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Title: The fit between health impact assessment and public policy: practice meets theory.

Abstract.

Purpose and setting:

The last decade has seen increased use of health impact assessment (HIA) to influence public policies developed outside the Health sector. HIA has developed as a structured, linear and technical process to incorporate health, broadly defined, into policy. This is potentially incongruent with complex, non-linear and tactical policy making which does not necessarily consider health. HIA research has however not incorporated existing public policy theory to explain practitioners' experiences with HIA and policy. This research, therefore, used public policy theory to explain HIA practitioners' experiences and investigate 'What is the fit between HIA and public policy?'

Methods:

Empirical findings from nine in-depth interviews with international HIA practitioners were re-analysed against public policy theory. We reviewed the HIA literature for inclusion of public policy theories then compared these for compatibility with our critical realist methodology and the empirical data. The theory 'Policy Cycles and Subsystems' (Howlett, Ramesh and Perl, 2009) was used to re-analyse the empirical data.

Findings:

HIAs for policy are necessarily both tactical and technical. Within policy subsystems using HIA to influence public policy requires tactically positioning health as a relevant public policy issue and, to facilitate this, institutional support for collaboration between Public Health and other sectors. HIA fits best within the often non-linear public policy cycle as a policy formulation instrument. HIA provides, tactically and technically, a space for practical

reasoning to navigate facts, values and processes underlying the substantive and procedural dimensions of policy.

Conclusions:

Re-analysing empirical experiential data using existing public policy theory provided valuable explanations for future research, policy and practice concerning why and how HIA fits tactically and technically with the world of public policy development. The use of theory and empiricism opens up important possibilities for future research in the search for better explanations of complex practical problems.

Keywords: Health impact assessment, public policy, theory, critical realism

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Main Text

Introduction

The past decade has seen increasing use of health impact assessment (HIA) to influence the development of public policy outside the Health sector (Wismar et al. 2007; National Research Council 2011; Lee, Robbel and Dora, 2013). However, there have been limited explanations of how HIA, a relatively new area, fits with public policy, which has a long established history.

The broader body of research, practice and theory to which HIA belongs falls under the rubric of 'healthy public policy' (most recently 'health in all policies'). The early literature situated the required knowledge for progressing healthy public policy as falling into two camps (Milio, 1987). One was substantive and 'what?' focussed, concerning the provision of technically proficient information to inform the development of public policy options. The other was strategic, process and 'how?' focussed, concerning the conditions within which policy is developed. Early in the development of HIA, these categories were picked up as central to progressing HIA for healthy public policy (Kemm, 2001). Since then however, with some notable exceptions (Banken, 2001; Bekker, 2007; Nirlunger-Mannheimer, Lehto, & Östlin, 2007; Wismar et al., 2007), HIA research and practice has tended to focus on the technical 'what?' questions which are internal to the conduct of HIAs - how to conduct each of the structured steps of an HIA, who to involve, and the type of evidence to base predictions on? HIA practice incorporates some consideration of the broader policy context, for example in the early 'screening' and 'scoping' steps which determine the focus of the assessment. However HIA research to date has not engaged with the external tactical conditions associated with what HIA is ultimately trying to influence, public policy (Harris, Kemp, & Sainsbury, 2012).

Concurrently the healthy public policy literature has largely focussed on the tactical procedures and conditions within which public policy is made (Koivusalo, 2010; McQueen et al, 2012). HIA, in this literature, is either not mentioned or becomes one component in this broader strategic picture (Gagnon, Turgeon, & Dallaire, 2007; Ollila, 2011).

HIA is now recognised as an important activity to achieve 'healthy' public policy (Bacigalupe et al, 2010; Collins, 2009; Gottlieb, Fielding, & Braveman, 2012; Winkler et al., 2013). HIA is a prospective activity which offers a structured, stepwise process to influence the early development of policies (Harris, Kemp, & Sainsbury, 2012). However, the need for better explanation about how HIA fits with public policy persists. HIA has difficulty accounting for the complex conditions in which policy is made (Koivusalo, 2010) including how health is positioned as a valid policy issue (Ratner et al, 1997). Exactly when to undertake an HIA within the policy cycle remains poorly defined (Lee, Robbel and Dora, 2013).

Despite early interest (Banken, 2001; Bekker, 2007; Bekker, Putters, & Van der Grinten, 2004; Love et al, 2005; Putters, 2005) public policy theory has yet to be used to explain what is now a global field of practice. This article draws on practitioner experiences globally and public policy theories to explain how and why HIA fits within the broader world of public policy making. Our intentional focus is on HIA as conducted in policy and planning rather than project development,. Specifically, we investigate the question, 'What is the fit between Health Impact Assessment and Public Policy?'

We first present our methodology and method. Our findings initially focus on how practitioners' experiences of HIA fit with theoretical dimensions of the institutions governing policy development, and then on how HIA fits with theories of policy formulation.

Methods

Our methodology has been detailed previously (Harris, Kemp & Sainsbury 2012). This qualitative study follows critical realist methodology, which combines empirical data with theory to provide deeper explanations of phenomena under investigation (Bhaskar, 1978; Danermark et al, 2002; Sayer, 1992). Here we report the third and fourth of the established phases of critical realist research (table one).

[TABLE ONE HERE]

Phases one and two empirically identified the various elements in the relationship between HIA and healthy public policy operationalized by practitioners working in the field (Harris, Kemp & Sainsbury 2012). A core finding was that practitioners positioned both HIA and healthy public policy as being presupposed by that which they attempt to influence, 'Public policy'. Phases three and four then re-described these practitioner experiences against a framework of established public policy theory.

Our own backgrounds are important. PH and LK are university based academics who have used HIAs on policies, plans and projects as part of their applied research and capacity building activities. PS is a practitioner and policy maker who funds and uses HIAs in his population health work in Sydney,. All our work revolves around developing, implementing and evaluating interventions to improve health and health equity. The research informed PH's doctoral thesis, supervised by LK and PS.

Ethical approval was granted by UNSW Human Research Ethics Committee (HREC 10270).

Data collection

Practitioner experiences through interviews

PH conducted nine interviews with HIA and healthy public policy practitioners, the detail of which has been reported elsewhere (Harris et al, 2012). Briefly, in 2010 unstructured in-depth interviews were conducted with a purposive (Rubin & Rubin, 1995) sample of

practitioners working in HIA and/or healthy public policy from six different countries UK (n= 2), Ireland (n = 1), US (n = 2), Australia (n = 2), New Zealand (n = 1), and Netherlands (n = 1) to elicit experiences about HIA and healthy public policy in different contexts..

Chosen Participants (following Rubin & Rubin, 1995) were:

1) knowledgeable about one or both of HIA and 'Healthy' Public Policy and the relationship between them

2) willing to talk, and

3) representative of a range of potential points of view.

The interviews were supported by data from a workshop of international practitioners and discussions at international HIA meetings and conferences. In line with critical realist method, for the theoretical redescription phase reported here, we re-interpret the same unstructured interview data against public policy theory to provide deeper explanations of this data than our original empirically focussed analysis allowed for.

Comparison between theories

Critical realist analysis requires initial comparisons of potential explanatory theories. We therefore systematically searched for use of the term 'theory' – truncated to 'theor$' – in the peer reviewed literature on HIA and public policy between 1998 and 2011 (n=22), PhD dissertations (n=6), and published books on HIA and healthy public policy (n=6).

From this review we chose as our analytic focus the historical institutionalist theory 'Policy cycles and subsystems' (Howlett, Ramesh, & Perl, 2009), introduced to the HIA literature by Banken (2001) but subsequently not used as a framework in HIA research. Our review also found this theory provides fundamental constructs which have become the basis of 'environmental assessment' research (Cashmore, 2004) but which have not been utilised fully in HIA research.

For the purposes of this research the theoretical framework is useful for several reasons. True to its 'historical institutionalist' roots (Howlett et al., 2009), 'Policy Cycles and Subsystems' is a composite of public policy research and theory to date, allowing explanations of the empirical data which incorporate other theories found in our review (policy analysis, evidence and methods, and impact assessment). Given our interest in the empirically defined problem of fit between HIA and public policy the framework explicitly focusses on the institutions surrounding public policy making as well as the stages of the policy cycle. Additionally the theory's explicit focus on 'ideas', 'institutions' and 'actors' as units of analysis aligns with critical realism's focus on multiple levels in the search for explanations (Marsh, 2009). In this way the theory allowed us to reanalyse participants' experiences against these different dimensions to explain how HIA fits within public policy institutions as a policy formulation instrument.

Data analysis

The empirical data were re-analysed against core elements of the 'Policy Cycles and Subsystems' theory: first looking at institutional influences and second the positioning of HIA in the policy cycle. This analysis focussed on a core question posed within critical realist research methodology, 'What is it about the object which allows it to do certain things?' (Sayer 1992; p. 91), which we reinterpreted in two ways:

'what is it about public policy which influences the conduct of health impact assessments?'; and

'what is it about health impact assessments which influences the conduct of public policy?'

Several core elements of Howlett et al's (2009) framework emerged as providing explanations. These fall into subsystem or institutional factors and the stages of the policy cycle. Importantly, our explanatory analysis extended to other theories where we felt more depth was required.

Subsystem / institutional factors operate at multiple levels. Essentially Howlett, et al (2009) position the history of institutional analysis of public policy within their explanation of 'Policy subsystems'. Their analysis draws particularly closely from Kingdon's 'multiple streams' theory (Kingdon, 1984) and Sabatier's advocacy coalition theory (Sabatier & Jenkins-Smith, 1993).The *policy context* is made up of actors (emphasising roles, values, and relationships), institutions (emphasising systems and structures influencing rules, procedures and mandates) and ideas (the content of what goes into policy). *Policy paradigms* concern the ideas that go into policy analysis and act as filters on reality to create policy content. *Policy subsystems* are discourse communities and interest networks involved in policy making. *Policy regimes* are a combination of policy subsystems and policy paradigms and influence both the substance and process of public policy-making in specific sectors and issue areas.

The five stages in the policy cycle are 'agenda setting', 'policy formulation', 'policy decision-making', 'policy implementation', and 'policy evaluation'. Notably Howlett et al are at pains to point out that sequencing of the stages are interconnected and rarely linear. While we ultimately focussed on policy formulation theories, with emphasis on substantive and procedural dimensions, we also incorporated theories within the other stages where these became apparent as explanations for the data.

Findings

Institutional influences are discussed first, followed by HIA as a policy formulation instrument.

Institutional influences

Institutional influences concerned how participant's experienced HIA, and more broadly 'health' as a policy issue, within the institutions which make public policy. Differentiating between actors, structures and ideas which make up the policy context formed the basis of our analysis. The resulting analysis emphasises how using HIA to influence

public policy requires *tactically* positioning health as a relevant public policy issue and, to facilitate this, institutional support for collaboration between Public Health and other sectors.

Participants emphasised 'health' as a policy idea. The focus concerned 'health' being taken up on the policy agenda and whether 'health' is recognised a viable public policy issue outside the health sector. Policy development is not driven, participants explained, by 'health'. Rather, the dominant policy paradigm is economic development with specific sectors required to address specific policy areas like education, crime or housing. 'Health', crucially, was not rejected, but was secondary to achieving the core business of that other department. This was captured in the following the comment:

'I'll give an example. When I was talking to our [crime department] their first thing was, "yes we see health as important but it's not critical for our work". What they saw was that health was a secondary benefit from the work they did…Education similarly, "Our aim is to get people educated for economic reasons".'

(HIA practitioner, UK)

From theory, the framing of ideas is central to putting issues on the policy agenda. As explained by Kingdon, categorising a problem '…structures people's perceptions of the problem …' (p. 111). Similarly the framing of health as a useful policy issue both for society and government was identified by participants as critical for HIA, yet underdeveloped. All participants were clear that health, to be useful for public policy, cannot be framed in terms of hospitals and diseases. Accepting this however, the growing use of the term 'the social determinants of health' was positioned by some as allowing policy makers to connect their work with health and equity. However others felt the determinants discourse was useful only within Public Health, with one arguing that this painted too complex a picture for other sectors to deal with. Several participants commented how they never use 'health' or 'equity' when they first engaged with other sectors. Interestingly some participants suggested

emphasising the idea of intersectoral collaboration with the 'Health' department ahead of health as a policy issue. For example one participant from Urban Planning observed how collaborating with Health can:

'create new constituencies…it means that then Planning can ally with their Health departments to get funding...Or the Transportation folks can access... it's actually really a resources thing, that if you work together there's both information and expertise you can bring together to make a better plan'.

(Urban Planning and HIA Practitioner, U.S.)

Turning away from ideas *to institutional structures*, policy is formulated and developed, according to Howlett et al (2009) - leaning heavily on Sabatier - within specific established regimes and networks. This explained why engagement with health as a policy issue was identified by participants as occurring only where Health is seen as a trusted partner offering a mechanism to enable different sectors to achieve *'their business'* (Health in All Policies practitioner, Australia).

There were two aspects to this. One was that Public Health was identified as the institutional space within the Health sector and broader government with the broad remit (and technical expertise discussed next) for intersectoral policy collaboration. This mandate, however, was described as being difficult to achieve within Public Health where the current emphasis is on healthy lifestyles:

"…because we [Public Health] are driven by targets and the targets are all, interestingly enough, individual lifestyle type factors, the risk factors, the smoking, the drinking, the drugs, obesity. It's those kind of things, and that doesn't really lend itself to the broader kind of strategic public policy work."

(HIA practitioner, UK)

Reinterpreting the data against various theories of policy subsystems provides insight into some of the difficulties facing Public Health as an institution progressing HIA and / or Healthy Public Policy. Public Health was suggested by participants to be part of what Howlett et al (2009) term a 'chaotic' discourse community. This is unlike medicine in the dominant medical community which are 'hegemonic' discourse communities because there are currently no challenges to them as paradigmatic mindsets. Chaotic communities, rather, exist when many sets of ideas circulate with no single idea in a dominant position. Similarly, Weible (2008) has developed 'ideal' types of subsystems, against which participants' descriptions of HIA or HPP appear to belong to an adversarial subsystem, where conflict is high amongst competitive coalitions, as opposed to a collaborative, where conflict is intermediate, or unitary subsystem, where there is no conflict.

The difficulties of putting health or HIA into the policy arena explain why participants also suggested that a cross-government, high level, mandate was required. This came in the form of situating health within policy documents and actual ministerial and executive support (see also De Leeuw & Polman, 1995). These necessary structural requirements were summed up by one participant who observed how:

'You can't have the Health system going to work in another sector's area without having a framework that allows them to be invited…And it can't be the Health sector inviting themselves. It needs to be a central government agency saying, "We see this as a valuable role for the health sector to play." … unless you've got that central government mandate, they'll walk away.'

(Health in all policies practitioner, Australia)

Turning to the role of *actors*, policy making is explained by Howlett et al (2009) as a function of the nature and motivation of key actors – who Kingdon coined as 'Policy entrepeneurs' – in the subsystem and their ideas. Similarly, people's values and interests were

positioned by participants as ultimately influencing what they pay attention to or reject. This, importantly, was the reason why participants explained the need for Public Health practitioner support to other sectors in the undertaking of HIAs. For example:

"You need some Public Health expertise to be able to do them [HIA's], … if you start making agencies do health impact assessments, they won't have health capacity for a start, and even if they gave somebody the job to do them, they probably wouldn't likely be a Public Health person so you'd chop off a whole lot of really good Public Health stuff…"

(HIA practitioner and policy officer, New Zealand)

Within the Health sector, however, participants were clear that different Public Health practitioners do not uniformly value, or even recognise, engaging in cross-sectoral policy work. For example, one participant commented how:

'[Public Health in jurisdiction] doesn't do healthy public policy work… when we've spoken to them about it before that is their view. Their work is on public health interventions rather than healthy public policy… We put a proposal to them a couple of years ago that they expand that and that they have a healthy public policy team, and that HIA was just one tool. But there just wasn't the appetite to do that... this is actually where politics comes in... Well on the one hand they see their role as doing what the government tells them to do, and implementing national policy, on the other hand they will promote things that people within there happen to be interested in. But they are not necessarily healthy public policy.'

(position and jurisdiction withheld for this quote)

In summary, participants identified various levels of tactical issues and influences within institutions, ideas, institutional structures, and actors. In reality HIAs operate within what Kingdon (1984) describes as a 'sea of organised interests' (p. 153) that public policy decision-makers must take into account. These tactical factors are mostly outside the control

of HIA practitioners. However, their existence must be considered as part of the tactical positioning of HIA as a policy formulation instrument.

HIA as a policy formulation instrument

A frequent issue facing HIA practice in the policy arena is, according to participants and the literature, when to do one (Kemm, 2001; Lee et al., 2013; Putters, 2005). Specifically participants were concerned whether an HIA should be done on an existing but draft policy proposal or earlier when that proposal is being formulated. For example:

"…is there a way that we can introduce some of that predictive thinking earlier in so that we are actually at the point where the issue is coming up to the table, and people are starting to do that work about well what do we know about the problem...how to we frame the problem and how do we get to some solutions?"

(HIA and healthy public policy practitioner, Australia)

Some resolution was brought because participants' descriptions of doing HIAs – including this 'earlier in' comment – aligned best with theories about the policy formulation stage. The core finding from this analysis is that HIA, both technically and tactically, is essentially a policy formulation instrument. Policy formulation is itself made up of phases, funnelling evidence (through appraisal) and negotiation (through dialogue) into the development of a proposal (formulation) which includes recommendations to be discussed (consolidation). These usefully map onto how participants identified the essential elements of HIA, where HIA funnels evidence, provides a space for negotiation and dialogue, and develops recommendations.

Additionally theory supported participants' experiences that HIA must be flexible in design. 'Linear remedies' the public policy literature explains, 'do not cope with non-linear cases' (Dunsire, 1993); p.24). Similarly, Howlett et al (2009) emphasise how policy

formulation does not, often, conform to being a rational process influenced by rational scrutiny. This explains why one participant commented:

"… So that makes it difficult if you are trying to define a common approach to HIA. That when you reach point X, you do an HIA and you don't get past that point unless you have done it. You just can't do it that way. We need to be much more flexible than that."

(HIA and public policy practitioner, Scotland)

There is however an unresolved problem with flexibly conducting HIA alongside policy formulation at its earliest phases: there is nothing to actually assess. For example one participant recalled:

'We tried to get as early as possible in the process but then the problem is you don't have much information because they are still trying to find out "where we are going, what we actually want". So either you choose to be involved early in the process but you won't be able to say much about the health impacts because the information is so little. Or you see it at the end of the process, you can do a perfect HIA work, you can even calculate things but you'll actually be too late to influence policy.'

(HIA and Health in all policies practitioner, the Netherlands)

Resolving this issue is beyond the scope of this research. However, participants' experiences suggest this is essential if HIA is to be progressed as a public policy mechanism.

Substantive and procedural dimensions of policy formulation

The positioning of HIA as a policy formulation instrument provides another vital finding. Howlett et al (2009) emphasise that policy formulation is 'substantive' – innate to the nature of the problem itself such as crime or education – and 'procedural' – to do with procedures involved in adopting a policy option or carrying it out. Similarly, participants' experiences, both tactical and technical, with HIA were explained by these two dimensions of policy making. As noted, these categories are emphasised by Milio (1987) and Kemm (2001),

and while not explicitly named or expanded can also be seen in the HIA literature (Banken, 2001; Wismar et al., 2007).

Formulating policy, Howlett et al (2009) argue, requires addressing both substantive and procedural constraints, specifically both technical and political limitations on taking action. The aim of policy formulation instruments, taking these limitations into account, is to reduce the number of policy options to a small set of alternative courses of action that can be laid out for decision-makers. Substantive instruments (Salaman, 2001) are designed to influence 'the substance of policy outputs' (Howlett et al., 2009; p. 169) through authority, penalty or incentive (Howlett, 2000). Procedural instruments (Dunsire, 1993) are directed towards the 'manipulation of policy processes associated with the delivery of those outputs' (Howlett et al., 2009; p. 169) through 'selective creation, provision and diffusion of information *to policy actors*' (Howlett, 2000; p. 418. Italics added). Importantly, Howlett et al (2009) conclude procedural constraints mean that 'choosing a solution… does not even remotely resemble the orderly process of detached "objective" analytical scrutiny… [subscribed to in] rationalist analytic models' (p. 113). Rather, returning to institutional influences, this seemingly chaotic process is a mix of actors, ideas and structures.

Mapping these dimensions against the data suggested similar constraints influence the practice of HIAs. As one example, one interview participant explained how an HIA unfolded and was, ultimately, perceived as being unsuccessful. The specific dimensions outlined by Howlett et al (2009) are coded **[in brackets]**:

"'… for instance there was a health impact assessment that came out of a local authority housing plan. Every 4 years the local government is obligated ***[institutional constraint]*** *to come up with a 4-year housing plan* ***[no necessary coincidence with particular interest groups]*** *and in that the travellers, the gypsies…, their housing plan… where they're allowed to put their caravans* ***[substantive problem]****… so this plan was being developed and the*

representative group of the travellers felt that they were excluded and marginalised from the process of coming up with this strategy ***[proceeds without clear contact with affected groups]****.. and they felt that it was very expert driven, it was really only being developed within the walls of the local authority* ***[no necessary coincidence with particular interest groups, although it is a frequent activity of bureaucratic agencies]****. So it was them in conjunction with… the social inclusion manager in the health services… and [the manager] and the travellers group got together… with the researcher on that HIA* ***[not limited to one set of actors]****. And he was told by people that it was a cauldron of prejudices and old institutions* ***[institutional constraint]*** *and that it would be a waste of time to do it* ***[tactical constraint]****. But the reason that they did the HIA was that they felt excluded from the policy process and they believed that this HIA would provide evidence* ***[technical]*** *that would persuade the policy-makers to take better account of their needs and that kind of thing* ***[procedural]****, so that was what they believed the HIA would do and then they were very disappointed when the HIA didn't provide that, but I mean the purpose of the HIA isn't to change the way people believe and behave* ***[procedural influence]****, it's to provide evidence* ***[technical influence]****, whether it's used or not, so it was interesting."*

(HIA researcher, Ireland)

This comment provides a useful instance of how the realities of formulating policy intertwines with the expectations of what a HIA can achieve. Against the backdrop of theory, the major issue here is that the HIA was positioned – to the community – as a tool for substantive policy influence by providing objective predictive evidence of the problem. However, the constraints identified are largely procedural and the expected substantive aim of the HIA was unfulfilled.

Further analysis against these dimensions explained why participants positioned HIA as being about 'objective' prediction (e.g. *'HIA is about assessing things isn't it?' (HIA*

practitioner, U.K.)), and providing a 'subjective' structured process for negotiating policy problems and solutions (e.g. *'because in public policy when we talk about using HIA it is a dialogue process'(HIA practitioner, U.K.*). HIA, it became apparent, provides *both*. HIA's predictive component provides an objective, rational assessment to provide a technical prediction of the health consequences of addressing the substantive problem. At the same time, HIA provides the structured space for inter-subjective negotiation, with the intention that this will diffuse to the system through policy actors. Put simply, HIA provides the space for policy stakeholders to engage in collaborative thinking about the (substantive) health and wellbeing consequences of the policy options they are formulating.

A sequence of quotes from different interviews supports this explanation. In one early interview a participant recalled how an HIA evaluation mistakenly had not picked up that HIA influences the people involved and their subsequent policy making (procedural influence):

"And they evaluated it [the HIA] saying it hadn't made any difference because it didn't influence the masterplan. But actually the difference it needed to make, by going through the council management team, where some of the other issues can be picked up, wasn't."

(HIA and Public Policy practitioner, Scotland).

In a subsequent interview another participant emphasised the procedural influence HIA can have, but at an organisational level:

"…it's not just about the individuals, it's about the organisational or institutional response to it."

(HIA practitioner and policy officer, New Zealand)

Other participants, however, recognised that not having an influence on the (substantive) proposal ran the risk that stakeholders in the HIA would question whether

health is seen as useful for procedural policy-making. For example one felt, when discussing the evidence linking health to a policy problem:

"But I think people need to see it [the evidence]. And they need to see it more than once to start to believe it."

(HIA practitioner, U.S.)

There is however a problem, acknowledged by participants here and found in other research on HIAs and policy (Bekker, 2007), with the technical evidence base linking health, broadly defined to include wellbeing, to substantive policy problems. There is the recognition that measuring the causal pathways between policies and health outcomes is complex because the pathways are indirect (Harris & Spickett, 2011; Kemm, 2001). Others have suggested that the evidence of causation is patchy or non-existent and often risks being irrelevant for assessing policy options (Cole & Fielding, 2007). In addition, several participants in this research suggested that HIA has not engaged enough with economic data or cost benefit analysis, which are emphasised in theories of substantive policy making (Salaman, 2001).

Thinking more concretely about what HIA actually is, however, the problem may lie in the evidence base rather than HIA, which participants suggested is *'at the mercy of the evidence available' (HIA and Public Policy practitioner, Scotland)*. Making the technical limitations of the Public Health evidence base the responsibility of HIA practitioners is unlikely to resolve this broader complex problem of putting evidence into policy (Weible, 2008) and may actually detract from HIA providing the 'practical' space, discussed next, to frame the strengths and limitations of the evidence for the policy options under scrutiny.

As noted, in the HIA literature the combining of substantive and procedural policy dimensions has yet to be made clear. However, also using policy analysis theory Sukkumnoed (2005) suggests that policy change and learning come about through persuasive policy explanations including both facts and normative orientations. Similarly, one the first

pieces of research into the implementation of environmental impact assessment – one of the disciplinary roots of HIA - concluded that environmental impact assessment requires engaging with both substantive and procedural rationality (Taylor, 1984). Policy action through environmental impact assessment, Taylor proposed, requires appealing to general social values as well as empirical evidence. This helps explain why participants made clear links between social values, which may not value health or health equity, and whether HIA which emphasises health and equity, is seen as valid for policy making (Harris, Kemp and Sainsbury, 2012). This notion of combining facts and values has been more recently written about in theories about 'practical reasoning'.

HIA as vehicle for 'practical reasoning' in policy formulation

Recent research into HIA and policy has emphasised learning (Bekker, 2007; Harris-Roxas & Harris, 2013). Howlett et al (2009) delineate both technical and social learning. Technical learning, theory suggests, concerns practical suggestions about specific aspects of the policy, the choice of means or techniques employed by policy-makers. Social learning, described by Howlett et al (2009) as 'framing', concerns broader policy goals and their underlying ideas or paradigms, and which they emphasises as 'more fundamental… accompanied by changes in the thinking underlying a policy… and affects the policy-makers' capacity to change society' (p. 181).

These different types of learning were also suggested by participants who framed HIAs influence occurring principally through people. Three quotes from different participants emphasise how learning was discussed:

"And that's why HIA to me is so important. Because there are processes in there for creating shared meaning. It is only when we have got that that we can really make progress." (HIA and healthy public policy practitioner, Australia)

"We assume through our HIA and recommendations that we make massive impacts and immediately. That's rare, unless the policy-makers buy into it..." (HIA practitioner, U.K.)

"…In reality what you get is a kind of iterative change around the margins. But you might have raised awareness for the next time." (HIA and Public Policy practitioner, Scotland).

How these changes can occur through HIAs can be explained using recent public policy evaluation theory, introduced by Howlett et al (2009), which emphasises *learning* through *practical reasoning* (Sanderson, 2006). Using complexity theory, Sanderson argues that (evaluating) policy change occurs not through the predictions based on stability, linearity and regularity. Instead, policy is influenced through 'bounded-rationality' (actor-centric) and 'interactive governance' (structure-centric) processes of social interaction which are developed through 'reflexive monitoring and dynamic social learning' (p. 122). Social learning, Sanderson emphasises, is the counterpoint to the 'partial, contingent and fallible nature of social knowledge' (p. 122). Importantly, this recognition of complexity does not reject the search for 'reliable' knowledge about the 'consequences and outcomes' (p. 122) of attempts to change the social world. This knowledge of 'what works' can then be used to rationally guide social change toward desired ends, through communicative learning. Centrally, the rovision of evidence, what Sanderson terms 'instrumental rationality', is incorporated, but alone is insufficient without communicative processes which incorporate values and normative concerns, what Sanderson terms 'practical rationality'.

Similarly, Sayer (2011) provides a critical realist interpretation of 'practical rationality' which explains how HIA works in navigating and connecting technical or substantive 'facts' and the values of those presenting or interpreting those facts. The prime characteristic of practical reasoning, Sayer argues, concerns 'attentiveness to the object' (p. 62). Similarly, participants described how HIA, by breaking down a policy problem (the

object), allows for an explanation of what a policy idea or proposal or option is while also linking this to its potential consequences on population health. The interpretation of objects is, Sayer argues, always mediated by mental schemata and available concepts and discourses. Reasoning about the object - which in the case of public policy was often described by participants as being unclear - Sayer suggests therefore requires checking discourse and dialogue 'to assess whether we have understood what others are thinking and doing' (p. 62). This theoretical explanation of practical reasoning about policy as an object explains why one participant felt HIA was best viewed in policy as*'a dialogue process'* (HIA practitioner, U.K.) rather than a technical tool, and another that

"…HIA helped prove the case that if you think things through systematically it has benefits for everyone." (HIA practitioner and policy officer, New Zealand)

Summary

In summary, analysing participants' experiences against theory suggested that HIA is best positioned within the (non-linear) policy cycle as a policy formulation instrument. Policy formulation contains similar processes to HIA, although adapting HIA across these requires further work and development. Further, policy formulation requires attending to substantive and procedural constraints which underpin the technical and political realities of policy making. These, we conclude, should form the basis of tactical as well as technical thinking for the design and conduct of HIAs. At the same time, the experience of participants suggested that as a technical process HIA allows practical reasoning, linking facts and values, within policy formulation.

Three propositions to progress HIA as a policy formulation instrument

To tie up the findings, from the preceding analysis we are able to make three propositions to progress research into and practice of HIA as a public policy formulation instrument. These require further research and testing in real world case studies. However,

they provide practical conclusions from the research which combine tactical and technical considerations for future HIA practice.

Proposition one

HIA is one of a number of mechanisms or instruments for influencing health considerations in policy, and may be best positioned as occurring within the policy formulation stage when policy options and alternatives are being developed.

Proposition two

To be influential HIA should be positioned as a policy formulation instrument in high-level strategic policy documents which influence procedural policy-making to include consideration of population health and equity issues. Structural support for HIA as part of healthy public policy activity is required at senior levels of government. Also structurally, public health organisations or systems require the mandate, within both the health system and broader government, to progress HIA as one mechanism for healthy public policy collaboration. Collaboration requires Public Health workers to have the skill and experience to add value to the work of other sectors while facilitating the technical doing of HIAs on substantive policy issues, thereby influencing procedural policy-making.

Proposition three

HIA necessarily requires making a technically proficient assessment and prediction of the population health and equity impacts of substantive policy issues. However, to be sufficient in influencing policy change, HIA must also be tactical, taking into account procedural policy-making constraints through focusing on actors' values, interests and learning, and ultimately, institutional rules, procedures and mandates.

Conclusion

HIA is increasingly, albeit insufficiently (Winkler et al., 2013), used across the globe for health focussed policy collaboration (Lee et al., 2013). This paper has shown how public

policy requires HIAs to be both tactical and technical. By drawing on practitioners' experiences and established public policy theories we have provided valuable depth to understanding how and why practitioners operationalized their work in the field.

The findings have a number of essential implications. First, the use of HIA to influence public policy requires practitioners to be *both* tactical and technical rather than *either* tactical *or* technical. To be most effective, HIA requires strengthening as a policy formulation instrument which operates within a bigger world of policy making. Moreover, this largely contingent world can be tactically navigated and planned for, by focussing on ideas, people and structures, to enhance the success of HIA in terms of creating substantive and procedural policy change. Second and relatedly, this research has demonstrated how HIA fits within the public policy cycle as a policy formulation instrument. Policy formulation has specific components (appraisal, dialogue, formulation, consolidation) with which the established stages and characteristics of HIA are closely aligned. The time is right to develop and understand how HIA in practice works alongside these established policy formulation stages. However, policy formulation also has substantive and procedural dimensions which, respectively, connect those stages to the content of policies and how these are developed. The possibilities which HIA offers the policy formulation process, particularly learning through practical reasoning, are underdeveloped and suggest an exciting and important area for further research and practice. Third, we have provided three propositions to improve and further investigate the use of HIA as a useful policy formulation instrument.

There are some important unresolved areas. The use of 'Policy Cycles and Subsystems' provided a vital explanatory theoretical backdrop to understand HIAs fit with public policy. However, the theory is limited in some ways. It is dismissive of equity. As equity was identified by participants as a core concern (Harris, Kemp & Sainsbury, 2012) more theoretically derived explanation is required about how and why equity fits, could fit or

does not fit with public policy. Nor does it adequately cover 'governance'. In contrast both the sources of substantive (Salaman 2001) and procedural (Dunsire 1993) policy making used by Howlett et al (2009) are explicitly concerned with governance. Policy formulation and implementation, both sources argue, are no longer the preserve of government but involve a great number of stakeholders and interests. The importance of governance theories remains underdeveloped in the published HIA literature. Noticeably the recent, mostly tactically oriented, 'health in all policies' literature has focussed attention on governance but without mentioning HIA (McQueen et al., 2012).

Turning to sampling, participants in this research were few and were largely HIA advocates or using HIA (or at least *'bits of it'* as put by one participant who worked in health in all policies rather than HIA) in their work. Given the research question, this purposive sampling was required. Future research, however should investigate the perspective of people working in healthy public policy and public policy, and those in the community who do not routinely include HIA in their work.

Finally, this particular research is limited by its global rather than context specific focus. Combining both critical realism and historical institutionalist theory, as we have done here, has great potential for exploring how local factors play out for HIAs on policies at the levels of ideas, people, and structures. Future research, which we have recently begun to undertake (Harris et al, 2014), is required to test and refine the factors, concepts and explanations identified here in contextually specific (Bhaskar, 1978; Danermark et al., 2002) examples of HIAs on policies.

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Highlights

- Connecting theory and practice has been missing from the global use of health impact assessment (HIA) for public policy
- We used public policy theory to explain data from interviews with an international sample of HIA practitioners
- HIA exists within institutions, navigated across ideas, actors, and structures.
- Within the policy cycle HIA is a policy formulation instrument linking facts and values about health and policy issues
- We provide three propositions for further research into HIA as a mechanism for healthy public policy

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Table one: The steps in critical realist research – adapted for this research from Danermark et al. (2002) and Bhaskar (1978)

Phase	**Purpose / title**	**Tasks**
1	Description	Empirically describe phenomena and events
2	Analytic Resolution	Work out dimensions of phenomena and isolate what to investigate further
3	Comparison between different theories	Reject some theories in favour of others more appropriate to the objects of research
4	Theoretical redescription	Re-describe the events of interest, based on theoretical concepts

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