

Balancing rigour and relevance: researchers' contributions to children's mental health policy in Canada

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English We investigated researchers' experiences of, and views on, interacting with policy makers, using children's mental health as an example. Qualitative methods were used to interview university researchers, policy researchers, and research funders. Participants spoke of contributions to policy that went beyond interaction with policy makers. We describe how participants became motivated, developed approaches, and created new environments to contribute to policy. Our findings suggest that university researchers should challenge their peers to better recognise and support policy interaction and public engagement. Both university and policy researchers must balance academic rigour and policy relevance to make meaningful contributions to policy.

Français Nous avons étudié auprès des chercheurs quelles étaient leur expérience et leurs opinions sur l'interaction avec les décideurs, en utilisant comme exemple la santé mentale chez les enfants. Des méthodes qualitatives ont été utilisées pour interviewer des chercheurs universitaires, des chercheurs en politique et ceux qui financent la recherche. Les participants ont parlé de contributions à la politique qui allaient au-delà de l'interaction avec les décideurs. Nous décrivons la façon dont les participants sont devenus motivés, ont développé des approches et ont créé de nouveaux environnements pour contribuer à la politique. Nos conclusions montrent que les chercheurs universitaires devraient lancer à leurs collègues le défi de mieux reconnaître et soutenir l'interaction en politique et l'engagement public. Les chercheurs universitaires comme les chercheurs en politique devraient mettre en équilibre la rigueur académique et la pertinence politique s'ils veulent apporter une contribution significative en politique.

Español Investigamos las experiencias y opiniones de investigadores en la relación con los elaboradores políticos, usando la salud mental de los niños como ejemplo. Se usaron métodos cualitativos para entrevistar investigadores universitarios, investigadores políticos y quienes financian la investigación. Los participantes hablaron de contribuciones políticas más allá de la interacción con los elaboradores políticos. Describimos cómo los participantes se motivaron, desarrollaron planteamientos, y crearon nuevos ambientes para contribuir a la política. Nuestros resultados sugieren que los investigadores universitarios deberían desafiar a sus iguales para un mejor reconocimiento y apoyar la interacción política y el compromiso público. Los investigadores políticos y universitarios deben equilibrar el rigor académico y la relevancia política para aportar contribuciones valiosas a la política.

Key words knowledge transfer • research communication • health policy • children's mental health

Introduction

Wealthy countries make considerable public investments in health research. In Canada, spending on health research has doubled in the past decade, reaching CAN\$6 billion in 2005 (Statistics Canada, 2006). Publicly funded universities and teaching hospitals account for most of that spending. The magnitude of such public investments raises questions about the impact of research on public policy for health and healthcare – ‘is good research really good if it does not inform policy and practice?’ (Feldman, 1999, p 51; Kindig et al, 2003; Buxton et al, 2004). This question is germane to children’s mental health, as exemplified by the problem of conduct disorder or child antisocial behaviour.

Conduct disorder is a leading public health problem, with high associated individual and social costs in Canada and elsewhere (Scott et al, 2001). Researchers have identified numerous effective prevention and treatment interventions such as targeted parent training programmes for disadvantaged families (Waddell et al, 2007a). However, effective programmes have yet to be widely implemented and policy makers continue to rely on ineffective and potentially harmful interventions such as incarceration (Doob and Cesaroni, 2004). This situation continues despite concerted efforts to encourage the use of research-based interventions in children’s mental health (Chorpita et al, 2002). Clearly, research does not appear to appreciably inform policy making for conduct disorder. In children’s mental health, as in other arenas, policy making is complex. Factors such as institutional constraints (for example, fragmentation of programmes and services across jurisdictions and sectors) and competing interests (for example, advocacy by parent and professional organisations) can greatly outweigh the influence of research evidence on the policy process (Waddell et al, 2005a). Conduct disorder is by no means unique in this regard. Consequently, it provides a rich content example for investigating the use of research evidence in public policy making.

The use of research evidence in policy making has long been a concern in health and other fields where significant research–policy gaps persist (Davies et al, 2001). The central question of the burgeoning interdisciplinary field of *knowledge transfer* is how to increase the use of research evidence in policy making for health and healthcare. This question can be appreciated from at least two perspectives, that of policy makers and that of researchers. The knowledge transfer field initially focused much attention on policy makers’ perspectives in an effort to understand the policy process and to identify factors facilitating research use (Hanney et al, 2003). Surveys and interview studies with policy makers have found that elements of the knowledge transfer process (for example, interaction between researchers and policy makers) and attributes of research products (for example, timeliness and relevance) both appear to facilitate research use in policy making (Innvaer et al, 2002).

Now, attention is turning to researchers’ perspectives on knowledge transfer. A recent survey of Canadian social scientists found process elements to be better predictors of research use than product attributes (Landry et al, 2001). Nonetheless, directors of health and social research organisations in Canada view both interactive processes and timely and relevant products as viable knowledge transfer strategies (Lavis et al, 2003a). Indeed, health researchers are increasingly enthusiastic that particular products such

as systematic reviews, originally designed to provide authoritative answers to clinical questions, can be applied to the complex questions asked by health policy makers (Hanney, 2004; Lavis et al, 2004; Fox, 2005). Expanding the scope of systematic reviews and including more diverse types of evidence can increase their applicability to policy making (Mays et al, 2005). However, despite these advances in honing the research products, if the policy process essentially involves 'collective ethical judgments' about context and values, research-policy interaction will always be required in knowledge transfer endeavours (Greenhalgh and Russell, 2006, p 35).

Qualitative studies of research-policy interaction have a long history in fields such as education (Huberman, 1990). Recent case studies in the health field suggest that interaction can indeed facilitate research use but only if sustained beyond the span of a single research project (Jacobson et al, 2005; Kothari et al, 2005). Clearly, there is a need for 'environments that are expressly designed to be conducive to sustained interaction between researchers and policy makers' (Saunders, 2005, p 383). In mental health more specifically, there are recent examples of formal research-policy partnerships being crafted to address complex problems of mutual concern (Goering et al, 2003; Waddell et al, 2007b). These promising developments raise the challenging question of how to measure the impact of knowledge transfer activities (Lavis et al, 2003b; Buxton et al, 2004). The complexity of the policy *process* makes it difficult to conclusively demonstrate that research evidence has affected policy *outcomes*, let alone health outcomes in the population (Kindig et al, 2003). However, it *is* possible to study the interaction between researchers and policy makers (and others) involved in the policy process.

How likely is it that most health researchers *can* interact with policy makers? For researchers inside the university the prevailing incentives present significant obstacles. In decisions about promotion and tenure, peer-reviewed publications and grants are strongly favoured over knowledge transfer activities, even in health and other applied fields (Phaneuf et al, 2007). Peer review determines which research gets published and funded, despite a lack of evidence that peer review achieves its intended purpose of scholarly quality control (Jefferson et al, 2002). There are also limited resources available to support policy-relevant activities within the university (Jacobson et al, 2004). Some commentators have pointedly noted that it is academics themselves who establish and perpetuate the current incentives (Pocklington and Tupper, 2002). However, there have been no empirical investigations of how academic incentives affect researchers' ability to interact with policy makers. It would also be useful to explore how research funders create incentives (or not) for knowledge transfer, given the potential impact of publicly funded research on health outcomes in the population (Lomas et al, 2003).

Academic incentives do not apply to researchers outside the university. Like many wealthy countries, Canada has a diverse community of independent think tanks and related policy research organisations. The term 'think tank' is 'applied haphazardly to any organisation undertaking policy-related research', but think tanks differ from universities and advocacy groups in that they do not emphasise teaching and lobbying respectively (Stone, 2004, p 2). As governments have downsized their internal research capacity in recent decades, Canadian policy makers have come to rely on think tanks

for tasks such as policy analysis and assistance with citizen engagement (Lindquist, 2004). Think tanks with higher media visibility have considerable influence on political agendas in Canada while those with lower media visibility are equally influential in policy development (Abelson, 2002). It would therefore be instructive to compare the knowledge transfer activities of university researchers with their counterparts in think tanks and related policy research organisations.

We have been interested in the problem of knowledge transfer in children's mental health, particularly for conduct disorder where increased research use could benefit children. This article describes the third in a series of studies, each approaching knowledge transfer from a different perspective. Our first study investigated policy makers' perspectives, while the second investigated those of newspaper journalists (Waddell et al, 2005a, 2005b). In this third study, we have approached the problem from the perspective of researchers, using qualitative methods to interview university researchers, policy researchers and research funders. Our objective was to investigate researchers' experiences of and views on interacting with policy makers, using conduct disorder as a content example.

Methods

Participants were purposively selected based on their research experience regarding child antisocial behaviour or related topics in children's mental health and development. Participants were drawn from academic institutions and affiliated organisations, from think tanks and related policy research organisations and from public and private research funding organisations. Those who held senior positions were sought because they were more likely to have experience interacting with policy makers. We identified participants based on our knowledge of the field, and then asked participants to identify others with relevant experience. Ethics boards at McMaster University and the University of British Columbia in Canada reviewed and approved procedures to obtain informed consent and to protect confidentiality.

We collected data through semi-structured interviews with participants (Miles and Huberman, 1994; Denzin and Lincoln, 2000). These inquired about participants' general experience, then probed about their specific experiences of and views on interacting with policy makers. Although conduct disorder was used as a *content* example, interview questions were intended to elicit responses about the *process* of interaction. Participants were interviewed in their own settings by the lead author (or trained research assistants) for 60 to 90 minutes, and all interviews were taped and transcribed verbatim. Field notes and interview transcripts were stored securely and organised using *QSR NUD*IST* qualitative research software (Gahan and Hannibal, 1998). Three authors (CW, JNL, JA) reviewed transcripts as the study proceeded to identify preliminary concepts and to reformulate interview questions as needed. We stopped collecting data when conceptual saturation was reached.

Three authors (CW, CAS, TBG) conducted the data analysis using the constant comparative approach that underpins grounded theory methods (Strauss and Corbin, 1998; Boeije, 2002). We independently reviewed each transcript, identified basic concepts discussed by participants and created an electronic database with codes

for each concept. We then explored different interpretations and together identified themes as they emerged from the coded data. Throughout, comparisons were drawn among individual participants and among the three groups of participants to ensure that themes faithfully represented participants' views (Boeije, 2002). The entire team then reviewed the themes, explored different interpretations and reached consensus on the final thematic analysis. The interdisciplinary nature of the research team further ensured a diversity of theoretical perspectives including child psychiatry, health policy, political science and the social sciences more generally. Members also had a range of experience with university research, policy research and research funding organisations. This diversity enabled us to constructively challenge our assumptions throughout the study.

Findings

The 34 participants came from diverse organisations across Canada, and included university researchers based in academic institutions and affiliated organisations (13), policy researchers based in think tanks and related organisations (10) and research funders based in public agencies and private foundations (11). University and policy researchers were trained in various disciplines within health and social sciences. All held senior positions within their organisations, having considerable research experience regarding children's antisocial behaviour and related topics in children's mental health and development. Many had prior experience working in clinical, educational or correctional practice. All had at least some experience of interacting with policy makers.

Participants spoke of contributions to policy that went beyond interaction with policy makers. Three themes emerged from our analysis: how participants became motivated to contribute to policy; how they developed approaches for contributing to policy; and how they created new environments for contributing to policy. Throughout the presentation of the findings, quotes have been selected from participants to provide the clearest expression of each theme.

Becoming motivated to contribute to policy

University researchers shared many personal stories about their career trajectories. In particular, they related how their interests shifted over time from curiosity-driven research towards more policy-relevant research. Many attributed this change in direction to 'mentors' who encouraged them 'not to think separately about research and practice'. Practical experience in turn exposed them to real-world problems faced by children: 'Children are living with these problems on a daily basis'. These researchers became motivated to find 'possible solutions' to 'complex problems' but only once they were 'mature enough' to appreciate the contribution that research could make to real-world problems: 'I couldn't have done this earlier in my career'.

'What influenced me most was working with the police on a crisis intervention programme. I saw the amount of violence that existed. These children were not getting

the services they required. Over and over again, I saw kids growing up in violent homes who then acted out violently. People hadn't done enough to articulate that in research.' (University researcher A)

As university researchers studied problems faced by children, they became increasingly motivated to respond to the solutions proposed and pursued by policy makers. They derived 'strong messages' for policy makers from the cumulative findings of their established research programmes. They voiced concern about the difference between what the 'data say' and what the 'politicians say', often disagreeing with proposed policy solutions: 'As the evidence mounts, it becomes harder for politicians to justify programmes that are failures'. With experience, they gained conviction.

'The response of politicians absolutely overwhelms me. I think that all of us have spoken clearly. There is strong data on what works and what doesn't work. Yet the politicians come out with such simple answers to complex problems. It just won't work. We know! I know!' (University researcher B)

Unsurprisingly, policy researchers also had strong ideas about proposed policy solutions for children. Yet rather than deriving their messages from research findings, they more often used research to support predetermined positions by 'taking other people's findings and integrating them to make a case for sound policy'. They collected 'comprehensive statistics' and synthesised 'bodies of knowledge' to support their arguments: 'We are parasitic on the scholarly community'. Policy researchers were more interested in conveying others' findings than in conducting their own studies: 'I see myself as a pollinator of ideas'. They nevertheless still viewed themselves as members of the research community: 'It depends on how you define research, right?'

'The most important thing we've done over the last 25 years to change public attitudes about policy issues is where we picked areas and we measured them and we kept on measuring them. We started to measure waiting lists, for example. Today, everybody agrees there's a problem with waiting lists.' (Policy researcher A)

According to both university and policy researchers, contributing to policy required substantial commitment: 'You have to believe that what you're doing is more than just a job'. They devoted considerable personal time to finding solutions for children with 'heartbreaking' problems: 'We're only limited by the number of hours in the day'. They were motivated by the potential benefits for children: 'You're not going to change anything overnight, but there's always hope'.

'I ask myself why I do this type of research and why I've persisted. I worry so much for the children who are aggressive. As much as my head's there, my heart is, too, trying to understand and help children and families who are struggling. When you do research like this, you become passionate and compassionate.' (University researcher B)

Developing approaches for contributing to policy

Both university and policy researchers saw policy makers as an important audience for their research messages: 'Everything that we do has policy implications'. As well as communicating research messages, both university and policy researchers attempted to establish ongoing interaction with policy makers: 'For a long time, I was going to them, but they're beginning to come to me'. They believed that developing relationships with policy makers was an effective approach: 'I knew the minister well, I could call her at home, I felt I had more influence'. Some claimed influence at the highest levels of policy making: 'Within 24 hours, we had a meeting with the Prime Minister'. Indeed, many researchers believed they were 'pretty effective at changing policy'.

'Every time the legislative committee meets, we're always invited. We send research to the minister, the deputy minister. We send it to politicians in the communities where we've done the work. Yeah, we're aggressive, because we think too many policy decisions are made for political reasons, they're not made for empirical reasons.' (University researcher C)

'On sabbatical, I worked several days a week for the government on the development of new legislation. I don't know how useful it was for them, but it was satisfying for me. They'd have a problem and they wouldn't necessarily recognise that there was empirical work that might help them to address that problem. Being that close allowed me to do that.' (University researcher D)

As university and policy researchers learned about the policy process from their interaction with policy makers, they came to appreciate that policy makers could not act without public support: 'Politicians can only move as far and as fast as the public understands'. Therefore, they came to accept that they must attempt to change public beliefs before they could expect to change policy. University researchers seemed somewhat daunted by the task: 'You're chipping away at an iceberg with an ice pick'. By comparison, policy researchers appeared better equipped to 'change the social climate'.

'Once the public was getting stirred up, we were able to back the government into a position where it would do the things that we thought were in the best interests of children. We couldn't do much with research until we managed to get the public onside.' (Policy researcher B)

'Basically, if you want to change the world, which is what we are really trying to do, you have to change the climate of opinion. You've got to get out into people's minds, people who disagree with you, people who agree with you, people who have great involvement with kids, people who have no involvement with kids.' (Policy researcher A)

University and policy researchers agreed, with reservations, that using the news media to reach the public was an effective approach: 'How else are you going to

communicate?’ University researchers accepted that working with journalists was ‘a wonderful way of getting information to the public’, despite the occasional negative experience: ‘They drive you crazy when they quote you wrong’. Policy researchers were more enthusiastic. They saw ‘public education’ as part of their mandate so they ‘took advantage of the media’, despite the burden of ‘getting calls every single week’ from journalists. Policy researchers developed sophisticated media strategies to minimise their costs and maximise their benefits: ‘We’ve doubled the number of articles on children and they’re significantly more sympathetic’.

‘The reason we have a relatively high media profile, given our limited resources, is that we treat the media very well. When the media call, they get an immediate response. If we don’t have the information, we bend over backwards to help them find it. They never go away empty-handed. I can assure you that I don’t want to be bothered by media inquiries every day but that’s the price you pay if you want them on your side.’
(Policy researcher C)

Creating new environments for contributing to policy

University researchers reflected on the difficulty of policy interaction and public engagement given the prevailing academic incentives. They stressed that compensation, promotion and tenure criteria obliged them to publish for peers: ‘The ultimate thing that matters is peer-reviewed publications’. Publishing within a discipline was the best way to advance within academia: ‘My most successful colleagues have single-mindedly pursued a particular research theme’. Research with relevance (or sufficient breadth) for policy makers might lack rigour (or sufficient depth) for peers. Consequently, conducting policy-relevant research could be academically unproductive: ‘That counts as close to zero as you could possibly imagine towards my salary’. Since ‘tenure and promotion are stuck in cement’, university researchers found it easier to contribute to policy once they had tenure.

‘I imagine it’s the same in most universities. I have colleagues who think that we should never speak publicly. Every time I speak, there’s backlash from members of the academic community. I just accept that. I don’t do the work to be popular within the university.’
(University researcher A)

‘I’m a full professor on tenure so I’m not terribly vulnerable. You’re not going to change the university. The institutional constraints are there and we have to admit it. If one of my junior colleagues were to do this kind of policy work, I’d say, “You’re taking a holiday from everything that’s going to get you tenure”.’ (University researcher D)

Research funders expressed interest in policy-relevant research: ‘More and more, we want to see the results of research being used’. However, they did not necessarily expect an immediate return on their investment: ‘Giving money for research is an act of faith’. They held researchers responsible for spending grant money on its intended purpose: ‘We need to make sure we’re not funding Hawaiian vacations’. Otherwise,

research funders generally deferred to peer review when awarding grants: 'You better have other researchers on your side, because that's where the money comes from'. They were aware of concerns about peer review and about return on 'public investment': 'What about engaging citizens in peer review so that we're accountable for value for money and impact of results?' But they maintained that public accountability rested with researchers themselves through the peer-review process.

'Peer review is incestuous. I think that many scientists hold up the sanctity and purity of peer review because they're not concerned about involving the public in a process that has been reserved for a specific audience in the past. Personally, I think its days are numbered.' (Research funder A)

Given the climate within the university, some entrepreneurial researchers who were policy-minded eventually decided to leave: 'The university didn't even know what I was trying to do'. They cited ambitious goals: 'to educate the public and the politicians and to try to bring policy in line with research findings'. They became convinced that these goals could not be achieved within the university due to the prevailing incentives: 'It's extremely difficult for academics unless they're given a secure environment or unless they're enormously sophisticated risk takers'. Therefore, these entrepreneurial researchers went on to create their own independent organisations, 'settings where people could come together' to develop research-based solutions for real-world problems. In effect, they created new environments for making meaningful contributions to public policy.

'We have some very fundamental problems in society. Now, how do you mobilise talent to tackle them? Well, we created the institute. You don't try to change government policy, you try to build a framework of understanding that ultimately forces change. These things don't occur overnight. They take a long time.' (Policy researcher D)

Discussion

While many studies have approached the problem of knowledge transfer from the perspective of policy makers, this article has approached the problem from the perspective of researchers. Using qualitative methods, we interviewed university researchers, policy researchers and research funders about their experiences of and views on interacting with policy makers. However, participants spoke of contributions that went beyond interaction. As university researchers studied problems faced by children, they became increasingly motivated to respond to solutions proposed by policy makers with messages derived from research. Policy researchers also had strong ideas about policy solutions, but they used research more to support predetermined positions. Both university and policy researchers attempted to develop relationships with policy makers, to change public beliefs in order to change policy, and to reach the public through the news media. However, policy researchers appeared better equipped for these approaches. University researchers found it difficult to contribute to policy until they had tenure, given the prevailing academic incentives favouring peer-

reviewed publications and grants. Research funders were interested in policy-relevant research but they also deferred to peer review when awarding grants. Consequently, some entrepreneurial researchers found they had to leave the university to create new environments for contributing to policy.

While these findings offer formative insights into researchers' perspectives on knowledge transfer, we are mindful of the limitations of our study and of the need for further research. It is possible that our content example limits the applicability of the findings to the children's mental health arena. We were nevertheless encouraged that participants emphasised generic process issues, suggesting that the findings may be applicable to other health arenas. In addition, we purposively selected university researchers with experience of interacting with policy makers. They were generally enthusiastic about knowledge transfer, a perspective not necessarily shared throughout academia, where scholars can differ on the relative priority of curiosity-driven and policy-relevant research. The findings may not, therefore, be generalisable to those without comparable experience. However, our intent was to learn from those who have interacted with policy makers rather than to explore the extent of policy interaction throughout academia. Survey methods and innovative approaches such as citation tracking would be more appropriate for determining the prevalence of knowledge transfer activities among health researchers (Landry et al, 2001; Lavis et al, 2003b). Our participants from funding agencies helped us to understand the effect of academic incentives, but survey methods would also be useful for determining the level of support for knowledge transfer among research funders more generally. Methods to assess the broader impact of funded research are also needed (Buxton et al, 2004).

Our findings call attention to the inhibiting effect of academic incentives on policy interaction and therefore have particular implications for university researchers. Knowledge transfer scholars have suggested that increased interaction between researchers and policy makers will lead to increased research use in policy (Landry et al, 2001; Innvaer et al, 2002). Our participants did attribute much of their influence to their relationships with policy makers, suggesting that creating environments for sustained interaction would be worthwhile. However, they also recognised the importance of working with the news media in order to change public beliefs. This echoes findings from our previous study of policy makers (Waddell et al, 2005a), who suggested that researchers must better appreciate the many competing influences on the policy process if they are to establish and sustain useful relationships with policy makers. Others have noted that researchers who wish to influence policy making 'must convince a broad section of the public as well as the informed community' (Cohn, 2004, p 52). This study shows that interacting with policy makers is challenging for most university researchers who must devote substantial effort to publishing for peers. Indeed, some participants who embraced the added challenge of public and media engagement found it necessary to create new environments outside the university where academic incentives did not apply.

Despite growing interest in knowledge transfer, university promotion and tenure committees still unqualifiedly favour peer-reviewed publications and grants (Phaneuf et al, 2007). While peer review has been challenged as a means to avoid public

accountability, it remains the primary mechanism for ensuring academic rigour (Scott, 2006). Yet academic rigour and policy relevance are not necessarily antithetical. Where appropriate, reviewers could evaluate journal submissions and funding applications for potential policy impact and could encourage meaningful participation by policy makers in the review process (Lavis et al, 2003b). Funding agencies could consult with policy makers to ensure that research priorities are at least informed by policy priorities, as some agencies now do (Lomas et al, 2003). Universities could also create new incentives and supports for policy-relevant research (Jacobson et al, 2004). However, given that prevailing incentives are entrenched within the institutional structure of universities, it will likely fall to policy-minded researchers themselves to challenge their peers to recognise and support policy contributions along with academic contributions (Phaneuf et al, 2007).

Compared to academic institutions, think tanks appear well equipped for knowledge transfer activities. The findings from this study suggest that university researchers predominantly adopt 'producer push' approaches to knowledge transfer (where researchers communicate their findings to receptive policy makers). Policy researchers also use 'producer push' approaches but they do more to facilitate 'user pull' (where policy makers seek information from accessible researchers) (Lavis et al, 2003a). Our findings confirm previous observations that Canadian governments have outsourced much of their analytic capacity to think tanks (Lindquist, 2004). The growing prominence of think tanks in Canadian policy making may be attributable to their relative accessibility and to the relevance of their products compared to academic institutions. For example, policy researchers readily synthesise research to support predetermined positions, an orientation that may not be acceptable to university researchers but may be extremely useful to policy makers (Greenhalgh and Russell, 2006). More importantly, policy researchers are well equipped for working with the news media and changing public beliefs, activities that may ultimately exert far more influence on the policy process than simply communicating research evidence. For example, think tanks can provide forums for citizens to engage with policy makers about contentious topics such as healthcare reform, thereby constructively advancing public policy debates (Maxwell et al, 2003).

If university researchers disregard the contributions of their counterparts in policy research organisations, they may risk ceding the field of knowledge transfer to those who have no necessary allegiance to academic standards. Conversely, by engaging in public debates, university researchers may risk undermining their legitimacy with peers (Weiss, 1991). Traditionally, academics have been wary of using their findings in support of predetermined positions in order to protect their intellectual autonomy and perceived objectivity. Arguably, however, academics *should* engage in public debates to ensure the rigorous interpretation and application of research findings that reach the public domain (Higgins et al, 2006). Some senior scientists already publish in popular media, suggesting that it is possible for academics to be comfortable with the potential trade-offs (Kyvik, 2005). How else could university researchers contribute to policy while maintaining academic standards? One possibility is for university researchers who emphasise academic rigour to collaborate with policy researchers who emphasise policy relevance. For example, university researchers could assist

policy researchers with reviewing publications and with developing mechanisms for constructive citizen engagement (Abelson and Gauvin, 2004).

University researchers apparently have much to learn from their policy counterparts' readiness to work with policy makers, the news media and the public. To match the contributions of policy researchers, policy-minded academics will have to challenge their peers to better recognise and support policy interaction and public engagement. This will not be easy, as our participants who left the university attest. Meanwhile, policy researchers can also learn from their academic counterparts about deploying research that is rigorous. University and policy researchers share in the collective responsibility to address important public health problems such as child antisocial behaviour. A careful balance of academic rigour and policy relevance is necessary for both groups to make meaningful contributions to public policy.

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References

- Abelson, D. E. (2002) *Do think tanks matter? Assessing the impact of public policy institutes*, Montreal: McGill-Queen's University Press.
- Abelson, J. and Gauvin, F.-P. (2004) *Engaging citizens: One route to health care accountability*, Ottawa: Canadian Policy Research Networks, www.cprn.com/en/doc.cfm?doc=560
- Boeije, H. (2002) 'A purposeful approach to the constant comparative method in the analysis of qualitative interviews', *Quality and Quantity*, vol 36, no 4, pp 391-409.
- Buxton, M., Hanney, S. and Jones, T. (2004) 'Estimating the economic value to societies of the impact of health research: a critical review', *Bulletin of the World Health Organization*, vol 82, no 10, pp 733-9.
- Chorpita, B. F., Yim, L. M., Donkervoet, J. C., Arensdorf, A., Amundsen, M. J., McGee, C., Serrano, A., Yates, A., Burns, J. A. and Morelli, P. (2002) 'Toward large-scale implementation of empirically supported treatments for children: a review and observations by the Hawaii Empirical Basis to Services Task Force', *Clinical Psychology: Science and Practice*, vol 9, no 2, pp 165-90.
- Cohn, D. (2004) 'The best of intentions, potentially harmful policies: a comparative study of scholarly complexity and failure', *Journal of Comparative Policy Analysis*, vol 6, no 1, pp 39-56.
- Davies, H. T. O., Nutley, S. M. and Smith, P. C. (2001) *What works? Evidence-based policy and practice in public services*, Bristol: The Policy Press.

- Denzin, N. K. and Lincoln, Y. S. (eds) (2000) *Handbook of qualitative research* (2nd edition), Thousand Oaks, CA: Sage Publications.
- Doob, A. N. and Cesaroni, C. (2004) *Responding to youth crime in Canada*, Toronto: University of Toronto Press.
- Feldman, S. (1999) 'Strangers in the night: research and managed mental health care', *Health Affairs*, vol 18, no 5, pp 48-51.
- Fox, D.M. (2005) 'Evidence of evidence-based health policy: the politics of systematic reviews in coverage decisions', *Health Affairs*, vol 24, no 1, pp 114-22.
- Gahan, C., and Hannibal, M. (1998) *Doing qualitative research using QSR NUD*IST*, Thousand Oaks, CA: Sage Publications.
- Goering, P., Butterill, D., Jacobson, N. and Sturtevant, D. (2003) 'Linkage and exchange at the organizational level: a model of collaboration between research and policy', *Journal of Health Services Research and Policy*, vol 8, no 4, suppl 2, pp 14-19.
- Greenhalgh, T. and Russell, J. (2006) 'Reframing evidence synthesis as rhetorical action in the policy making drama', *Healthcare Policy*, vol 1, no 2, pp 31-9.
- Hanney, S. (2004) 'Personal interaction with researchers or detached synthesis of the evidence: modelling the health policy paradox', *Evaluation and Research in Education*, vol 18, no 1-2, pp 72-82.
- Hanney, S. R., Gonzalez-Block, M. A., Buxton, M. J. and Kogan, M. (2003) 'The utilisation of health research in policy-making: concepts, examples and methods of assessment', *Health Research Policy and Systems*, vol 1, no 1, 28pp, www.health-policy-systems.com/content/1/1/2
- Higgins, P. A. T., Chan, K. M. A. and Porder, S. (2006) 'Bridge over a philosophical divide', *Evidence & Policy*, vol 2, no 2, pp 249-55.
- Huberman, M. (1990) 'Linkage between researchers and practitioners: a qualitative study', *American Educational Research Journal*, vol 27, no 2, pp 363-91.
- Innvaer, S., Vist, G., Trommald, M. and Oxman, A. (2002) 'Health policy makers' perceptions of their use of evidence: a systematic review', *Journal of Health Services Research and Policy*, vol 7, no 4, pp 239-44.
- Jacobson, N., Butterill, D. and Goering, P. (2004) 'Organizational factors that influence university-based researchers' engagement in knowledge transfer activities', *Science Communication*, vol 25, no 3, pp 246-59.
- Jacobson, N., Butterill, D. and Goering, P. (2005) 'Consulting as a strategy for knowledge transfer', *Milbank Quarterly*, vol 83, no 2, pp 299-321.
- Jefferson, T., Alderson, P., Wager, E. and Davidoff, F. (2002) 'Effects of editorial peer review: a systematic review', *Journal of the American Medical Association*, vol 287, no 21, pp 2784-6.
- Kindig, D., Day, P., Fox, D. M., Gibson, M., Knickman, J., Lomas, J. and Stoddart, G. (2003) 'What new knowledge would help policymakers better balance investments for optimal health outcomes?', *Health Services Research*, vol 38, no 6, part 2, pp 1923-38.
- Kothari, A., Birch, S. and Charles, C. (2005) "'Interaction" and research utilisation in health policies and programs: does it work?', *Health Policy*, vol 71, no 1, pp 117-25.

- Kyvik, S. (2005) 'Popular science publishing and contributions to public discourse among university faculty', *Science Communication*, vol 26, no 3, pp 288-311.
- Landry, R., Amara, N. and Lamari, M. (2001) 'Utilization of social science research knowledge in Canada', *Research Policy*, vol 30, no 2, pp 333-49.
- Lavis, J., Ross, S., McLeod, C. and Gildiner, A. (2003b) 'Measuring the impact of health research', *Journal of Health Services Research and Policy*, vol 8, no 3, pp 165-70.
- Lavis, J. N., Posada, F. B., Haines, A. and Osei, E. (2004) 'Use of research to inform public policymaking', *Lancet*, vol 364, no 9445, pp 1615-21.
- Lavis, J. N., Robertson, D., Woodside, J. M., McLeod, C. B. and Abelson, J. (2003a) 'How can research organizations more effectively transfer research knowledge to decision makers?', *Milbank Quarterly*, vol 81, no 2, pp 221-48.
- Lindquist, E. A. (2004) 'Three decades of Canadian think tanks: evolving institutions, conditions and strategies', in D. Stone and A. Denham (eds) *Think tank traditions: Policy research and the politics of ideas*, Manchester: Manchester University Press, pp 264-80.
- Lomas, J., Fulop, N., Gagnon, D. and Allen, P. (2003) 'On being a good listener: setting priorities for applied health services research', *Milbank Quarterly*, vol 81, no 3, pp 363-88.
- Maxwell, J., Rosell, S. and Forest, P. G. (2003) 'Giving citizens a voice in healthcare policy in Canada', *British Medical Journal*, vol 326, no 7397, pp 1031-3.
- Mays, N., Pope, C. and Popay, J. (2005) 'Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field', *Journal of Health Services Research and Policy*, vol 10, no 3, suppl 1, pp 6-20.
- Miles, M. B. and Huberman, A. M. (1994) *Qualitative data analysis: An expanded sourcebook*, Thousand Oaks, CA: Sage Publications.
- Phaneuf, M. R., Lomas, J., McCutcheon, C., Church, J. and Wilson, D. (2007) 'Square pegs in round holes: the relative importance of traditional and non-traditional scholarship in Canadian universities', *Science Communication*, in press.
- Pocklington, T. and Tupper, A. (2002) *No place to learn: Why universities aren't working*, Vancouver: University of British Columbia Press.
- Saunders, L. (2005) 'Research and policy: reflections on their relationship', *Evidence & Policy*, vol 1, no 3, pp 383-90.
- Scott, A. (2006) *Peer review and the relevance of science*, SPRU Electronic Working Paper 145, Brighton: SPRU (Science and Technology Policy Research), University of Sussex, www.sussex.ac.uk/spru/documents/sewp_145.pdf
- Scott, S., Knapp, M., Henderson, J. and Maughan, B. (2001) 'Financial cost of social exclusion: follow up study of antisocial children into adulthood', *British Medical Journal*, vol 323, no 7306, p 191-3.
- Statistics Canada (2006) 'Estimates of total spending on research and development in the health field in Canada, 1988 to 2005', *Science Statistics*, vol 30, no 3, pp 1-10.
- Stone, D. (2004) 'Think tanks, policy advice and governance', in D. Stone and A. Denham (eds) *Think tank traditions: Policy research and the politics of ideas*, Manchester: Manchester University Press, pp 1-16.
- Strauss, A. S. and Corbin, J. (1998) *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd edition), Thousand Oaks, CA: Sage Publications.

- Waddell, C., Shepherd, C. A. and Barker, J. (2007b) 'Developing a research-policy partnership to improve children's mental health in British Columbia', *Canadian Western Geographic Series*, in press.
- Waddell, C., Hua, J. M., Garland, O., Peters, R. and McEwan, K. (2007a) 'Preventing mental disorders in children: a systematic review to inform policy-making', *Canadian Journal of Public Health*, in press.
- Waddell, C., Lomas, J., Lavis, J. N., Abelson, J., Shepherd, C. A. and Bird-Gayson, T. (2005b) 'Joining the conversation: newspaper journalists' views on working with researchers', *Healthcare Policy*, vol 1, no 1, pp 123-39.
- Waddell, C., Lavis, J. N., Abelson, J., Lomas, J., Shepherd, C. A., Bird-Gayson, T., Giacomini, M. and Offord, D. R. (2005a) 'Research use in children's mental health policy in Canada: maintaining vigilance amid ambiguity', *Social Science and Medicine*, vol 61, no 8, pp 1649-57.
- Weiss, C. H. (1991) 'Policy research as advocacy: pro and con', *Knowledge and Policy*, vol 4, no 1-2, pp 37-55.

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