

Personal Interaction with Researchers or Detached Synthesis of the Evidence: Modelling the Health Policy Paradox¹

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Personal interaction between health policy makers and researchers is widely seen as the key to enhancing research use, but there are also increasing demands that policies be based on syntheses of the available evidence. A potential paradox arises in that whilst interaction may result in greater use of the evidence it might also lead to a partial selection of evidence, not consistent with a systematic overview. The 'interfaces and receptor' model, developed for a World Health Organization project analysing health research utilisation, facilitates examination of these issues. It highlights the importance of analysing the different cultures of researchers and policy makers, and the permeability of the various interfaces between them. It also focuses attention on the key role that policy makers play as the receptors, or receivers, of research and how issues of training and organisational culture and structures might be of increasing importance in assisting research to move up the various steps of the ladder of utilisation. Case studies taken from previous work show how the interfaces and receptor model can be applied to: help analyse research utilisation; explore the paradox; and contribute to an evidence-base for policies aimed at building effective research systems.

Keywords: research utilisation, health policy making, evidence-based policies, systematic reviews, interaction, research benefits

Introduction

Personal interaction with researchers, or detached synthesis of the evidence? This question highlights several issues health policy makers should consider in relation to evidence-based policy making. Personal interaction between policy makers and researchers is widely seen as the key to enhancing research use, but there are also increasing demands that policy be based on a synthesis of the available evidence. The potential paradox is that whilst interaction may result in greater use of the evidence, it might also lead to a partial selection of evidence, not consistent with a systematic overview. The 'interfaces and receptor' model (Hanney *et al.*, 2003), developed for a World Health Organization (WHO) project analysing health research utilisation, facilitates examination of these issues. Various case studies taken from previous work show how the interfaces and receptor model can be applied to: help analyse research utilisation; explore the paradox; and contribute to an evidence base for policies aimed at building effective research systems.

Personal Interaction between Researchers and Policy Makers

The interactive model of research utilisation has featured prominently in literature on research utilisation. It was one of the main models described by Carol Weiss (1979). It was also used by Maurice Kogan and Mary Henkel (1983) in a seven-year formative evaluation, conducted for the UK's health department in the 1970s and early 1980s, of the attempt to introduce the Rothschild principle into health research. This reform was intended to make research more relevant to the needs of the health service by strengthening the health department's role as a customer for research.

The concept of interaction is still widely seen as being important: many case studies of health research utilisation include conclusions and/or recommendations about researcher/policy maker interaction being a key issue. Recent important examples include sets of case studies conducted in the UK (Elliott & Popay, 2000) and in Canada (Lavis *et al.*, 2002). Similarly, a conclusion from a series of case studies conducted mostly in developing countries, and funded by the Council on Health Research for Development (COHRED), is that: 'interaction with potential users from the earliest stages of the research process may help to increase the chances of research results being used' (COHRED, 2000).

In another study the point is quite dramatically emphasised by a quotation taken from a Mexican cholera researcher who argued that, 'If there isn't a good relationship between a researcher and a decision-maker... it is difficult for research results to be taken into account' (Trostle *et al.*, 1999). The importance of this study by James Trostle and colleagues lies in the fact that they explicitly considered how far the modelling developed in USA, Canada and Western Europe could be applied in countries such as Mexico. They specifically identified the work of Weiss, and of Kogan, as providing models that could at least partially be applied in Mexico. So, amending the opening sentence of Jane Austen's *Pride and Prejudice*, one could conclude: 'It is a truth universally acknowledged that a single *researcher* in possession of a good *finding* must be in want of a *policy maker*'. Of course, not all researchers do in fact seek out policy makers and, indeed, that is a criticism that is sometimes made, but the point is that such an approach is widely recommended.

Evidence to support this long-held view about the importance of interaction also comes from a recently completed systematic review (Innvær *et al.*, 2002). In the 24 studies that met their inclusion criteria, two key factors were identified as facilitating the use of research by health policy makers. They were 'personal contact between researchers and policy makers' and 'timeliness and relevance of the research', both of which were identified in 13 out of the 24 studies. Next on the list came 'research that included a summary with clear recommendations', which was identified in 11 studies. The barriers to the use of health research were just the opposite with 'absence of personal contact' heading the list by appearing in 11 out of the 24 studies, followed by 'lack of timeliness or relevance of research' – reported in nine studies.

The Synthesis of Evidence

There is also now, however, increasing support for the view that policy making should be based on a synthesis of the evidence. The growing interest in this is seen in such developments as the Cochrane Collaboration, the Campbell Collaboration, centres for evidence-based policies and conferences such as our current one on *Evidence-Based Policies and Indicator Systems*. The use of evidence has probably gone further in the health field than in any other sector (Davies & Nutley, 2000). In the UK, there was a deliberate attempt to facilitate the generation of systematic evidence and promote its use within the National Health Service (NHS) (Peckham, 1999). One consequence of this is that there is increasing pressure from health-care professionals who say: 'we are supposed to provide evidence-based practice, so why can't the policy makers also use evidence?' This plea was repeated recently by a doctor quoted in the *BMJ* (Jackson, 2003). Although there is a general pressure in health for the introduction of evidence-based policies and practice, it is argued in many areas that it is systematic evidence that should be used. Policy making in relation to health technologies is one area, considered later, where there is a strong emphasis on the role of systematic reviews (Taylor, 2002), but the case has been made much more widely. For example, it is argued that policies to increase health equity should be based on proper reviews of the evidence (Macintyre *et al.*, 2001).

Policy Makers' Use of Health Research: A Spectrum of Issues and a Paradox

When considering how policy makers use health research, it is worth considering a spectrum of issues (Hanney *et al.*, 2003):

- (1) Are policy makers willing to commission research and able to identify their needs?
- (2) Is research available that is relevant to policy issues and brought to the attention of policy makers?
- (3) Can the policy makers absorb and systematically appraise the evidence?
- (4) Are policy makers willing and able to use the research evidence when facing many other pressures?

To increase the use of their research findings it is recommended, based on the systematic review (Innvær *et al.*, 2002), that researchers have close personal communications with policy makers, provide a summary with clear recommendations, ensure research is perceived as timely and high quality, and show the results are relevant to current policy demands. The implication is that researchers promoting their own findings might lead to greater use of the evidence base but, paradoxically, it might be a selective use of evidence rather than a systematic approach (Hanney *et al.*, 2003). (Similar concerns were raised by Innvær *et al.* (2002), albeit with a slightly different interpretation as to the nature of 'selective' use.)

There are various ways in which this paradox can be addressed and the 'linkages and exchange' model developed by Jonathan Lomas is important in

demonstrating how key issues can be tackled (Lomas, 2000). (This approach helped inform a recent report, on the use of research in policy making, by the UK's National Audit Office (2003).) This paper, however, describes the 'interfaces and receptor' model and shows how it addresses both interaction and synthesis. It was developed to inform the construction of instruments for a WHO project aimed at assessing the utilisation by health policy makers of a wide range of research (Hanney *et al.*, 2003).

The 'Interfaces and Receptor' Model: The Role of Interfaces

The concept of interfaces is being used increasingly (for example, Buxton & Hanney, 1996; COHRED, 2000) when examining research utilisation because it helps facilitate analysis of various issues in the relationship between policy makers and researchers. First, it is useful when considering the concept, as applied to researchers and policy makers, of two cultures or communities which differ in terms of values, languages, reward systems and social and professional affiliations (Caplan, 1977) and, in consequence, could face difficulties in interacting constructively. Second, the interfaces concept helps analyse the widely held view that policy makers and researchers have different time-scales. This was nicely described by Julio Frenk, now Minister of Health of Mexico, in terms of chronophobic policy makers and chronophilic researchers (Frenk, 1992). Third, the concept of permeability at the interfaces (Buxton & Hanney, 1996) helps facilitate analysis because, whilst policy makers do need to encourage researchers to take on board their concerns, at the same time some degree of impermeability is important so that researchers retain a degree of autonomy over matters such as research methods. Finally, the concept of interfaces helps consideration of the new forms of knowledge production such as Mode 2 (Gibbons *et al.*, 1994), in which knowledge is produced in a context of application as opposed to in traditional academic communities.

A systems approach is increasingly being adopted when examining health research (Pang *et al.*, 2003) and there are multiple interfaces between policy making and the health research system (Hanney *et al.*, 2003). Three interfaces will be discussed in detail because they involve direct links between the health research system and policy makers. They are: the priority-setting/needs-assessment interface; the research commissioning interface; and the dissemination/knowledge transfer interface. Policy making will always involve much more than just a bilateral relationship between policy makers and the knowledge base produced by researchers. Health policy making will have to include consideration of opinions from health-care professionals, industry, the media and the public (Hanney *et al.*, 2003). In relation to the interfaces between policy makers and research, all these groups might play an indirect role: they are all likely to be exposed to research findings to some extent and such research could be one of many factors that influences the views they express to policy makers.

Concentrating here, however, on the three direct interfaces, we start with the priority-setting interface but recognise that there is rarely a simple linear process because there is always likely to be feedback from previous research.

Priority setting probably works best where there is an aggregation of interests so that: there are opportunities for policy makers to express their demands and for researchers to define what is researchable; and an iterative approach is adopted (Hanney *et al.*, 2003; Lilford *et al.*, 1999). Long-term committees of policy makers and researchers can enable these activities to take place. Such an approach worked with varying degrees of success in the Research Liaison Groups established by the health department in its implementation of the Rothschild principle. These groups consisted of officials from both research management and the policy divisions of the department, as well as researchers playing the role of external scientific advisers (Kogan & Henkel, 1983). One approach at this interface that should enhance the synthesis of evidence is for policy makers to involve researchers in reviewing existing evidence before priorities are set. Mode 2 knowledge production does highlight the need for a client orientation in determining priorities (Gibbons *et al.*, 1994). The interface issues can become complex, however, because Mode 2 involves the specific researchers and clients working together to develop the projects on which they will jointly work; this might not be compatible with a centralised system of priority setting.

The research commissioning interface is where specific projects are selected and research teams commissioned (Buxton & Hanney, 1996). One of the key issues here goes back to the permeability question because if researchers are not happy with the priorities they may not be fully engaged at the research commissioning stage. In other words, the leading researchers may not be willing to work to an agenda with which they disagree, or they may submit proposals and work on projects that skew the original intentions of the policy makers. It is also important, for a healthy system, that researchers have the independence to determine their own methods and that there is space within it for research that might criticise current thinking (Kogan & Henkel, 1983). The engagement of researchers is more likely if they have been involved in the original priority-setting. Long-term research centres can play an important role here in that they facilitate interaction between policy makers and researchers and allow them to shape each other's perceptions (Hanney *et al.*, 2000).

At the communications or knowledge transfer interface, various mechanisms can enhance permeability. These include policy briefs from researchers, various linkage strategies that increase contact (Lomas, 2000) and the use of research or knowledge brokers who take the findings from researchers and help transmit and transfer them to policy makers (Buxton & Hanney, 1996; Kogan & Henkel, 1983). Long-term specialist committees on which policy makers and researchers work together will facilitate the transfer of research findings, as will long-term research centres.

The 'Interfaces and Receptor' Model: The Role of Receptors

The concept of policy makers, and policy making bodies, as the receptors of research knowledge, has been used by Kogan and Henkel (1983, 2000) and, although not always with exactly the same meaning, by others including Lomas (1997) and Lavis *et al.* (2002). The idea of policy makers as the receptors, or receivers, of research fits with the notion of a 'ladder of

utilisation' (Knott & Wildavsky, 1980) in which research utilisation in policy making involves a series of steps. These start with the transmission of findings to policy makers. In a study examining the use of social science research in general, Landry *et al.* (2001) show that as research moves up the ladder of utilisation, the interactive issues become less important and the receptivity of users more important. The spectrum of issues, described in a previous section as being relevant for the use of research in policy making, also moves from interface aspects, such as priority setting and transmission of research findings, to receptor issues. The latter include the absorption and systematic reviewing of evidence and the use of it in policy making. These areas are the responsibility of receptors, but the research system can play a role in facilitating research use through mechanisms such as the provision of training, for example, on the role of systematic reviews. Nevertheless, the extent to which the paradox is addressed does depend very much on the receptors.

Success in the receptor role can be linked to various factors. These include the creation of systems that ensure priority-setting reflects the needs of policy makers, and the development of long-term links that should provide policy makers with a realistic view of research. Perhaps most important are various issues related to training and the organisational culture and structures in the receptor bodies. Research utilisation is more likely where steps are taken to encourage policy makers to: absorb and learn from interaction with researchers; commission and learn from systematic reviews and policy analysis; base some policies on appraisal of evidence; and balance research with other factors. It is not realistic for full ends-means rationality to be introduced widely in a way that would mean all policies were formed following a process in which, after a problem had been identified, all possible solutions were examined to find the one that best met the goals. Nevertheless, there is room for evidence to play a greater role in health policy making than is currently too often the case.

An important but complicating issue to consider when analysing the role of receptors is the variation between them: they should not be viewed as a homogenous group. The attitudes of policy receptors to research will vary according to their backgrounds and training – some, for example, might have had research experience. As Caplan (1977) shows, they will also differ in the perception they have of their role as officials. Furthermore, the receptors' exposure to research will vary with the professional and scientific groups with which they engage. Receptors working in the pharmacology field, for example, might soon come to view matters differently from those working in mental health. Then, finally, there will be variations depending on the types of decisions facing the receptors: research is likely to play a different role in clinical decisions than it does in legislative policies. In general, it is more likely that policies in highly technical fields, such as those relating to health technologies, will be based on research than will policies in less technical fields. Even in technical fields, however, the extent to which research utilisation occurs will depend partly on the existence of appropriate organisational arrangements (Hanney *et al.*, 2003).

What Can the 'Interfaces and Receptor' Model Offer?

The interfaces and receptor model is useful in various ways. Its complementary and overlapping elements provide a broad holistic approach to analysing the potential paradox between personal interaction and synthesis of the evidence. The complementary aspects are well illustrated by the inclusion of the important role that can be played by knowledge brokers: they work at the interfaces and can also play a role in pulling together evidence from a range of sources, if not actually synthesising it. Similarly, the model highlights the way long-term committees of researchers and receptors can provide an opportunity not only for strong interaction but also for integrating a range of perspectives on the research evidence. This was illustrated by those of the Research Liaison Groups established by the UK's health department in the 1970s that worked most satisfactorily (Kogan & Henkel, 1983). Aspects of the interfaces and receptor model are relevant for a wide range of types of policies based on diverse types of research, but especially user-driven research. Finally, the model facilitates analysis of circumstances in which the organisational mechanisms move towards a rational model involving synthesis of evidence. Clearly there are great limitations on traditional models of rationality in policy making, but using the receptors' perspective helps analyse circumstances in which policy making systems do attempt to introduce a rational approach. This is included as one of the four illustrative examples to which the model is now applied.

Applying the 'Interfaces and Receptor' Model to Analyse Examples of Research Utilisation in Health Policy-making

The first three examples are drawn from a much wider range of conceptual analysis and case studies undertaken by the Health Economics Health Group, Brunel University, to assess the benefits from health research (Buxton & Hanney, 1996; Buxton *et al.*, 2000). Brief summaries of the case studies are presented here to illustrate how the model helps to facilitate analysis. Full details about the case studies may be found in the referenced sources given for each study. The fourth example describes a comparatively new body in the UK that adopts a rational, evidence-based model. These are not meant to be typical examples, but rather they are studies where research has demonstrably had an impact, and, therefore, they are included to see what can be learnt from them by applying the model.

Evaluative project on heart transplants: Instant impact

An evaluative project on the effectiveness of heart transplants in the UK was conducted after the policy makers, or receptors, in the health department liaised with researchers to create a single research project based on proposals from two research groups (Buxton, 1988). In 1989, the former top civil servant, or permanent secretary, from the health department gave a lecture in which he said he knew of no strategic issue with which ministers were involved that was illuminated by the health services research programme; he then added a footnote and gave this particular piece of work as one of two exceptions (Stowe, 1989). The receptor body organised itself so that it received and

absorbed the findings from interim reports from the research team. The findings were relevant for a key policy decision and supported the way the policy makers probably wanted to go, but did provide a strong evidence base for policy makers to develop policy in a controversial area (Buxton, 1994). The policy to increase interim funding for a national heart transplant programme was announced on the day the final report was received, and a subsequent decision provided funding to allow a gradual expansion of the programme. Both steps reflect not only the degree of previous interaction, but also the way that the receptor body organised itself to be able to absorb and use relevant and timely research evidence.

Project on the careers of women doctors

The project on the career of women doctors (Allen, 1988) saw key actions at the interfaces. The receptor body, the health department, worked with the researcher to develop the project. When it was completed, the minister helped to sell the findings to the clinicians. He told a conference to launch the findings that they had enormous implications for Government policy and for the medical profession (Hanney, 1994). There was also long-term involvement of a key official, or receptor, who acted as a broker for wider acceptance of the report within the health department. The quality of the evidence was particularly important in this case: the minister would not have wanted to stand up before the medical community and, in essence, challenge them to change some of their practices if he had thought someone could have attacked the methods used in the research. The research also made an impact because it contained policy recommendations and went in the direction that wider policy on gender issues was going. Clearly on such an issue there was other evidence being considered, but the findings from this project combined with the wider movement of ideas to push the policy forward in various ways (Hanney, 1994).

Research centre influence on addiction policy through its relationship with receptors

An evaluation of the benefits from a research centre funded in the UK by North Thames NHS Executive indicated that it has had an influence on policy on addiction, and that a key factor was the long-term relationship developed with the receptors (Hanney *et al.*, 2000). The centre was part of what could be called an 'epistemic community': a group of experts who influence how a particular issue is viewed and studied, and, as such, sometimes help inform policy makers' priorities on the issue. Policy makers from the UK's health department commissioned research from the centre even though they did not directly fund it. The link that the director of the centre had with policy makers helped dissemination and, by serving on a long-term advisory group to ministers, the director was in a position to encourage the use of research findings. But, going further, it is possible to see the centre as illustrating both the interaction and synthesis concepts because receptors would approach the centre not just for knowledge about its own research, but also for access to the wider body of international research knowledge (Hanney *et al.*, 2000). There is, of course, a possible danger that such a relationship could lead to policy makers being exposed to a wide range of research that all adopts a certain

position, but that was not a concern raised by those interviewed in our assessment of this centre.

The National Institute for Clinical Excellence (NICE)

The National Institute for Clinical Excellence, or NICE, was established in the UK in 1999 as a body to provide, *inter alia*, national guidance on health technologies (Taylor, 2002). When considering the paradox, a significant point in relation to NICE is that the receptor body has established mechanisms systematically to appraise the evidence in a way that means that there is not much of a role for personal interaction. The focus on receptors making systematic use of evidence works in this case because, first, there is a body of research that comes from the Health Technology Assessment (HTA) Programme and other sources and, second, it is in a more technical field – primarily, clinical policy making. Nevertheless, reviews show that these factors alone do not necessarily lead to systematic use of the evidence (Hanney *et al.*, 2003). The policy making body has to establish the mechanisms for this to work. In this case NICE effectively commissions systematic reviews (and limited primary research) and bases its appraisals on a detailed examination of the evidence (Taylor, 2002). Despite the scepticism about the general practicality of the rational model, it is instructive to see one example where an explicitly evidence-based, problem-solving model has been institutionalised. Nevertheless, the range of evidence that is considered relevant is still contested by interest groups and the rational model can be difficult to maintain at times (Hanney *et al.*, 2003).

Conclusions

The conclusions are that the interfaces and receptor model provides a framework to inform assessment of research utilisation and that it highlights a range of issues that are relevant in diverse circumstances. In the long term, the model provides a method of analysing the interaction/synthesis paradox in a way that could contribute to an evidence base for policy on organising health research systems.

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Note

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