact?
- Will the processes of impact assessment introduce new incentives/changed behaviours into the system: for gaming; misrepresentation etc? For example, will savvy researchers begin to employ not just professional communicators but also media relations consultants?
- Will our systems of impact assessment be subtle enough to identify and discount *inappropriate* impacts, e.g. the tactical use of research deployed in support of pre-existing views; inappropriate application of findings beyond their realm of applicability; ‘halo’ effects of famous studies being cited without real purpose etc.?

Appendix B: pre-symposium consultation with speakers

In preparing background materials for the Symposium, the ESRC posed a number of key questions to which symposium speakers were asked to respond prior to the Symposium. The six key questions raised were:

- What is ‘non-academic research impact’?
- When should impact be measured?
- What kinds of relationships can be developed between researchers and policymakers or practitioners?
- What are the external influences on the relationships between researchers and potential users of the research?
- What are some of the key barriers and enablers or facilitators to the exchange of knowledge between researchers and policymakers or practitioners?
- What forms might the immediate outputs from research take, and how might these contribute to the longer term impact of the research?

Responses were received from each of the speakers and these comments are now summarised.

What is ‘non-academic research impact’?

All agreed on the breadth, diversity, complexity and contingent nature of ‘non-academic research impact’. For example, ‘anything that influences important actions in the real world, changes behaviour, modifies decision-making routines, or builds capacity to use and deploy research’. Furthermore, impact was described as occurring not only when decisions and action are taken, but as being evident in changed knowledge, attitudes and understandings of social issues. Several of the responses drew attention to the need to shift perceptions on the user side so that ‘politicians and practitioners value the quality of the toolkit of researchers... and value that they have access to independent (and therefore more credible) research knowledge’. This in itself was seen as an important impact. One respondent wanted to go further and draw in the general public as knowledgeable research users as a means of holding politicians and practitioners to account (while recognising the difficulties of this, commenting ‘and yes, I believe in Santa Claus too!’). In a similar vein, there was a plea not to limit the definition of ‘non-academic impact’ to the extent to which research feeds into the current policy agenda; its role in informing public debate more broadly is also considered important. Another respondent emphasised the need to ‘define impact carefully so that expectations were reasonable and assessments were realistic’.

In describing the ‘very broad range of constituencies’ who should be influenced by academic research (e.g. government departments and agencies, service delivery organisations, public interest organisations, commercial entities etc) one commentator drew attention to ‘the pernicious wedge of the RAE... [that was] driving a powerful divergence between academic and non-academic research agendas’. Thus impacts for one set of stakeholders may be held in low or no regard by other stakeholders, providing potential tensions and sometimes distorting incentives for researchers.

When should impact be measured?

This question was understood in two ways. First, respondents drew attention to the need for *proportionate and directed activity*, that is, any impact assessments conducted should be commensurate with the size of the original research programme, and should have as their goal the guidance of important decisions (such as resource allocation). Others interpreted this question as a time-frame issue – i.e. how soon after completion of the research should any impact assessment be carried out? Here the answers suggested were entirely contingent on the

nature of the specific impacts that were being examined, with some research being explicitly about ‘near-term tactical impacts’ that ought to be readily assessed in the short-term, whereas other desired impacts such as a ‘deepening of a research-minded culture in important decision-making routines’ required a longer perspective. In addition, attention was drawn to ‘the need to find proxies, such as successful communication and research awareness amongst potential target audiences’ when impacts themselves are diffuse or too far down the line to be readily assessed. This was an issue picked up by another respondent who commented that key issues included ‘not only *when* to assess impacts but also *how* to measure them’.

What kinds of relationships can be developed between researchers and policymakers or practitioners?

What are the external influences on the relationships between researchers and potential users of the research?

What are some of the key barriers and enablers or facilitators to the exchange of knowledge between researchers and policymakers or practitioners?

These three questions are taken together as they were quickly recognised by many as being more about *improving* processes of knowledge transfer and research uptake than about *assessing* non-academic research impact *per se*. As a result some declined to elaborate further, arguing the need for clearer distinctions between *encouraging* impacts and *assessing* any impacts attained. Nonetheless, the importance of ‘real engagement in the co-production of knowledge if research is to have any impact at all’ was recognised, and some prerequisites for healthy relationships were observed: a mutuality of respect and acknowledgement of the different roles and capabilities; encouragement of better understanding and valuing of research on the user side; and the development of high-trust social networks (‘structured joint working’) in redesigned systems of accountability. It was emphasised here that this was not something carried out after the research was completed, but instead involved ‘joining up from the beginning – to decide the agenda, frame the research questions, consider the analysis and make the interpretations’.

Not all were persuaded that joint working with the potential for role blurring between researchers and research users was necessarily the answer – ‘I don’t think that mixing the roles is any panacea’ – and pointed to the need for careful intermediation:

‘It is demanding a lot from your average practitioner/politician (read: civil servant) that he/she is able to find and appraise all relevant research. It is also demanding a lot from your average researcher that he/she is a strong communicator vis-à-vis practitioners/politicians. Neither of these roles are the two groups’ core capability. There is definitely a role to play by some sort of intermediate institutions. And there are indeed a number of these institutions around. But I have the feeling (not in any way evidence-based) that some of them have a tendency to be either too much research prone *or* too much practice prone – losing a credible connection to “the other side” .’

There was also a rejection of single, simple solutions with a desire that different models of ‘connect’ be adopted as a function of the research field under study. For example, one respondent suggested that we differentiate between: ‘*stable policy fields* (where knowledge is reasonably settled, the theoretical foundations are strong, governments broadly know what works, there is a strong evidence base, and the most that can be expected is some incremental improvement); *policy fields in flux* (where the knowledge base is contested and there is disagreement over the most basic theoretical approaches); and *inherently novel policy fields* (genuinely new areas whose very newness precludes the existence of a strong evidence base’.

In addition, this typology might be extended ‘according to whether an issue is yet recognised

or prioritised etc by any public body'. In all three types of field 'evidence has a critical role to play, but it will only be in the first that it is meaningful to talk of policy as based on evidence rather than informed by it. In the second and third categories our questions are changing as well as our answers'. It is on considerations such as these that relationships between researchers and users ought to be shaped.

The institutional and funding contexts of research, policy and practice were mentioned as important influences on relationships. Funding mechanisms that provide few incentives and limited capacity to engage with research impact activities (including knowledge and skills) were seen as important barriers to effective interactions.

What forms might the immediate outputs from research take, and how might these contribute to the longer term impact of the research?

Again, several people commented on how this question implies a potentially confusing conflation between the activities needed to improve impacts and the assessments of the same. Most did however acknowledge the centrality of getting this bit right before impacts would be worth assessing at all – and also noted how difficult it is: 'if I knew this, we'd be doing it' and 'this is an interesting challenge and we are continually experimenting with our approach'. Positive suggestions here included: the need for intermediate outputs and more innovative communications (not just publications, but also events, tools, conversations); the need for proper translation (not just simplification and brevity, but the wholesale recasting of the research endeavour 'into the language and indeed the ideology' of the potential recipients); and the importance of 'deriving clear implications answering the 'so what?' question that bedevils so much academic output'. It was noted however that, in addressing these translational issues, it was also important to 'satisfy the academic credentials' that underpin the credibility and legitimacy of the original findings.