

Using the Advocacy Coalition Framework and Multiple Streams policy theories to examine the role of evidence, research and other types of knowledge in drug policy

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ABSTRACT

Background and aims The prevailing ‘evidence-based policy’ paradigm emphasizes a technical–rational relationship between alcohol and drug research evidence and subsequent policy action. However, policy process theories do not start with this premise, and hence provide an opportunity to consider anew the ways in which evidence, research and other types of knowledge impact upon policy. This paper presents a case study, the police deployment of drug detection dogs, to highlight how two prominent policy theories [the Advocacy Coalition Framework (ACF) and the Multiple Streams (MS) approach] explicate the relationship between evidence and policy. **Methods** The two theories were interrogated with reference to their descriptions and framings of evidence, research and other types of knowledge. The case study methodology was employed to extract data concerned with evidence and other types of knowledge from a previous detailed historical account and analysis of drug detection dogs in one Australian state (New South Wales). Different types of knowledge employed across the case study were identified and coded, and then analysed with reference to each theory. A detailed analysis of one key ‘evidence event’ within the case study was also undertaken. **Results** Five types of knowledge were apparent in the case study: quantitative program data; practitioner knowledge; legal knowledge; academic research; and lay knowledge. The ACF highlights how these various types of knowledge are only influential inasmuch as they provide the opportunity to alter the beliefs of decision-makers. The MS highlights how multiple types of knowledge may or may not form part of the strategy of policy entrepreneurs to forge the confluence of problems, solutions and politics. **Conclusions** Neither the Advocacy Coalition Framework nor the Multiple Streams approach presents an uncomplicated linear relationship between evidence and policy action, nor do they preference any one type of knowledge. The implications for research and practice include the contestation of evidence through beliefs (Advocacy Coalition Framework), the importance of venues for debate (Advocacy Coalition Framework), the way in which data and indicators are transformed into problem specification (Multiple Streams) and the importance of the policy (‘alternatives’) stream (Multiple Streams).

Keywords Advocacy Coalition Framework, drug detection dogs, evidence-based policy, Multiple Streams, policing, policy process.

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INTRODUCTION

Policy process theories can shed light on how policies come about, and the conditions for policy change. They provide a conceptual basis for understanding and analysing policymaking in terms of how policies come to be on the agenda, how some policy proposals succeed and others fail and how the interactions and roles of institutions, actors, context, interest groups and ideologies (to name a few variables) shape policymaking.

Theories and approaches to policymaking contain inherent assumptions about the nature and role of knowledge, science and evidence [1]. Most starkly, the evidence-based policy paradigm concentrates upon identifying ‘what works’ and then facilitating the translation of this scientific evidence to policy decision-making [2]. However, there are multiple types of knowledge relevant to the policy endeavour. The simple dichotomy between scientific knowledge (including terms such as research or evidence) and other forms of knowledge belies a more detailed categorization

of knowledge types. As Sedlačko & Staroňová [1] note, aside from scientific knowledge, knowledge can be categorized as procedural knowledge (for example, the planning, problem structuring and data management to ensure sound policy decisions), knowledge derived from science but translated and hence re-interpreted and re-framed in the policy development process, lay knowledge, practitioner knowledge and policymakers' intuition. All these forms of knowledge may come to bear upon policymaking. The evidence-based policy paradigm places scientific knowledge at its apex, and hence obscures the role and functions of these other types of knowledge. In contrast, policy process theories do not begin with a premise about the role of science or evidence, but rather with a need to understand how policy comes about and is retained or changed over time. With this starting point, the role of evidence, research and other types of knowledge can emerge as a constituent part of the analysis.

This paper employs two prominent policy process theories, with the aims of elucidating these theories for alcohol and drug policy researchers and practitioners and analysing how the two policy process frameworks articulate and place evidence, research and other types of knowledge (including local, embodied and lay knowledge, legal veridiction and political acumen) within policy action. There are a number of policy process theories [3], including Lindblom's incrementalism [4], Punctuated Equilibrium [5] and the Institutional Analysis and Development Framework [6], along with Sabatier's Advocacy Coalition Framework (ACF) [7] and Kingdon's Multiple Streams (MS) [8]. Of the possible theories focused on policy change, the two most prominent are the Advocacy Coalition Framework (ACF) and Multiple Streams (MS). These two theories have been used in more than 400 papers published throughout multiple public policy domains (environment, health, education, security, transport, planning and development) [9].

Sabatier's Advocacy Coalition Framework (ACF) [7,10,11] was developed originally in the 1980s with reference to environmental science and with a focus on understanding how policy processes engage with technical information and research. It has since evolved to a more general framework for analysing policy processes. The ACF describes policy processes as shaped through a series of central features: relatively stable external parameters (e.g. constitutional structure); external subsystem events (e.g. changes in socio-economic conditions); a political opportunity structure which delineates the possibilities of legitimate and effective action by major players in a given political system (e.g. Australia); and a policy subsystem (e.g. drugs policy) characterized by different coalitions. Coalition members can include politicians, bureaucrats, interest group members and/or practitioners that coalesce because of shared beliefs. A tiered notion of beliefs within each coalition is provided: deep core beliefs (which are

ontological and normative, such as the importance of human rights), policy core beliefs (which are beliefs about the particular policy domain such as drug policy's goal as reducing harm) and secondary beliefs (which are instrumental to policy implementation, such as the provision of harm reduction interventions). Policy in the ACF is the translation of these beliefs into programmes of action. Thus, according to the ACF, policy change can occur through a number of mechanisms (not mutually exclusive): when there is a significant external perturbation (such as a rapid rise in drug-related deaths) that is then responded to by the dominant coalition; when a new coalition (with its attendant beliefs) becomes dominant; and/or when the dominant coalition sufficiently changes its secondary beliefs (through policy learning) [10]. The first two change mechanisms are associated more frequently with non-incremental ('major') policy change; the latter reflects change through policy learning, and in the ACF is characterized as 'minor' policy change.

Kingdon's [8] Multiple Streams (MS) approach was developed in the 1970s in the United States to conceptualize how issues rise onto the federal political agenda, in the first instance with detailed analysis of federal health and transport policy. The MS views policy agenda-setting, and hence the point at which policy change can occur, as the opportunistic confluence of three separate clusters of actors and actions ('streams'): the problem stream where problems come to be identified; the alternatives (or policy) stream where an array of potential solutions are continually explored; and the politics stream, which includes organized political forces, perceptions of the national mood and governmental phenomena (such as the annual budget cycle). Policy occurs under conditions of ambiguity with fluid participation, and requires the interpretation or construction of problems and solutions [12]. Policy change becomes possible when a window of opportunity opens and the three streams, which normally follow their own, very different, logic and rhythm become aligned. That is, a solution is matched to a problem which accords with the dynamics within the politics stream, and this stream alignment occurs through the work of policy entrepreneurs.

Both these approaches provide different lenses for analysis of the introduction, development and persistence of alcohol or other drug policies. For example, the ACF has been used as an analytical framework for understanding the rise of a new dominant harm reduction coalition which heralded major policy change in Switzerland [13]; and the importance of changes in the dominant coalition to include non-governmental organization (NGO) actors which shifted Malaysian drug policy [14]. Monaghan's [15,16] detailed analysis of UK cannabis policy highlighted the plurality of accounts of evidence between coalitions and the nature of the beliefs surrounding evidence, including its fluctuation between 'certitude' and 'contestability' [16].

The MS has also been used to examine alcohol and other drug policy. When windows of opportunity for drug policy reform have arisen they have not resulted inevitably in reform—the alignment of all the three streams is required [17–19]. For alcohol policy, divergence on the structure and function of liquor control boards was accounted for by political, cultural and institutional dynamics within and between the streams [20], and the ways in which alcohol was constructed, defined and framed as a problem bore significantly on the ensuing policy actions [19,21].

We have previously applied the MS and the ACF to examine the police deployment of drug detection dogs [22,23]. Drug detection dogs for street-level policing of illicit drugs are used in many parts of the world, including the United Kingdom, Europe and the United States [24–26], and in Australia are deployed to detect illicit drugs on people in public places, notably nightlife districts, railway stations and at music festivals. New South Wales (NSW) was the first Australian state to introduce drug detection dogs for general duties policing in 1995, and subsequently provided a specific legislative basis for their deployment [the *Police Powers (Drug Detection Dogs) Act 2001*]. Drug detection dogs have proved to be a controversial policy, notably with reference to whether they increase harms, can deter people from drug use or supply and whether they are indeed lawful [27–34]. Despite this extensive critique, the NSW deployment of drug detection dogs has not only continued unabated [35], but has expanded [23]. The focus of the MS analysis of the drug detection dogs policy was on an account of the establishment of drug detection dogs [22], which examined how the three streams (problems, policy and politics) came together in a window of opportunity in 2001 to provide a legislative basis for this programme in NSW. This analysis highlighted the production of different problem framings, the importance of drug detection dogs as a ‘viable alternative’ available for adoption at a particular moment in time and the high political salience of law and order issues, as well as the importance of institutional venues for re-categorizing problem framings and as arenas of contestation [22]. The ACF analysis [23] examined the policy persistence of drug detection dogs in NSW through identification of three different coalitions (the law and order; civil libertarian; and harm reduction coalitions) and their beliefs and power/capacity to use resources. In that earlier work we identified how the persistence of the drug detection dogs policy was aided by the dominance of the ‘law and order’ coalition (comprised of police, the police association and the two major political parties—the Labor party and the Liberal/National party), and the fit of the policy with their beliefs in ‘tackling the root causes of drugs in society’ [23].

These analyses using the ACF or the MS highlight the multiple and dynamic influences on policy and accord with the body of work which has critiqued the assumed primacy

and privileged role of research evidence in drug policy processes (e.g. [36–43]). In this paper we advance these bodies of work in two ways. First, we consider and apply both theories simultaneously. There have been calls in the policy literature to use multiple theories together [44] because different theories contribute different insights for the same case, and it avoids the assumption that a particular theory is the only valid one. As articulated by Cairney [45], the use of more than one theory may involve a synthesis approach (combining theories to produce a new single theory); a comparison approach, whereby theories are compared and one selected as optimal or preferable; or a complementary approach (using different theories to produce a range of insights). We use the last of these approaches here, because we are interested in the ways in which policy process theories foreground or obscure different types of knowledge, which is the second contribution. The analysis concentrates on how the two policy process theories themselves understand evidence, research and other types of knowledge and how these come to bear on policy.

METHOD

The methodology had three separate but related components. One was the interrogation of the two theories with reference to their descriptions and framings of evidence, research and other types of knowledge. This entailed detailed readings of the two frameworks, identifying key words among the primary texts [7,8,10,46] and then analysing the text data in the context of each overall theory.

A second task was to extract the data concerned with evidence, research and other types of knowledge from the drug detection dogs case study. Our previous work on drug detection dogs [22,23] had drawn upon a detailed historical account of the introduction and development of the use of drug detection dogs in NSW [35], and provided analysis of a corpus of documents including NSW Parliament Hansard, media, academic publications, government and institutional reports, books and on-line sources (including social media) against Kingdon’s three streams and Sabatier’s Advocacy Coalition Framework features.

These two pre-existing stand-alone analyses were critically integrated to examine the role of evidence, research and other types of knowledge, as understood within two policy process frameworks. Different types of knowledge employed across the case study were identified and coded, and then analysed with reference to each theory. Finally, a detailed analysis of one key ‘evidence event’ within the case study was undertaken. This ensured that the analysis was grounded in a specific example, given the breadth and depth of case material. The evidence event chosen was the NSW Ombudsman’s Review of the *Police Powers (Drug Detection Dogs) Act 2001* [47], as this event brought into relief multiple types of knowledge.

RESULTS

Evidence, research and other types of knowledge: drug detection dogs

Prior to analysing the theories using the case material, the variety of types of knowledge that were identified within the case study of the police deployment of drug detection dogs are identified. Five types of knowledge were apparent. Quantitative program data included the numbers of ‘indications’ (when the dog sits to indicate the apparent presence of drugs); the location of the deployment (e.g. public transport, licensed premises, roads/streets, etc.); the number of detections (where police find drugs in a search following an indication); and the types of drug detected. Alongside this quantitative data were more qualitative data arising from the police experience in working with the drug detection dogs (practitioner knowledge). For example, the NSW Police Dog Unit has its own Facebook page (<https://www.facebook.com/NSWPFDogUnit>), which includes photographs, videos of operations and posts about successful operations. Legal knowledge (veridiction) is also prominent across the case. There were a number of legal challenges, which prompted policy change at various points in time [35]. Published academic research, for example [48,49], contributed another form of knowledge. Finally, lay knowledge, detailed, for example, in anecdotes, protest marches and media reports, provides knowledge about the experiences of members of the public who interact with the drug detection dogs. The ways in which these varieties of knowledge appear and are taken up in the two policy process theories is explored next.

Analysis of the theories: role of evidence, research and other types of knowledge

The ACF derives from a positivist position, and consistent with this epistemology has an explicit interest in the role of ‘scientific’ evidence in policymaking. Its key contribution has been described as providing ‘theoretical insight into the role of scientific and technical information in ‘political debates’ ([10], p. 184). In the original formulation (1988) and in a recent summary (2014), it is clear that scientific data are a vital part of the interactions between and within coalitions. Solid, reliable ‘performance indicators’ which can measure objectively the extent of the problem, and ‘causal models’ ([7], p. 156) which can speak to the efficacy and effectiveness of policy instruments are valued highly, particularly if the data are quantitative rather than qualitative ([10], p. 200; see also [50]). In the case study, the quantitative program monitoring data and the academic research conform to the ACF notion of evidence; the former being made available via the Parliament (e.g. [51–54]). However, according to the ACF, the availability of science, evidence and research is not a sufficient

condition for policy change. All scientific or technical information is filtered through belief systems and, as such, evidence which conflicts with beliefs may be ignored, suppressed or contested. As beliefs drive policy, evidence is only influential inasmuch as it provides the opportunity to alter the beliefs of decision-makers.

In the ACF, while there is a theoretical preference for quantitative research evidence, we observed that a variety of types of knowledge came to play an important role in policy learning for the dominant coalition. This included legal knowledge, protest actions and police practice knowledge. For example, relatively early in the case study (November 2001) and prior to the Ombudsman’s report, the then new Police Minister (Michael Costa) was required to respond to a legal ruling that the drug detection dogs constituted an illegal search. While civil libertarians saw this ruling as clear evidence for stopping drug detection dog deployment, Costa made clear his opposing belief (‘Costa committed to police use of sniffer dogs’), noting that he would resolve the legal issues through legislative amendment drawing upon practice knowledge, stating that ‘the Police Service finds sniffer dogs a useful tool’ [55]. In this example, the multiple types of knowledge at play in sustaining the beliefs can be observed. In previous work on the role of evidence within ACF the focus has been on scientific evidence, and the dismissal of local or community information [50]. This focus discounts what we see as the highly interactive elements within the ACF and the ways in which multiple types of knowledge are used by coalitions.

In contrast to the positivist ACF, the MS approach sits within a constructivist perspective [56]. Here, data and indicators are conditions—which require active interpretation to become defined as ‘problems’. Evidence, research and other types of knowledge occupy space within each of the three streams, wherein an ongoing dialogue internal to the streams occurs. Evidence appears to play a role in two of the three streams: the problem stream and the policy (alternatives) stream. An almost infinite number of problems could be considered in the problem stream. Kingdon’s interest is in how certain problems come to the attention of, and are regarded as important by, stakeholders. Focusing events, feedback, budgets and indicators are all mechanisms by which this occurs. In the case study, the quantitative program data are considered ‘indicators’, but the MS approach does not consider indicator data independently from their interpretation (‘the data do not speak for themselves’ ([8] p. 94). An active translation by policy participants is required, transforming the indicator data into problems. As Kingdon notes, ‘interpretations of the data transform them from statements of conditions to statements of policy problems’ ([8], p. 94). This interpretive element is key to the MS, and signals the importance of constructivist notions and active dynamics (the particular shape of ‘problems’ is constituted in the stream, not pre-

given and waiting to be solved). In the case study, research noting the increasing rate of heroin overdose (e.g. [57]) formed an important indicator within the problem stream at the agenda-setting phase of drug detection dogs in NSW [22]. These data, concerned with heightened rates of heroin overdose, could be interpreted as a problem of controlling the supply of heroin into the country, or a problem of vulnerable marginalized groups of people engaging in risky drug use practices, or a problem of the absence of heroin overdose reversal technology (the availability of take-home naloxone). None of these 'problems' (supply, vulnerable populations or overdose reversal technology) immediately suggest street-level drug detection dogs, and this highlights that there is no inevitable match between the problems and the solution of drug detection dogs.

Another place for evidence in the MS approach is within the policy stream—the articulation of potential solutions. This network of specialists [46] 'hums along on its own' ([8], p. 117), examining and exploring a variety of potential solutions (which are not at this point matched to clearly defined problems). The somewhat long-term process considering alternatives is seen as the generation of ideas. The MS approach notes that the criteria for the survival of an idea (within the policy stream) include technical feasibility, value acceptability to the policy community and sufficient anticipation of constraints. Clearly, research contributes a number of these ideas (but other sources include advocates for their preferred solutions). Importantly for our purposes here, technical feasibility is not necessarily equated (or even concerned) with research evidence about the efficacy or effectiveness of the solution. Technical feasibility is much more concerned with whether the idea is 'ready to go' or 'worked out'. In the case of drug detection dogs this was noteworthy, as the dogs were available having been 'tried' in some form at the Sydney Olympics, but there was an apparent absence of any effectiveness research or formal evaluation [22]. Another feature of the MS policy stream is the availability of a viable policy alternative. Throughout the case study, we saw no evidence that viable and politically acceptable alternatives to either the use of dogs in street-level policing or to policing drug control were floated, at least not during the period under study (until end 2016).

In the MS, policy entrepreneurs link the problem and policy stream opportunistically at a time when the politics stream is ripe and there is 'fertile soil'. Policy entrepreneurs have expertise, authority and are political tacticians [8]. The MS posits that it is policy entrepreneurs who take up evidence (and other types of knowledge) in their endeavour to manipulate [46] a successful policy outcome. In the case of the drug detection dogs, the NSW Premier and NSW Police Minister were key [22]. It is not evidence *per se*, but the work of the policy entrepreneurs that facilitates stream coupling and hence policy change. The uptake of evidence, research or other types of knowledge is therefore

dependent upon a number of dynamics, including the extent to which data (as indicators) are then interpreted as evidence towards defining a 'problem', the extent to which viable alternatives are derived from the policy stream (which may include research studies) and the types of knowledge that the policy entrepreneur brings, including the political and intellectual strategy in matching the problem with the solution.

In summary, neither the ACF nor MS describe a direct linear relationship between evidence, research and other types of knowledge and policy action. For the ACF, all science is filtered through belief systems and knowledge is not limited to science but incorporates, for example, practice and legal knowledge which equally have an opportunity to shape beliefs. For the MS, the problem and solution are constructed and all types of knowledge can be deployed in this process of construction and in the match between the subsequent 'problem', solution and the current politics. Analysing the two theories through the lens of the case study illuminates the multiple types of knowledge at play, including the kind of 'science' imagined in the 'evidence-based policy' paradigm such as quantitative program data, but beyond this the case demonstrates the role of legal veridiction, political acumen and practitioner experience.

Introducing an 'evidence event'—the Ombudsman's report

The NSW Ombudsman is an 'independent and impartial watchdog' charged with 'making sure that agencies fulfil their functions properly and improve their delivery of services to the public' (www.ombo.nsw.gov.au/). Under the legislation [58], the Ombudsman was responsible for conducting a comprehensive review of the NSW drug detection dogs programme. This review included analysis of quantitative program data from the police and courts along with observational research, consultations with police and review of submissions received from community members, drug experts, government departments, police, legal centres and researchers. As such, this 'evidence event' contained multiple types of knowledge. The Ombudsman's report [47] provided and analysed the quantitative program data, also considered the legislative basis of the drug detection dogs, and took into account expert opinion from a range of stakeholders as well as case examples of people who had encountered the dogs. The findings were not positive. The Ombudsman's report found that a dog's 'indication' was not grounds for 'reasonable suspicion', as of all 'indications', on average drugs were present only 26% of the time; most detections were cannabis (94%), raising concerns about distinguishing residue as opposed to drugs currently in the person's possession; and most offenders detected were consumers, not suppliers. The Ombudsman concluded that drug detection dogs as

deployed in NSW were 'proven to be an ineffective tool' and that 'there is little or no evidence to support claims that drug detection dog operations deter drug use, reduce drug-related crime, or increase perceptions of public safety' ([47] p. vii). This resounding, comprehensive piece of evidence did not produce policy change. The ACF and MS provide different insights into why this may have been the case.

In applying an ACF analysis, policy change may occur where actively brokered debate in existing or newly shaped venues between coalitions is productive and leads to changes in the policy core or secondary beliefs of dominant coalition members. Coalitions can suppress or ignore evidence that is inconsistent with their beliefs (e.g. the importance of law and order as opposed to harm reduction). This occurred in the case study, where the quantitative program data were dismissed actively because they did not align with the dominant coalition's beliefs [23]. The venues for debate in this case study were the Parliament and the media. These did not conform to what the ACF identifies as preferential venues, which are those consistent with professional norms for scientific debate. These types of venues are amenable to non-adversarial policy learning, absent in the case study. The debates that took place concerning the Ombudsman's report were highly adversarial, preventing the kind of productive debate seen as a harbinger of change in the ACF. For example, the core finding of the Ombudsman that only 26% of people who received a positive identification by a drug detection dog were found to have drugs on them was used by the pro-civil liberty coalition as clear proof that the dogs were a failure (Greens, Jenny Leong [59]). However, this evidence was contested by the dominant coalition, who argued it was 'not the end of the story' [Government (Liberal) Attorney General Greg Smith [60]], because once you take into account people who are both found to have drugs on them and those who have admitted recent contact with drugs, the accuracy rate increases to '70% to 100%' [61]. This is consistent with the belief of the dominant coalition that people who use drugs should be punished, irrespective of whether or not the dogs actually detected drugs. Furthermore, the dominant coalition argued that the Ombudsman's findings should be discounted as a 'matter of opinion', with the Acting Police Commissioner Andrew Scipione saying:

The use of drug dogs is effective from our perspective. That use is effective because it saves lives, potentially, as much as it steers us in the right direction when we are trying to detect people who might be supplying drugs. [...] The Ombudsman may have a different view, but that is a matter of the opinion of the Ombudsman [62].

From the ACF perspective, then, none of the Ombudsman's evidence challenged the dominant coalition beliefs sufficiently.

In applying an MS analysis, the release of the Ombudsman's report could be viewed as a 'window of opportunity'. In this sense, it provided a potential impetus for a policy entrepreneur to match an appropriate problem (such as continued high rates of drug overdose) with an alternative solution (replacement of dogs with a different drug initiative), matched to the politics of the day. This may have led to policy termination [63]. What is clear in the case example is that no policy entrepreneur successfully took up the opportunity presented by the Ombudsman's report. Within the MS approach, the Ombudsman's report could also be seen to be part of the activities within any one stream. It provided new indicator data in the problem stream, evidence against technical feasibility in the policy stream and political possibilities in the politics stream. That action within the three MS streams carries on regardless (and somewhat independently) provides an insight into how events, research or other activities can potentially be simultaneously part of the conversation within any one stream, and highlights the importance of policy entrepreneurs in the MS framework. In their absence, policy change is highly unlikely.

DISCUSSION AND CONCLUSIONS

Even though the ACF comes from a positivist tradition, whereas the MS takes a constructivist world-view, both see policy as driven and shaped by factors other than research evidence. As the analysis of the drug detection dogs policy in NSW illustrates, in the ACF the drug detection dogs are a consequence of the beliefs of the dominant coalition. For MS, the drug detection dogs are a consequence of strategic alignment of three streams. The evidence of ineffectiveness as highlighted in the Ombudsman's review is, on its own, irrelevant for both the ACF and MS. The two frameworks highlight that there are many ways of knowing which come to bear on policy action in multiple ways. There is no singular notion of 'evidence', or 'research', in either the ACF or the MS, and multiple types of knowledge bear upon beliefs (ACF) or the construction of problems and policy solutions (MS). Both frameworks require actors (policy brokers; policy entrepreneurs) who interact with evidence, research and other types of knowledge and exercise strategic influence. Given the absence of brokers, the dominant coalition (ACF) can suppress or otherwise invalidate evidence; the policy entrepreneur (MS) can manipulate the data and conditions to become the identified problem. These, we suggest, are important observations for alcohol and other drugs researchers who hope their work will (either directly or indirectly) influence policy and practice.

The two frameworks provide important insights for both drug researchers and drug policy advocates. The ACF highlights the importance of evidence, research or

other types of knowledge according with the dominant coalition's beliefs. Evidence which can be directed towards beliefs would have high valence. A prerequisite of more influential research is therefore a deep understanding of the beliefs of the dominant coalition [64], followed by the generation of evidence that addresses directly the beliefs of the dominant coalition (not just one's own beliefs or the rigours of one's own discipline). An example from this case study is potentially research which compares the cost-effectiveness of law enforcement responses to health responses (given the dominant coalition's belief regarding the suitability of law and order responses). A second insight of relevance to researchers and policy advocates is the importance of venues for debate, especially those which provide for a relatively non-adversarial space, where people from different coalitions (and hence belief systems) can express and discuss points of view. Sabatier viewed the norms of scientific debate as providing opportunity for 'serious analysis of methodological assumptions', and hence opportunity to shift beliefs. Concerted efforts to invite key policy actors to participate in conferences and seminars where there is then also opportunity for sustained discussion (unlike current conference programmes, where discussion is extremely limited) is one productive way the ACF suggests to shift beliefs (and hence policy actions).

The MS provides insights in relation to the importance of the ongoing work in the policy stream, where solutions are developed, analysed and reviewed. In our analysis of this case study the development of viable alternative policy solutions was largely absent, and from the MS viewpoint contributes to the absence of significant change despite the Ombudsman's findings. This is a key gap which could be filled by both researchers and practitioners alike. In addition, we speculate that this was compounded by the lack of a successful policy entrepreneur. The policy entrepreneur is a creative opportunist actively aligning problem definitions with solutions and political considerations, bringing together not only the concerns of each stream but also the knowledge which comes to bear on each. Drug policy advocates may have a very important role to play in identifying entrepreneurs and working closely with them to support their actions. In particular, providing entrepreneurs with evidence and research may strengthen the opportunity to creatively manipulate the three streams (rather than assuming that the data will 'speak for themselves'). The MS affords a view of knowledge as malleable; to be used to construct a problem definition, rather than as providing objective facts. This position suggests that researchers and policy advocates may have an active role, should they so choose, in shaping the selection of the problem to match the preferred solution.

Neither the ACF nor the MS are without criticism. The ACF focuses upon belief systems, but arguably to date has lacked a detailed theoretical framework for understanding

and interrogating empirically the differences between deep core, policy core and secondary beliefs [10]. While intuitive, the three streams of the MS could be articulated substantially with classification schemes or typologies that represent more effectively the diversity of actions within each stream [65,66]. Furthermore, both policy process theories imply a certain intentionality and foreground the role of human actors. That is, if only well-intentioned, clever or creative policy entrepreneurs, advocates, brokers or researchers were more able to address the dominant coalition's beliefs, or strategically align streams, then policy change is more likely to occur. However, other critical social science scholarship has highlighted the value in acknowledging the role of discourses, practices, non-human actors and other relations in which they are entangled in tracing how policy emerges [67,68]. For example, non-human actors, in our case dogs, can bring added resistance to evidence due to their public appeal (exemplified by the existence of the dogs' own Facebook page). In Bacchi's [69] post-structural policy analysis approach, the ways in which both dogs and the problem of illicit drug use comes to be problematized and represented through the police actions affords alternate insights into the effects of these policies.

Setting aside the intentionality of human actors implied in both the ACF and MS approaches, the application of the Advocacy Coalition Framework or Multiple Streams to an alcohol or other drug policy issue can provide a *post-hoc* explanation for the vagaries of what appear from the outside to be messy, non-intuitive processes. They can provide detailed accounts of the influences which steer alcohol or drug policy in particular directions and provide explanations for moments of sudden policy change, as well as times of glacial indifference and stagnation. While such analyses are vital to advance both the theory and practice of drug policy analysis, we also believe that such analyses can provide strategies for researchers and policy advocates. This includes, for example: supporting policy entrepreneurs and policy brokers; continually developing new policy solutions; supporting productive venues for debate; being alert to windows of opportunity; and appreciating the complex dynamic role of evidence, research and other types of knowledge in policy action.

Declaration interests

None.

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References

- Sedlačko M., Staroňová K. An overview of discourses on knowledge in policy: thinking knowledge, policy and conflict together. *Cent Eur J Public Policy* 2015; 9: 10–53.
- Lin V., Gibson B., editors. *Evidence-based Health Policy, Problems and Possibilities*. Oxford: Oxford University Press; 2003.
- Hoppe R., Colebatch H. The role of theories in policy studies and policy work: selective affinities between representation and performance? *Eur Policy Anal* 2016; 2: 121–49.
- Lindblom C. E. The science of ‘muddling through’. *Public Adm Rev* 1959; 19: 79–88.
- Jones B. D., Baumgartner F. R. A model of choice for public policy. *J Public Adm Res Theory* 2004; 15: 325–51.
- Ostrom E., Cox M., Schlager E. An assessment of the Institutional Analysis and Development Framework and introduction of the Social-Ecological Systems Framework. In: Sabatier P. A., Weible C. M., editors. *Theories of the Policy Process, 3rd edn*. Colorado: Westview Press; 2014, pp. 267–306.
- Sabatier P. A. An advocacy coalition framework of policy change and the role of policy-oriented learning therein. *Policy Sci* 1988; 21: 129–68.
- Kingdon J. *Agendas, Alternatives, and Public Policies, 2nd edn*. New York: Longman; 2003.
- Sabatier P. A., Weible C. M. *Theories of the Policy Process, 3rd edn*. Colorado: Westview Press; 2014.
- Jenkins-Smith H., Nohrstedt D., Weible C., Sabatier P. A. The Advocacy Coalition Framework: Foundations, evolution, and ongoing research. In: Sabatier P., Weible C., editors. *Theories of the Policy Process, 3rd edn*. Colorado: Westview Press; 2014, pp. 183–223.
- Sabatier P. A., Weible C. M. The advocacy coalition framework: innovations and clarifications. In: Sabatier P. A., editor. *Theories of the Policy Process, 2nd edn*. Colorado: Westview Press; 2007, pp. 189–220.
- Zahariadis N. Delphic oracles: ambiguity, institutions, and multiple streams. *Policy Sci* 2016; 49: 3–12.
- Kübler D. Understanding policy change with the advocacy coalition framework: an application to Swiss drug policy. *J Eur Publ Policy* 2001; 8: 623–41.
- Narayanan S., Vicknasingam B., Robson N. M. H. The transition to harm reduction: understanding the role of non-governmental organisations in Malaysia. *Int J Drug Policy* 2011; 22: 311–7.
- Monaghan M. Appreciating cannabis: the paradox of evidence in evidence-based policy making. *Evid Policy* 2008; 4: 209–31.
- Monaghan M. *Evidence Versus Politics: Exploiting Research in UK Drug Policy Making?* Bristol, UK: Policy Press; 2011.
- Hyshka E. Turning failure into success: what does the case of Western Australia tell us about Canadian cannabis policy-making? *Policy Stud* 2009; 30: 513–31.
- Hayle S. Comparing drug policy windows internationally: drug consumption room policy making in Canada and England and Wales. *Contemp Drug Probl* 2015; 42: 20–37.
- Lancaster K., Ritter A., Colebatch H. Problems, policy and politics: making sense of Australia’s ‘ice epidemic’. *Policy Stud* 2014; 35:147–71.
- Bird M. G. Alberta’s and Ontario’s liquor boards: why such divergent outcomes? *Can Public Adm* 2010; 53: 509–30.
- Nicholls J., Greenaway J. What is the problem? Evidence, politics and alcohol policy in England and Wales, 2010–2014. *Drugs Educ Prev Policy* 2015; 22: 135–42.
- Lancaster K., Ritter A., Hughes C., Hoppe R. A critical examination of the introduction of drug detection dogs for policing of illicit drugs in New South Wales, Australia using Kingdon’s ‘multiple streams’ heuristic. *Evid Policy* 2017; 13: 583–603.
- Hughes C., Ritter A., Lancaster K., Hoppe R. Understanding policy persistence—the case of police drug detection dogs policy in NSW, Australia. *Int J Drug Policy* 2017; 44: 58–68.
- Marks A. Drug detection dogs and the growth of olfactory surveillance: beyond the rule of law? *Surveill Soc* 2007; 4: 257–71.
- Meagher D. The status of using drug detection dogs under Australian law. *Crim Law J* 2009; 33: 165–74.
- Nabben T. Cops and dogs against party drugs. *Amsterdam Law Forum* 2010; 15: 15–28.
- Bird R. C. An examination of the training and reliability of the narcotics detection dog. *KY Law J* 1996; 85: 405.
- Myers R. Detector dogs and probable cause. *Geo Mason L Rev* 2006; 14:1–36.
- Braverman I. Passing the sniff test: police dogs as surveillance technology. *Buffalo Law Rev* 2013; 61: 81–168.
- Demant J., Dilkes-Frayne E. Situational crime prevention in nightlife spaces: an ANT examination of PAD dogs and doorwork. In: Robert D., Dufresne M., editors. *Actor–Network Theory and Crime Studies: Explorations in Science and Technology*. New York: Routledge; 2015, pp. 5–19.
- Hughes C. E., Moxham-Hall V., Ritter A., Weatherburn D., MacCoun R. The deterrent effects of Australian street-level drug law enforcement on illicit drug offending at outdoor music festivals. *Int J Drug Policy* 2017; 41: 91–100.
- Neocleous M. The smell of power: a contribution to the critique of the sniffer dog. In: Cameron A., Dickinson J., Smith N., editors. *Body/State*. London: Routledge; 2016, pp. 199–208.
- Race K. Queer substances and normative substances: of drugs, dogs and other piggy practices. In: Murray S., Sullivan N., editors. *Somatechnics: Queering the Technologicalisation of Bodies*. Surrey: Ashgate; 2009, pp. 225–43.
- Bonfanti M. E. From sniffer dogs to emerging sniffer devices for airport security: an opportunity to rethink privacy implications? *Sci Eng Ethics* 2014; 20: 791–807.
- Lancaster K., Hughes C., Ritter A. ‘Drug dogs unleashed’: an historical and political account of drug detection dogs for street-level policing of illicit drugs in New South Wales, Australia. *Aust NZ J Criminol* 2017; 50: 360–78.
- Tieberghien J., Decorte T. Understanding the science–policy nexus in Belgium: an analysis of the drug policy debate (1996–2003). *Drugs Educ Prev Policy* 2013; 20: 241–8.
- MacGregor S. Barriers to the influence of evidence on policy: are politicians the problem? *Drugs Educ Prev Policy* 2013; 20: 225–33.
- Standring A. Evidence based policymaking as depoliticised governance strategy: the case of European drug policy. Evidence in Social Drug Research and Drug Policy, 2016. Paper presented at ECPR Joint Sessions workshop.
- Stevens A. Survival of the ideas that fit: an evolutionary analogy for the use of evidence in policy. *Soc Policy Soc* 2007; 6: 25–35.

40. Monaghan M. The complexity of evidence: reflections on research utilisation in a heavily politicised policy area. *Soc Policy Soc* 2009; **9**: 1–12.
41. Duke K. Evidence-based policy making? *Crim Just* 2001; **1**: 277–300.
42. Lancaster K., Treloar C., Ritter A. 'Naloxone works': the politics of knowledge in 'evidence-based' drug policy. *Health* 2017; **21**: 278–94.
43. Lancaster K. Social construction and the evidence-based drug policy endeavour. *Int J Drug Policy* 2014; **25**: 948–51.
44. Sabatier P. A. Fostering the development of policy theory. In: Sabatier P. A., editor. *Theories of the Policy Process, 2nd edn*. Colorado: Westview Press; 2007, pp. 321–36.
45. Cairney P. Standing on the shoulders of giants: how do we combine the insights of multiple theories in public policy studies? *Policy Stud J* 2013; **41**: 1–21.
46. Zahariadis N. Ambiguity and multiple streams. In: Sabatier P. A., Weible C. M., editors. *Theories of the Policy Process, 3rd edn*. Colorado: Westview Press; 2014, pp. 25–58.
47. NSW Ombudsman. *Review of the Police Powers (Drug Detection Dogs) Act 2001*. Sydney: NSW Ombudsman; 2006.
48. Dunn M., Degenhardt L. The use of drug detection dogs in Sydney, Australia. *Drug Alcohol Rev* 2009; **28**: 658–62.
49. Hickey S., McIlwraith F., Bruno R., Matthews A., Alati R. Drug detection dogs in Australia: more bark than bite? *Drug Alcohol Rev* 2012; **31**: 778–883.
50. Weible C. M. Expert-based information and policy subsystems: a review and synthesis. *Policy Stud J* 2008; **36**: 615–35.
51. NSW Government. Parliamentary debates. Legislative Council Questions and Answers, No. 25, 27 June 2011.
52. NSW Government. Parliamentary debates. Legislative Council Questions and Answers, No. 57, 15 November 2011.
53. NSW Government. Parliamentary debates. Legislative Council Questions and Answers, No. 12, 23 June 2015.
54. NSW Government. Parliamentary debates. Legislative Council Questions and Answers, No. 185, 17 December 2013.
55. Kennedy L. Costa committed to police use of drug sniffer dogs. *Sydney Morning Herald* 2001, 23 November.
56. Ritter A., Lancaster K. Chapter 22: Kingdon's multiple streams: a review. In: Colebatch H., Hoppe R., editors. *Handbook of the Policy Process*. London: Edward Elgar; 2018.
57. Darke S., Ross J. Heroin-related deaths in South Western Sydney, Australia, 1992–96. *Drug Alcohol Rev* 1999; **18**: 39–45.
58. NSW Government. *Police Powers (Drug Detection Dogs) Bill*. Sydney, NSW: Ombudsman, NSW Government; 2001.
59. NSW Government. Parliamentary debates. NSW Legislative Assembly, 17 March 2016, Second reading speech by Jenny Leong, 2016.
60. NSW Government. Parliamentary debates. NSW Legislative Assembly, 16 October 2012, 2012: 15713–29.
61. NSW Police. *For the record: mythbuster: reports on the 'record failure' of NSWPF Drug Detection dogs are false and misleading*. Sydney: NSW Police; 2011.
62. NSW Government. *General Purpose Standing Committee No. 3: examination of proposed expenditure for the portfolio area—Police, 16 October*. Sydney: NSW Government; 2006.
63. Geva-May I. Riding the wave of opportunity: termination in public policy. *J Public Adm Res Theory* 2004; **14**: 309–33.
64. Weible C. M., Heikkilä T., deLeon P., Sabatier P. A. Understanding and influencing the policy process. *Policy Sci* 2012; **45**: 1–21.
65. Mucciaroni G. The garbage can model and the study of policy making—a critique. *Polity* 1992; **24**: 459–82.
66. Exworthy M., Powell M. Big windows and little windows: implementation in the 'congested state'. *Public Adm* 2004; **82**: 263–81.
67. Hoppe R. *The Governance of Problems*. Bristol: Policy Press; 2011.
68. Fischer F. *Reframing Public Policy: Discursive Politics and Deliberative Practices*. Oxford: Oxford University Press; 2003.
69. Bacchi C. *Analysing Policy: What's The Problem Represented To Be?* Sydney: Pearson Education; 2009.