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Incorporating evidence and politics in health policy: can institutionalising evidence review make a difference?

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ABSTRACT

Much of the evidence translation literature focuses narrowly on the use of evidence in the initial policy formulation stages, and downplays the crucial role of institutions and the inherently political nature of policy making. More recent approaches acknowledge the importance of institutional and political factors, but make no attempt to incorporate their influence into new models of evidence translation. To address this issue, this article uses data from a comparative case study of bowel cancer screening policy in Australia, the United Kingdom and New Zealand, to propose alternative models of evidence incorporation which apply to all stages of the policy process.

INTRODUCTION

This article presents findings from a comparative case study of bowel cancer screening policy in three nations – Australia, New Zealand and the United Kingdom (UK) – and makes an argument for wider use of deliberative mechanisms to incorporate the role of evidence and politics in health policy making.

There is solid evidence from meta-analysis of randomised controlled trials of faecal occult blood test (FOBT) screening that biennial screening can reduce the relative risk of dying from bowel cancer by up to 25% (Hewitson et al, 2007). Government agencies in all three nations reviewed the same high-quality evidence from earlier studies, and the UK and Australian governments began implementing national bowel cancer screening programmes in 2006, although the programmes were implemented in very different ways. New Zealand began a pilot bowel cancer screening programme in 2011 and no decision on implementation will be made until 2014.

The focus of this article is on the role of institutional and political factors in evidence-based programme implementation in each case study. It is a further development of an earlier model, based on an examination of how evidence was used in bowel cancer screening policy in Australia (Flitcroft et al, 2011a). We begin debate by briefly discussing the role of evidence, politics, institutions and the public in policy making, and then outline the emerging evidence translation literature.

This background sets the scene for our subsequent arguments about the need to incorporate theoretical ideas about evidence translation with practical policy implementation issues in order to increase the use of evidence in the policy process. We then propose three deliberative models that may be useful in institutionalising the use of evidence beyond the policy formulation stages.

BACKGROUND

Evidence and the policy process

Approaches to evidence in policy making have displayed a marked divide between technical and contextualised definitions. The former, internalist approaches, rely on formal procedures based on hierarchies of evidence to guarantee quality, with the randomised controlled trial at its apex. In contrast the more contextualised approach stresses the external relationships which shape evidence as ‘the temporal and contextual variation heavily influence the determination of what constitutes evidence’ (Dobrow, Goel, and Upshur 2004, 209). From this perspective, the relevance of evidence takes precedence over its quality. Head (2008, 1) describes three different types of evidence – systematic (‘scientific’) research, programme management experience (‘practice’) and political judgement. He argues that ‘these disparate bodies of knowledge become multiple sets of evidence that inform and influence policy rather than determine it’. Majone (1989, 10) takes a different approach again, arguing that ‘evidence is not synonymous with data or information. It is information selected from the available stock and introduced at a specific point in the argument in order to persuade a particular audience of the truth or falsity of a statement’. Evidence can be most persuasive when aligned with current political realities or priorities (Nutbeam and Boxall, 2008).

The role of evidence in policy making is complex. The type of evidence used in different stages of decision making varies (Dobrow et al, 2006). Furthermore, different stakeholders may assign different values to particular types of evidence. For example, policy-making civil servants are attracted to evidence that fits with existing beliefs and is free from uncertainties (Stevens, 2011), while politicians may rely most on political evidence, professionals on scientific evidence, and programme managers on practical evidence – although all are intrinsically linked (Head, 2008). Evidence can be used for different purposes (Weiss, 1979) and terms such as ‘evidence informed’ or ‘evidence aware’ are favoured by some researchers to the traditional term ‘evidence based’, in recognition of the fact that evidence is rarely, if ever, the major determinant of policy (Nutley, 2003). The difficulty of getting evidence into policy and practice has given rise to a vast literature intended to promote better informed policy decisions.

Policy and politics

Policy refers to the broad goals, objectives and frameworks in which activity takes place. This article is concerned with health policy decisions at a national level. Politics is fundamentally concerned with the processes that govern broader allocative choices: in Lasswell’s terms (1936), ‘who gets what, when and how’ through non-market distribution of scarce resources by the state. Decisions to invest in health (as opposed to education or defence) draw on values well beyond the intrinsic merits of a particular intervention, however well substantiated. Budgetary priority setting will incorporate other less concrete forms of evidence such as programme experience, cultural perceptions and judgements of political and electoral support (Lin and Gibson, 2003; Head, 2008). Resource allocation decisions are usually not transparent, and are often heavily influenced by institutional and political factors.

Politics provides an essential bridge between evidence and policy (Gamble and Stone, 2006). While research evidence can inform policy debate, identifying issues and potential solutions, policy implementation depends on broader political choices between a range of different possible solutions to a problem.

Institutions

Twenty years ago, leading political scientists commented that ‘one of the most surprising – and distressing – aspects of the literature on knowledge utilisation is that its development has been largely independent of the literature in political science on the factors affecting the policy process’ (Jenkins-Smith and Sabatier, 1993, 5). Such factors include the crucial role of institutions (Flitcroft et al, 2011a) and the inherently political nature of policy making (Nutley et al, 2002).

Policy choices, especially around implementation, are shaped and limited by institutions, as March and Olsen’s (2006) classic definition emphasises:

An institution is a relatively enduring collection of rules and organized practices, embedded in structures of meaning and resources that are relatively invariant in the face of turnover of individuals and relatively resilient to the idiosyncratic preferences and expectations of individuals and changing external circumstance. (2006, 3)

Institutions, such as the legislative, judicial and executive arms of government, the electoral system and the bureaucracy ‘shape preferences, beliefs, norms, and emotions’ (Rueschemeyer, 2009, 204). They provide the setting in which policies are determined, from policy formulation through to policy implementation. Table 1 shows a simplified version of the stages of the policy process – in reality, policy making is less linear, and more complex than this table suggests, with evidence entering at one end, a ‘black box’ of policy process in the middle (involving competition of norms and interests within and between institutions) and policy outcomes exiting the other end.

The public and policy

As Table 1 shows, the public is far removed from the standard policy process. Deliberative democracy advocates argue for more participative, democratic and bottom-up approaches to policy development (Nutley et al, 2007). They aim to canvass the range of possible views on a policy issue, distribute the decision-making authority and encourage increased communication about how policy decisions are made (Hajer, Laws and Versteeg, 2009). The premise here is such institutional change would allow ‘more effective engagement by researchers with ordinary citizens [and] could have a powerful impact on decision making by influencing public knowledge and attitudes and, in turn, the politician’s perception of the “saleability” of particular initiatives’ (Grayson, 2007, 15).

Table 1: Stages of the policy process

Parameters	Policy formulation	Resource allocation	Programme implementation	Policy evaluation
Description	When an issue first appears on a government's agenda and is deemed to require a policy solution. A range of policy proposals may be considered	When funding and other resources are allocated to support a policy. Which policies will be supported and the level of support are usually political decisions	When a programme is rolled out or commenced. It may involve a phased process introduced gradually over time	When a policy's success or failure is assessed. Ideally the evaluation process should be planned as part of the policy formulation stage, but it is often considered as an afterthought
Actors involved	Bureaucrats, ministers, ministerial advisors, stakeholders, lobbyists, researchers, policy analysts	Senior government ministers and bureaucrats from the relevant departmental area, and from the departments of Finance, Treasury and coordinating departments such as Prime Minister and Cabinet	Bureaucrats and service providers	Bureaucrats
Outcomes	A decision to implement a particular policy is made	A budgetary allocation is made. It may be accompanied by an allocation of staff	Program delivery begins	An evaluation report is prepared, usually after a set period of time or a set number of events

EVOLUTION OF EVIDENCE TRANSLATION THEORIES

The mainstream evidence translation literature (which includes the knowledge transfer and knowledge transfer and exchange models) has traditionally focused on the initial phase of translating evidence into policy recommendations: the identification of policy problems and potential workable solutions. However, the analysis rarely goes beyond this preliminary phase of transferring evidence into the hands of policy makers (usually bureaucrats in the first instance). The later stages involving the actual implementation of evidence-based proposals are more difficult, as they involve wider policy issues, such as the allocation of sufficient resources (money, workforce, facilities) and the weighing up of alternatives and opportunity costs that are often not directly commensurable.

Although the more recent implementation science literature discusses issues that arise in the implementation stage, it has a practice, rather than policy, focus. For example, the Consolidated Framework for Implementation Research focuses on getting clinical research findings into individual medical clinic practices (Damschroder et al, 2009). Furthermore, a systematic review of implementation science studies acknowledged that it 'was not designed to tap centrally into the literature on policymaking and its impact' (Greenhalgh et al, 2004, 610). Similarly, Best et al (2008) talk about knowledge integration, but their work is focused on the organisational level and stresses the importance of networks and communication.

Both policy makers and researchers acknowledge that many other factors impact on the way evidence is filtered, shaped or rejected (Gibson, 2003; Davies, 2004; Nutley et al, 2007) including institutional sources of expertise such as political strategies used to build coalitions of support, and professional experience of programme delivery (Head, 2010). Yet the role of institutions and politics continues to be downplayed in emerging evidence translation theories.

For example, despite readily acknowledging the complexity of decision making and the 'organisational and political factors with which research knowledge must compete to influence the decision-making process' (Lavis et al, 2003, 225), recent evidence translation theories have not developed methods for integrating this complexity into their analysis. The 'knowledge to action' (KTA) approach advocates a 'systems model' methodology, recognising that 'KTA activities are embedded within the structure of a system and the factors that influence the system require attention if changes are to be made that go beyond the superficial' (Best et al, 2009, 637). Yet at most, such approaches add implementation analysis to the initial policy transfer, moving beyond simple information transfer to offering more detailed 'guidance' – again at the start of the policy process – rather than recognising that there is a need for some serious reforms of how policy is implemented to improve the transparency of the evidence translation process. (Bosch-Capblanch et al, 2012).

This article aims to move evidence translation theory to the next level, by incorporating practical policy implementation issues into an institutional approach to evidence translation. Sanderson (2010; 2011) recognised the potential advantages for evidence-based policy of a more deliberative approach to policy formulation. He proposed the normative notion of 'intelligent government' defined as incorporating 'our best available social scientific evidence, the practice wisdom of those who are experienced in dealing with social problems 'on the ground' and the 'common sense' of those who experience such problems' (Sanderson, 2010, 75). Like Sanderson, we believe that greater transparency and a more inclusive approach to decision making – through the use of deliberative mechanisms – is the key to producing more evidence informed policy outcomes.

METHODOLOGY

Methods

Document analysis and key informant interviews were used for this comparative case study. Details of the three individual cases and their specific methods is available elsewhere: Australia (Flitcroft et al,

2010); New Zealand (Flitcroft et al, 2011b); and the UK (Flitcroft et al, 2011c). Ethics approval for this project was granted by the Human Research Ethics Committee of the University of Sydney (Approval no. 05- 2007/9971).

FINDINGS

Australia: the filtering of evidence

The Australian case study identified a range of institutional and political processes that worked to filter the evidence about bowel cancer screening (Flitcroft et al, 2010). The Australian National Health and Medical Research Council (NHMRC), a government funded statutory authority, reviewed and followed expert opinion, recommending biennial FOBT screening for those aged over 50 (NHMRC, 1999). In 2004, the Howard government made an election commitment to fund a full screening programme, in line with the NHMRC's recommendations. This commitment was made possible by a substantial federal budget surplus which removed potential fiscal barriers to full implementation. However, a range of political and institutional factors combined around the time of the 2004 federal election campaign to derail this opportunity.

These factors included institutional issues such as: the Australian Department of Health and Ageing's close control over the supposedly independent expert evidence review process; the role of non-elected ministerial advisors, employed by the governing political party, who lacked the content expertise of the independent experts, but who had substantial influence over election campaigns; the lack of communication between government departments, resulting in inaccurate costings for the proposed programme; and an inflexible whole of government Expenditure Review Committee allocation process that prevented the allocation of further funding (Flitcroft et al, 2010).

The government supervised evidence review took place within a culture of minimal transparency: the experts advising the government were prevented from discussing publicly the issues raised at these meetings by confidentiality clauses; committee minutes were not made publicly available; and many of the research reports that were commissioned by the government (and paid for by the taxpayers) were never published. When research reports were published, bureaucratic delays resulted in them not being made available until after decisions they were meant to inform had already been made.

A process that had commenced with the direct transfer of evidence into policy proposals became lost in a welter of well-meaning bureaucratic and political decision making. Governments were able to present their watered down versions of screening policy as if they were a logical and necessary staged implementation process, when in reality there would have been enough funding and colonoscopy resources to implement a full programme, as recommended by the NHMRC, had the political and institutional impediments not existed.

All of these factors combined to result in a less than ideal policy outcome. Compromise is the stuff of policy making, but in this case as the programme advanced through the policy process, the underpinning evidence became less important than saving face in the wake of inaccurate costings and an inflexible approach to resource allocation. The Howard government only funded bowel cancer screening for people aged 55 and 65 years of age. The subsequent Rudd government added 50 year olds to the screening programme, and the current Gillard government has since promised to extend the screening programme to those aged 60 and 70 years of age. When this happens, Australia will offer screening at five yearly intervals rather than the biennial intervals suggested by the evidence. The Cancer Council of Australia advocated this compromise position, in order to secure a commitment to ongoing funding beyond the next budgetary cycle, and the government has announced plans to extend the programme to biennial screening from 2017–18. However, under this plan, full biennial screening will not be achieved until 2034, well beyond the lifespan of the current government. There is no guarantee that subsequent governments will adhere to this promise.

New Zealand: cultural and ethical interpretations of evidence

In New Zealand proposals for an evidence-based bowel cancer screening programme were deferred, despite New Zealand having the highest age-standardised rate of bowel cancer mortality worldwide.

A lack of colonoscopy capacity was identified as the major issue for the New Zealand government's decision to delay the implementation of a bowel cancer screening programme. It was a sensible decision given a 2007 survey of public hospital capacity (Yeoman and Parry, 2007) revealed that public facilities could not cope with the demand for symptomatic and surveillance colonoscopies, and lacked spare capacity for additional colonoscopies generated by positive FOBTs on asymptomatic, average risk individuals.

However, resource constraints also reflect decisions about priorities. A closer look at the New Zealand situation reveals other important barriers to the initiation of a bowel cancer screening programme (Flitcroft et al, 2011b). These included the symbolic part played by the 1840 Treaty of Waitangi in contemporary New Zealand public policy. This treaty mandated participation of New Zealand's traditional owners, the Maori, in policy decisions, Maori partnership in service delivery and the principle of protection and improvement of Maori health status. This in turn meant that a one-size-fits-all approach to bowel cancer screening would not be acceptable in New Zealand as the needs of its Maori citizens required special consideration. At a societal level, there was concern that a bowel cancer screening programme could increase the existing health inequalities between the European-descent majority and the Maori and other ethnic minorities if, as expected, they had lower participation rates in the screening programme.

New Zealand also has a history of adverse events, including deaths, linked to failure to follow up positive screening tests in its cervical and breast cancer screening programmes. Public inquiries were held into these failures, so proposals for a new screening programme had to satisfy expectations that the benefits of the programme would clearly outweigh its potential for harm to the individual participating in the programme.

The impact of these cultural and ethical issues was elevated as government showed little leadership in guiding this issue through to a policy outcome. Policy makers faced conflicting advice from a multitude of advisory bodies, representing a mix of professional, bureaucratic and patient advocates, about how best to implement a bowel cancer screening programme; and this indecision was compounded by a disruptive restructuring of the Ministry of Health, breaking institutional memory and policy continuities.

These cultural and institutional limits were exposed when the Minister for Health decided to act unilaterally. In 1998, pressure from a well-known journalist and an upcoming national election led to a shock announcement by the Minister for Health that New Zealand would implement a full bowel cancer screening programme over an unrealistic and remarkably short timeframe. This announcement exposed the deeper policy problems, with Ministry of Health staff floundering to find the necessary resources. The governing party lost the 1998 election and the prevailing caution was quickly reinstated by the new Minister for Health.

The United Kingdom: evidence, independence and pragmatism

In Britain, the review of evidence for screening programmes is not undertaken by government, but is delegated to a permanent advisory body: the UK-wide National Screening Committee (NSC). The NSC is responsible for reviewing evidence and providing advice on the development of, and changes to, all health screening programmes to the four UK governments. NSC recommendations are taken seriously by government – to the extent that the then Prime Minister Gordon Brown promised that 'wherever they recommend a new form of screening on clinical grounds, we will make it available to everyone' (UK Screening Portal, 2012). It comprises academics, clinicians, civil servants and user representatives, and it undertook a thorough and public review of the evidence for bowel cancer screening.

Following this extensive evaluation, the NSC only recommended implementation of biennial FOBT screening across the UK for 60–69 year olds, with older people able to opt in. It did not include screening for those in their 50s, despite the pilot studies including those aged 50–69 years, and did not match the recommendation from the Council of the European Union (Council of the European Union, 2003) which advocated biennial FOBT screening for all those aged 50–74. Scotland chose to follow the European recommendation rather than the more limited NSC recommendation (Flitcroft et al, 2011c).

The NSC decision to begin rolling out a screening programme to people in their 60s was taken ‘in order to achieve full national coverage with available and expanding capacity’ (National Health Service, 2007, 2). This statement indicates that the NSC was aware of, and took into account, the limitations faced by UK governments in terms of colonoscopy capacity and the need to train more colonoscopy doctors and nurses to meet increased demand. If a screening body at arm’s length from the government considers not purely the evidence, but also the resource implications, when making its recommendations, it relieves pressure on the government to take a more evidence-based approach, and de-politicises the policy decisions around resource allocation.

DISCUSSION AND IMPLICATIONS FOR PRACTICE

From this comparative case study analysis, we have identified a lack of evidence incorporation in the policy process. Inadequate or delayed implementation of the screening programmes was not due to a lack of evidence about their effectiveness or efficacy. Nor was it due solely to limited resources, although this limitation was important in New Zealand and the UK.

More important, in each of these cases, was the politically-framed allocative decision, based on policy priorities. Evidence transfer was focused at the start of the policy process – but there was decreasing opportunity for expert, stakeholder or public feedback during the vital phases of policy formation and resource allocation.

So what are the implications of these findings for evidence-based policy? ‘Policy decisions emerge from politics, judgement and debate, rather than being deduced from empirical analysis’ (Head, 2008, 1). The production, or even coproduction by researchers and policy makers, of evidence-based materials and/or arguments is not necessarily sufficient to ensure that evidence is given due consideration once the institutional and political manoeuvrings around funding for programme implementation come into play. The careful weighing of relevant scientific evidence during policy formulation is often replaced by practical value-based assessments and trading-off of different priorities in the implementation stage.

The ‘evidence’ needed for implementation goes far beyond scientific research findings to encompass the resources and system capacities necessary for success. Hence, the range of acceptable evidence needs to be expanded beyond concepts of efficacy (will it work?), effectiveness (will it work here?), and cost-effectiveness (will it work here for a reasonable cost?), to include more contextual factors such as: practical feasibility (will it work here with the available resources?); political feasibility (will it be supported by the decision makers?); organisational acceptability (will it be supported by the programme managers and service providers charged with delivering it?); and end user acceptability (will it be supported by the people it is designed for?).

This broader, more contextual definition of evidence in the implementation stage helps to explain why conventional approaches to getting evidence into practice, based largely on voluntary cooperation between individual researchers and policy makers at the organisational level – or even more formal ‘systems guidance’ – may fail to result in evidence-based programme implementation. As noted earlier, decisions about resource allocation are fundamentally political decisions, and strategies aimed at maximising the use of evidence must not only acknowledge, but more importantly address, this political context, pushing policy debate – and the arguments for evidence – into a more public domain.

Humphreys and Piot (2012, 1) argue that few people, even scientists who value evidence highly, 'would want to live in a society in which politicians completely ignored the view of those who have elected them as their representatives'. We are not arguing that evidence should always trump politics, nor that the final decisions on resource allocations should be made by content experts rather than elected policy makers. What we do feel is important however, is that informed opinion is considered, and transparently communicated, in every stage of the policy process and is not confined to confidential policy recommendations.

We propose three separate, but complementary models of evidence incorporation. All three models acknowledge the importance of local institutional and political constraints on programme implementation choices. Like Sanderson (2010), we believe deliberative processes are the key, and each model is based on the fundamental principle of embedding independent and public review of the evidence as part of the decision-making processes. By independent, we mean free from political interference or influence. While elected politicians retain the final say in funding programmes, they must be provided with recommendations derived from expert assessment of evidence made at arm's length from political processes. Public review will safeguard this independence, ensuring a transparent process for identifying and reviewing evidence. A political decision to disregard evidence-based recommendations would need to be publicly justified.

The three models of evidence incorporation are based on different levels of expert influence and degrees of public involvement. Model 1 requires public review of the evidence by a group of content experts whose independence is guaranteed by law. Expert opinions are open to challenge by other experts familiar with the content field, and the justifications for accepting particular expert recommendations are made publicly available in a format understandable by the lay public. Model 2 broadens participation to include public review of the evidence by experts and stakeholders without a legal privileging of designated experts. In this model all those with an established knowledge of, and interest in, the policy issue are able to contribute to the debate, and non-scientific expertise in practical matters may be of more importance here. Model 3 involves an even more inclusive citizen review of the evidence, with the role of public deliberation revolving around the lay person's assessment of the relative worth of different policy options.

Our framework draws on current arguments around budgetary processes, which claim that the policy paralysis of many democratic governments can be overcome by models of more inclusive and transparent policy making (Posner and Blöndel, 2011). Table 2 provides examples of the types of institutional structures we believe would be necessary to ensure more deliberative and evidence-based policy implementation under each model.

It is important to note that our models do not represent rigid, preset solutions, but rather are illustrative of the type of deliberative institutional changes that policy bodies may wish to pilot and learn from (Sanderson, 2010; 2011). Different practice communities will develop their own local variants of these approaches according to their specific political and institutional contexts and their particular aims and perceived needs (Greenhalgh et al, 2011).

Model 1: Statutory, independent, expert review of the evidence

This first model is appropriate for very specific, technical and continuous areas of decision making, like pricing of pharmaceuticals. Under these circumstances, expertise is required to evaluate the clinical efficacy, cost-effectiveness or assessment of the benefits and harms of particular interventions, and this advice must be free from interference by stakeholders such as pharmaceutical companies. The Australian Pharmaceutical Benefits Advisory Committee (PBAC), whose functions, roles and responsibilities have been prescribed in legislation, is an exemplar of this model.

The PBAC makes recommendations about which drugs should be added to the Pharmaceutical Benefits Scheme (PBS) which subsidises most of the cost of those medicines listed. No pharmaceutical may be

listed on the PBS without a positive recommendation from PBAC. Established with a legislative mandate that protects its independence from the government of the day, PBAC considers expert evidence on the comparative clinical performance and cost-effectiveness of nominated drugs (Salkeld, Mitchell, and Hill, 1999). Its transparent processes include the provision of Public Summary Documents, available online, which present the rationale for its recommendations (Australian Government, 2007).

Despite its legal foundations, the PBAC process has not been immune to political interference. For example, following intensive lobbying prior to the 2001 federal election, the Australian government decided to fund Herceptin, a breast cancer chemotherapy drug, under a special programme independent of the PBS, when PBAC had determined it was not cost-effective and had recommended against funding it (MacKenzie et al, 2008). In 2011 then federal health minister Nicola Roxon deferred indefinitely the listing of several drugs the PBAC had recommended for PBS listing, on the grounds that the Australian government, determined to return the national economy to surplus by 2013, could not afford to fund them (Dunleavy, 2011).

Such challenges to the PBAC procedures are rare, and are most likely to occur when there is strong perceived public pressure to fund a particular drug or when the open-ended funding of cost-effective drugs clashes with the broader fiscal priorities of a national government. Yet these limitations of the PBAC system raise questions about the power of any single issue advisory body, even one with a legislative basis, to influence resource allocation decisions across the sector. The establishment of a broader based national public health advisory body – such as a Public Health Advisory Committee (PHAC) – may be more successful. This body could report directly to Parliament, rather than to the Minister for Health, and be granted parliamentary authority to access information previously not shared across departments, thus opening up scrutiny of the whole policy process including decisions around programme implementation.

In the Australian case study, such a body would have enabled accurate costings of all election commitments, including those for bowel cancer screening. In the New Zealand situation, a PHAC would have brought the lack of leadership and planning for bowel cancer screening to the attention of the public, giving advocates more ammunition to argue for a quicker government response to the need to fund training of colonoscopists and the provision of more colonoscopy facilities. Similarly, the existence of such a body in the UK would have highlighted the inadequacy of the limited roll-out when compared with the evidence of potential benefits and cost-effectiveness of a full bowel cancer screening programme, and put pressure on the government to do more.

Model 2: Independent and public review of the evidence by experts and stakeholders

The second model involves independent and public review of the evidence, but without the legislative framework. Like Model 1, this model is also useful in circumstances where expertise is required to evaluate the clinical efficacy, cost-effectiveness and balance between potential benefits and harms of particular interventions. But it is also particularly valuable in situations where stakeholder views are important – for example, where governments are considering which model of service delivery is best for a particular location. In these situations, the practical experience of managers who have worked with the clients, and of the clients themselves, could be invaluable.

Existing models of this kind are health sector based. Both the UK National Screening Committee (NSC) and the National Institute for Health and Clinical Excellence (NICE) employ widespread stakeholder consultation and transparency of the decision making processes (Kelly et al, 2010). These bodies use deliberative processes to maximise the impact of evidence and their consultative and transparent approach makes it much more difficult for a government to reject those recommendations without providing a formal, publicly contestable justification. However, the involvement of both NICE and the NSC end once recommendations for policy have been made.

This model could potentially be strengthened to broaden its remit past the policy formulation stage to include involvement in policy design, including the provision of formal advice on resources and funding that would be required for adequate implementation. While elected officials in Australia (usually outside the health ministry, in departments such as Finance, Treasury or Prime Minister and Cabinet), will retain the final say over spending decisions through the Expenditure Review Committee process, experts and stakeholders are involved in the wider resource allocation decisions within the public health sector about where the best return on investment is likely to be. Discussion is no longer confined to the assessment of scientific evidence only, but outside views are also sought on issues of practical feasibility (can it work with the resources available?) and acceptability to the service providers and end users of the intervention. Representatives from advocacy and programme delivery organisations, who understand the nuances of the content area (be it mental health, aged care, and so on) would be given a seat at the table. Furthermore, these discussions are made publicly available so that all the factors that have been taken into account in making resource allocation decisions are transparent. Under our model, expert and stakeholder input is also continued in the policy implementation and evaluation stages.

In the Australian case study, adoption of this model would have forced public disclosure of costings for the bowel cancer screening programme, allowing experts to correct these wildly inaccurate costings before budget allocation decisions had been made. The Howard government's desire to honour election commitments, a pledge it took seriously, is likely to have been enough to revise allocations for a full screening programme prior to final acceptance by the Expenditure Review Committee. In the New Zealand case study, greater stakeholder involvement, including participation by Maori communities, may have helped to clarify the differing expectations of a screening programme and fast tracked the identification of the specific training and funding requirements for the politicians to consider. In the UK, more open and public discussion of the limitations of the existing bowel cancer screening programme may have put political pressure on the government to move more quickly to fully fund an evidence-based programme.

Model 3: Citizen review of the evidence

The level of possible public involvement ranges from that confined to limited participation by individuals considered to be representative of the wider public, through to broader level mass participation. While it is not possible to involve all citizens in all decisions, more modest suggestions for introducing deliberative principles into the real world of decision making include restricting deliberation to elected representatives of parliament (Uhr, 1998); deliberative polling, consensus conferences and citizens' juries (Parkinson, 2006); and mini-publics (Goodin and Dryzek, 2008). However, the problem with such limited deliberative processes is that they are likely to be confined to more local issues. A review of deliberative processes in the health and disability sector in the UK found that the major decisions remained 'in the hands of senior politicians and policymakers'. Participants in deliberative forums only discussed minor details, or issues that were disconnected from real policy making (Parkinson, 2006, 65).

Although public pressure can work as an effective means of getting neglected, evidence-based policies onto the political agenda, there are no inherent properties associated with this model that restrict it to consideration of policies with strong evidence bases. Parkinson (2006, 167) argues that an active and informed public is essential in order to 'challenge the status quo and bring new claims and new experiences to public attention', but cautions that other institutional mechanisms are needed to incorporate evidence into the decision processes, so that decisions are not based purely on who can shout the loudest.

Despite the limitations of deliberative processes, both governments and the public can benefit from broadening participation in policy making. For example, NICE has institutionalised public involvement in its decision-making processes, through its Citizens Council which meets twice yearly to provide 'non-binding input to NICE on issues identified by NICE but informed and shaped by council members' (Abelson et al, 2007, 42).

In model 3, we propose that the full range of public deliberation (from limited local involvement to mass participation) is possible. Citizen review of the evidence could be achieved through the conventional means of formal committee membership, in addition to participation in deliberative fora such as citizens' juries, and through broader public discussion of policy issues in the media. Different sources of citizen participation can support one another and help minimise the flaws of individual approaches.

One strength of this model lies in the educative role transparent and public discussion of policy issues may have on the general public. Such public commentary on government decisions may have led to a more informed public, and some individuals, particularly those affected by bowel cancer, may have been willing to challenge the limited screening programmes in Australia and the UK, or the delayed introduction of a programme in New Zealand.

CONCLUSION

We have argued that even when the evidence translation literature has acknowledged the importance of institutional and political constraints on evidence-based implementation, it has not addressed these issues in its proposed models.

The best chance of increasing the relative role of evidence in policy outcomes, we believe, lies in embedding the public review of evidence throughout all stages of the policy process. This can be achieved through the use of deliberative strategies within an institutional approach to: define the rules and processes of external, independent review of the evidence; influence how governments allocate adequate funding to implement these evidence-based proposals; and ensure the evidence-based programmes are implemented and evaluated in a transparent manner, informed by expert, stakeholder and general public views.

Our proposed models of evidence incorporation provide examples of how these deliberative strategies could be included across all stages of the policy process. We acknowledge they may be implemented to varying extents and in different forms in diverse policy settings. Case study analyses, of different policies and within different governance structures, would be helpful to assess the utility of our speculative proposals for increasing the relative role of evidence in public health practice.

Table 2: Proposed examples of institutional procedures for increasing the use of evidence beyond the policy formation stage

	Policy formulation	Resource allocation	Programme implementation	Policy evaluation
MODEL 1: Statutory, independent, expert review of the evidence*	<ul style="list-style-type: none"> • Creation of a national public health advisory body • Evidence review includes cost-effectiveness analysis • Recommendation to fund or not fund, with justification provided • Provides specific costings for full implementation • Reports directly to Parliament rather than Minister for Health 	<ul style="list-style-type: none"> • The Department of Health (DH), informed by consultations with the advisory body, decides on the allocation of resources within the total public health budget • Agreement is reached on a list of priorities for funding • Sufficient funding is allocated to ensure evidence based implementation 	<ul style="list-style-type: none"> • DH works with experts to decide how the policy can best be implemented • Ideally, implementation will be nationally consistent and based on best practice • If funding is not adequate for best practice, experts advise DH on the most evidence based implementation model 	<ul style="list-style-type: none"> • Expert involvement in policy evaluation through regular face to face meetings, with minutes publicly available • Regular publication of evaluation reports in a simple to understand format • Referral of persistent problems back to the advisory body for expert assessment and advice
MODEL 2: Independent expert and stakeholder review of the evidence*	<ul style="list-style-type: none"> • Independent review of the evidence by an agency, following expert and stakeholder consultations (eg NICE, NSC) • Evidence review includes basic cost-effectiveness analysis • Recommendation to fund or not fund • Provides cost estimates for full implementation • Reports to Minister for Health 	<ul style="list-style-type: none"> • Agency suggests public health funding priorities for DH to consider • DH commissions external cost-effectiveness analysis of policies it considers to be priorities and obtains full costings • DH decides on the allocation of resources, based on a combination of scientific and other forms of evidence (eg programme experience) • Any divergence from agency recommendations is noted and justified 	<ul style="list-style-type: none"> • DH decides which experts and stakeholders to consult with about how the policy can best be implemented • Implementation will be informed by economic and other evidence, but not necessarily determined by it • If funding is not adequate for best practice, DH will decide on the preferred implementation model 	<ul style="list-style-type: none"> • Expert and stakeholder involvement in policy evaluation through regular face to face meetings, with minutes publicly available • Evaluation of policy overseen by DH, but informed by experts and stakeholders • Regular publication of evaluation reports in a simple to understand format • Referral of persistent problems back to the agency for expert assessment and advice
MODEL 3: Citizen review of the evidence*	<ul style="list-style-type: none"> • Citizen review of the evidence is facilitated by either formal methods (eg via committee membership or participation in micro-deliberative fora) and/or informal methods (eg via media) 	<ul style="list-style-type: none"> • Post-hoc citizen review of budget allocations • Citizens may question and protest existing or proposed funding 	<ul style="list-style-type: none"> • Citizen representatives on implementation committees • Citizens invited to comment on preferred implementation model via micro-deliberative fora and/or general media debate 	<ul style="list-style-type: none"> • Citizen representatives on evaluation committees • Citizens invited to comment on evaluation process via micro-deliberative fora and/or general media debate

* All information is publicly available in a simple to understand format.

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