Title: Understanding the Influence of Evidence in Public Health Policy: What can we learn from the 'tobacco wars'?

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Abstract:
Public health is overtly policy-orientated and there is widespread support for the notion that health policies should be strongly informed by evidence. Despite this, studies consistently find that public health policies are not evidence-based. This is often explained by reference to popular theories about research-policy relations which highlight, amongst other things the communicative gaps between academics and policymakers, the centrality of values (or politics) to decision-making and the efforts by external interests to influence policy outcomes. Employing the 'tobacco wars' as a case study, with a particular focus on the UK, this paper explores how tobacco control advocates and tobacco industry interests have attempted to influence policy and how, in so doing, each has sought to enrol evidence. Whilst accepting that evidence has played an important role in tobacco policy development, the paper challenges claims that the implementation of tobacco control policies can be attributed to evidence. Turning to value-orientated and network-based approaches to conceptualising policy development, the paper demonstrates both the importance of values and the complex nature of coalitions. However, it argues that this approach needs to be supplemented by an ideational understanding of policy-change which pays attention to the ways in which arguments and evidence are constructed and framed. The paper also suggests there are signs the two, 'coalitions' involved in the 'tobacco wars' may be unravelling. Overall, the 'tobacco wars' serve to highlight the complex relationship between evidence and policy, offering some insights for those interested in studying or improving the use of evidence in policy.

Keywords: Evidence-based policy; knowledge exchange; tobacco industry, tobacco control; lobbying; ideas.

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Introduction

From New Labour's commitments to evidence-based policy (Cabinet Office 1999) to current efforts to promote research 'impact', the past 15 years have witnessed a growing belief that research should inform UK policy decisions. Within public health, this emphasis has been reinforced by links to evidence-based medicine and support from the World Health Organization (1998). Numerous studies now explore the relationship between research and policy in this field (e.g. Exworthy et al. 2003; Whitehead et al. 2004; Smith 2007) but, despite all this activity, most studies conclude that research evidence has played a limited role in health policy, or at least *more limited* than official commitments to 'evidence-based policy' implied (e.g. Capability Reviews Team 2007; Exworthy et al. 2003; Smith 2007).

One area of public health policy which is sometimes depicted as confounding this trend, at least in recent times, is tobacco control (Whitehead et al. 2004; Warner and Mendez 2010). Evidence concerning the health damaging consequences of tobacco first emerged in 1947 (see Berridge 2006; 2007) and, as evidence began to accumulate, calls for policy interventions grew louder (Berridge 2006; 2007). In the UK, Action on Smoking and Health (ASH) was established in 1971 (Berridge and Loughlin 2005) and subsequently played a high-profile part in advocacy efforts to encourage policy interventions to address what came to be known as the 'tobacco epidemic' (Lopez et al. 1994). A series of UK policy efforts to reduce tobacco use and/or the harms associated with smoking ensued, including health warnings on packs, restrictions, then bans, on tobacco advertising and, more recently, bans on smoking in indoor public places (Cairney 2007). By 2012, the UK was identified as having the most advanced tobacco control policies in Europe (Joossens and Raw 2011) with further interventions being implemented (e.g. product display restrictions) and considered (e.g. standardised, 'plain' packaging).

All this has been achieved despite the well-resourced efforts of the tobacco industry (Cairney 2007). Understandably, therefore, for many in public health tobacco control represents an example of the potentially positive influence of public health evidence (Whitehead et al. 2004; Warner and Mendez 2010; Proctor 2012). As such,

tobacco is increasingly being positioned as a case study from which other areas of public policy, including food and alcohol, might learn (e.g. Freudenberg 2005; Brownell and Warner 2009).

This paper builds on a small but growing number of studies that have sought to employ theoretical frameworks concerning policy change to illuminate deeper and more complex aspects of the 'tobacco wars' (e.g. Farquharson 2003; Berridge 2006; Breton et al. 2006; Givel 2006; Cairney 2007; Princen 2007; Larsen 2008; Young et al. 2012). It differs from most others by focusing specifically on the role of evidence and ideas in the decade-long debates about tobacco. It begins by assessing claims that tobacco control represents a (rare) example of evidence-based public health policy, before moving on to consider three further potential frameworks, each of which provides additional insights. It draws largely on following sources (though additional texts are referred to in relation to specific points): (i) historical overviews of the 'tobacco wars', notably a series of UK-focused publications by the public health historian, Virginia Berridge (1999; 2003; 2006; 2007; Berridge and Loughlin 2005); (ii) a 2012 twentieth anniversary edition of the journal *Tobacco Control*; and (iii) a systematic review of evidence relating to tobacco industry strategies to influence tobacco tax policies (Smith et al. 2012), the most effective policy lever for reducing tobacco consumption (IARC, 2011). The concluding discussion briefly summarises the analysis and considers what insights this case study offers those interested in studying or improving the role of evidence in policy more broadly.

Four ways of understanding the UK's 'tobacco wars'

(i) Rational evidence-focused approaches

Starting with the simplest approach, tobacco-related research might be understood as a rare example of a 'knowledge-driven model' of the relationship between research and policy, in which knowledge (derived from scientific research) helped identify a significant problem (the health harms caused by tobacco, first to smokers themselves and, more recently, to passive smokers) and then helped policymakers decide how to respond (see Weiss 1979 for a more detailed account of this way of conceiving the relationship between research and policy). One immediately obvious

flaw with this approach is, as Larsen (2008) highlights, the failure to account for the significant delay between official recognition of the health harms associated with tobacco use and passive smoking (see Berridge 1999; 2006) and the policy interventions intended to reduce these harms. Some tobacco control interventions were, of course, put in place in the 1960s-1980s but, aside from tax increases, they were often voluntary and as Cairney (2007) argues, in legislative terms, UK tobacco policy has been characterised by periods of significant stability, followed by rapid change, notably from the mid-1990s onwards. Comprehensive bans on tobacco advertising, for example, were only implemented in the UK in 2002 (Neuman et al. 2002) and bans on smoking in indoor public places were only introduced between 2004 and 2006 (Cairney 2007). To understand why there was such a long delay between the emergence of evidence about the health harms of tobacco and significant policy intervention to reduce those harms, other accounts of policymaking and the potential role of evidence within this, are therefore required.

One potential explanation comes from Caplan's (1979) thesis that 'cultural' and institutional divides separate researchers and policymakers, limiting the accessibility of evidence within policy. Many contemporary assessments certainly support the idea that communicative and institutional 'gaps' between researchers and policymakers plague public health (e.g. Hunter 2009). Yet, in examining British tobacco debates in the 1950s and 1960s, Berridge (Berridge and Loughlin 2005; Berridge 2006) claims policymakers largely understood the main messages of research on the health-harms of tobacco and that resistance to taking policy action was only partly related to their assessment of this evidence. Indeed, Berridge points out that fundamental disagreements about tobacco existed *within* both the research and the policy communities at this time. For example, Ronald Fisher, a statistician who played a key role in developing randomised-controlled trial methodologies, was critical of researchers' call for action to discourage smoking, in part because he felt that correlation should not be taken as causation but also, Berridge (2006) argues, because policies to restrict smoking conflicted with his own libertarian views. Meanwhile, Berridge (2006) notes that divergent views about the need for policy action on tobacco were evident within both of the UK's main political parties, which

she argues reflected differences in personal values, family backgrounds and election strategies as much as interpretations of the available evidence. Overall, focusing on differences between 'policymakers' and 'researchers' does not seem particularly helpful in explaining the delayed policy response to research concerning the harmful effects of smoking, unhelpfully sidelining the role of actors' values and judgements (Cairney, 2007; McQueen 2010). It also obscures the potentially important role of actors who do not fit neatly into the two 'communities' of 'researchers' and 'policymakers' (e.g. journalists, corporate lobbyists, health advocacy groups and government researchers).

Another possible explanation could be policy resistance to change. Historical institutionalism, for example, posits that policy tends to be resistance to change and that policy outcomes can only be understood by considering the historical and institutional context in which decisions are made (Béland 2005; Schmidt 2010). For example, to understand UK decisions about tobacco taxation it is necessary to acknowledge that the Treasury (not the Department of Health) has primary responsibility, meaning the issue tends to be viewed through a revenue, rather than health, focused lens.   A recent international review of evidence suggest tobacco tax increases usually lead to increased government revenue (IARC, 2011) but such evidence is relatively recent and the tobacco industry has regularly argued that tax increases reduce revenue (Smith et al. 2012). Back in the 1950s, Berridge (2006) notes that the Treasury's focus on tobacco tax revenue prompted significant anxiety about measures to reduce tobacco. Attending to the institutional context in which evidence is interpreted and policy decisions reached certainly seems important. However, because historical institutionalism struggles to explain policy change (Schmidt 2010), it does liitle to help explain why tobacco tax increases were subsequently employed in the 1970s (Cairney, 2007).

In sum, it does not seem easy to explain the significant time lag between the emergence of evidence about the harms caused by tobacco and subsequent policy interventions. A further fundamental problem with rational, linear conceptions of the relationship between evidence and policy in the 'tobacco wars' is that they do

not distinguish between the multiple different kinds of evidence that might play a role in policy change. Yet much of the early (epidemiological and medical) evidence about the health harms of tobacco provided policymakers with little, if any, guidance as to what they might do to tackle this problem, let alone what might be most effective (or cost-effective) in a UK context. In other words, much of the evidence required to achieve 'evidence-based' policies (see Killoran and Kelly, 2010) has emerged only recently (and gaps in the evidence-base remain). Furthermore, as Chapman (2007) acknowledges, some of the most recent 'advances' in tobacco control, such as bans on smoking in public places, initially went beyond the available evidence (though evidence supporting these policies did subsequently emerge - e.g. Sims et al. 2012). Research alone, Weiss notes, is almost never 'comprehensive enough to be the sole source of policy advice' (Weiss 1990: 98).

This is an important point both descriptively and when considering the potential lessons that the 'tobacco wars' offers those interested in improving the use of evidence in policy. Public health researchers have often been strong advocates of the need for policy to be evidence-based (e.g. Macintyre, 2011). Yet tobacco industry arguments against new tobacco control proposals often focus on the limits of the evidence. This is evident, for example, in recent tobacco company challenges to proposals for plain (unbranded) cigarette packs in Australia and the UK (see Jones 2012). Indeed, the world's largest two transnational tobacco companies have both been involved in campaigns for promoting the need for policies to be based on 'sound science', risk assessments and cost-benefit analyses, with the intention of using limitations in the available evidence to prevent (or at least delay) public health policies (e.g. Ong and Glantz 2001; Smith et al. 2010). In other words, an overly strong emphasis on the evidence in policy may unintentionally constrain public health policy innovation.

Overall, then, whilst evidence has clearly played an important role in promoting the need for tobacco control policies, it seems difficult to conclude that the 'tobacco wars' represent an example of a rational, linear relationship between evidence and policy. At best, the UK's recent strong performance in tobacco control 'league

tables' (Joossens and Raw 2011) reflects decisions by the UK and devolved governments to pursue policy interventions which, in the context of varying levels and types of evidence, have attained sufficient policy support.

(ii) Value-orientated approaches (including the 'Advocacy Coalition Framework')

Other authors have employed value-orientated approaches to studying the 'tobacco wars' (Farquharson 2003; Princen 2007). Most simply, some authors employ what Berridge (2006) has termed a 'heroes and villains' framework, depicting tobacco control advocates as David-like heroes who have achieved successes in some countries despite the Goliath-like tobacco industry's vast resources and willingness to employ devious and deceitful tactics. This kind of narrative is, for example, evident in some of the overviews presented in the anniversary issue of *Tobacco Control* (e.g. Proctor 2012). It is a potentially seductive framing which has a great deal in common with the notion that the 'tobacco wars' represent the ultimate victory of public health evidence over corporate interests, though it emphasises public health *values* as much as evidence.

A somewhat more sophisticated, value-focused approach to understanding the 'tobacco wars' is provided in accounts employing Sabatier and Jenkins-Smith's (1993; 1999) 'advocacy coalition framework' (ACF) (e.g. Farquharson 2003; Givel 2006; Princen 2007). The ACF posits that networks of diverse actors (potentially including policymakers, researchers, think tanks, journalists, interest groups and others) compete to influence policy for particular issues (or 'policy subsystems', to use the language of ACF). It suggests that these competing networks tend to remain relatively stable because they form around 'policy core' beliefs which, in turn, reflect 'deep core' beliefs (deeply held ontological and normative beliefs). For example, a beliefs concerning the balance between individuals' right to freedom versus social equality represent 'deep core' beliefs. These inform 'policy core' beliefs which, for include, for example, beliefs about the appropriate division of authority between governments and markets. Finally, secondary policy beliefs concern beliefs about the optimum policy instruments to achieve agreed policy goals (e.g. whether to employ targets for smoking cessation). Changes in 'deep core' beliefs are extremely rare,
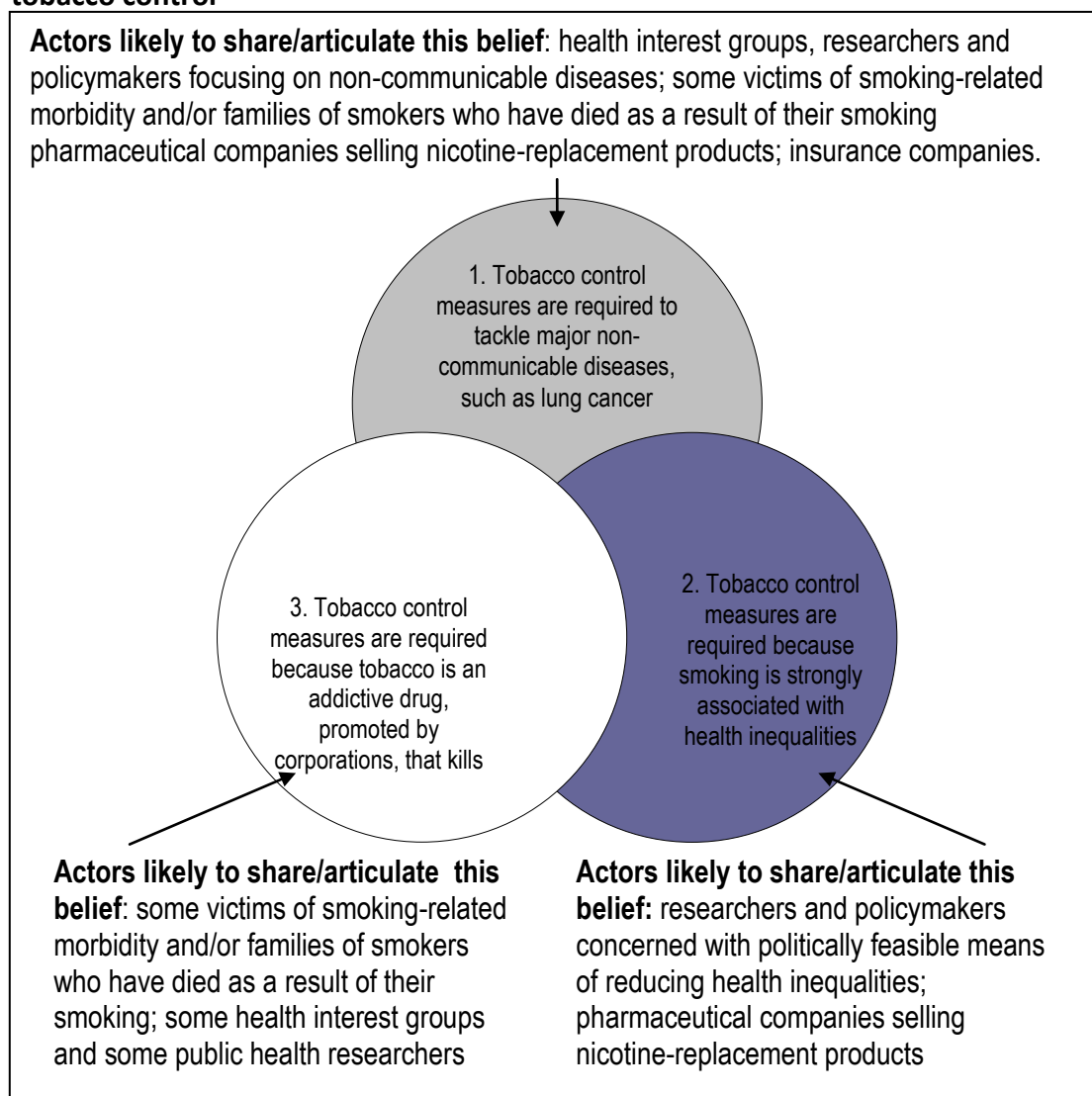
being 'akin to religious conversion', whilst changes in 'policy core beliefs' are deemed only marginally more likely. In other words, the ACF foregrounds the importance of shared ways of viewing the world (over political and economic interests or evidence). When particular advocacy coalitions dominate, it is anticipated that policies will reflect their core beliefs and will remain stable. However, significant policy change may occur when a competing advocacy coalition's ideas are perceived to be so successful that some actors switch coalitions, shifting the balance of power in relation to the 'core ideas' driving policy. From this perspective, evidence is only likely to influence policy if it fits with the core beliefs of the dominant coalition.

The tobacco policy subsystem could be interpreted as being dominated by two clear advocacy coalitions: (1) proponents of stricter tobacco control measures (e.g. public health researchers, health advocacy groups and health policymakers); and (2) opponents of stricter tobacco control measures (e.g. tobacco industry and related interests, smokers rights' groups and policymakers responsible for business and trade interests). The ACF has already been successfully applied to international tobacco control policy development (Farquharson 2003; Princen 2007), as well as to tobacco tax debates in Canada and the US (Breton et al. 2006; Givel 2006). However, as Cairney (2007) points out, the ACF tends to attribute policy change of any magnitude to external shocks and has little to say about how or why coalitions lose or gain dominance over time or to the potential role of evidence within this.

This might be partly because in emphasising the importance of core and policy beliefs, the ACF assumes a relatively high degree of coherence exists within opposing coalitions. In reality, tobacco debates in the UK have often been informed by temporary alliances between actors whose interests and/or beliefs overlapped for specific policy proposals (Cairney, 2007). Indeed, as **Figure 1** outlines, the coalition supporting tobacco control interventions might be better understood as a convergence of overlapping principles and interests.

Figure 1: The potentially divergent beliefs within coalitions favouring stronger tobacco control

Actors likely to share/articulate this belief: health interest groups, researchers and policymakers focusing on non-communicable diseases; some victims of smoking-related morbidity and/or families of smokers who have died as a result of their smoking pharmaceutical companies selling nicotine-replacement products; insurance companies.

1. Tobacco control measures are required to tackle major non-communicable diseases, such as lung cancer

3. Tobacco control measures are required because tobacco is an addictive drug, promoted by corporations, that kills

2. Tobacco control measures are required because smoking is strongly associated with health inequalities

Actors likely to share/articulate this belief: some victims of smoking-related morbidity and/or families of smokers who have died as a result of their smoking; some health interest groups and some public health researchers

Actors likely to share/articulate this belief: researchers and policymakers concerned with politically feasible means of reducing health inequalities; pharmaceutical companies selling nicotine-replacement products

For many tobacco control interventions, including restrictions on marketing and bans on smoking in public places, the interests and beliefs outlined in **Figure 1** overlap sufficiently for these groups to be conceptualised as a unified coalition. At times, the existence of different interests within the coalition may benefit tobacco control (e.g. by enabling tobacco control measures to be promoted as means of reducing health inequalities, as discussed further in section (iv)). However, for other tobacco control policies, this apparently cohesive coalition begins to unravel. For example, whilst tobacco control advocates widely support efforts to denormalise smoking, a leading health inequalities researcher has raised concerns about the negative impacts that stigmatisation can have on poorer communities (e.g. Graham, 2012).

Proposals to further increase tobacco taxes (which are already high in the UK) are another example of the differences depicted within **Figure 1**. Poorer groups are more price sensitive and therefore more likely to quit, or reduce their consumption, as a result of tax-induced price increases, which is why IARC (2011) argues that tobacco tax increases help reduce inequalities in smoking. However, tobacco is an addictive habit usually taken up in childhood (Advisory Group of the Royal College of Physicians 2000) which means, even though most smokers want to quit (Robinson and Bugler 2008), many will be unable to and poorer smokers can find it particularly difficult to quit (Stead et al. 2001). Hence, despite price increases, some poor smokers will continue to smoke and those who do will spend more of their (relatively lower) incomes on tobacco, leaving less available for other important living costs. This is why, in direct contrast to the IARC review, a UK government-commissioned review of approaches to health inequalities (led by health inequalities academics) judged further tobacco tax increases should *not* be supported (Marmot 2010). Such a contrast highlights the importance of interpretation and judgement in assessing the policy implications of evidence (Cairney, 2007; McQueen 2010).

Proposals for harm reduction are yet another example of some of the divisions depicted in **Figure 1**, though this time the differences are primarily between groups 1 and 3. For actors primarily concerned with reducing the health impacts of non-communicable diseases, harm-reduction measures such as legalising 'snus' (a form of oral tobacco generally deemed less harmful than cigarettes) seems 'a promising public health policy' (Gartner et al. 2007). The same is true of long-term nicotine replacement therapy, which is strongly supported by pharmaceutical interests (e.g. Pfizer Ltd 2008). Yet, from the perspective of actors concerned with the health threats posed by business interests marketing addictive products, such harm reduction approaches can seem 'heretical' (Gartner et al. 2007). In addition, conflicting beliefs exist about whether harm reduction approaches complement or compromise risk elimination strategies (Gartner et al. 2007).

Differences are also evident in the coalition representing tobacco interests. This is perhaps most obvious with regards tobacco taxation and pricing, which are becoming increasingly important issues for tobacco companies in the UK (Gilmore 2012). For example, whilst virtually all tobacco interests tend prefer low tobacco taxes, and often lobby collectively on this issue (Smith et al. 2012), evidence suggests transnational tobacco companies may support tax increases if, for example, they believe this will help them achieve changes to tax structures which competitively favour their brands (Shirane et al. 2012). Indeed, when it comes to tax structures the interests of the world's largest transnational tobacco company, Philip Morris, may have more in common with tobacco control advocates than with other tobacco companies, as both favour 'specific' taxation (IARC 2011; Smith et al. 2012). 'Specific' taxes involve a set monetary value being uniformly applied to packs of cigarettes (regardless of pack price), whereas 'ad valorem' taxes are calculated as a percentage of product price (meaning a higher tax applies to more expensive cigarettes). The former therefore function to reduce price differences between cheaper and more expensive brands, to the benefit of Philip Morris' more expensive brand portfolio *and* to tobacco control advocates concerned about the potential for smokers to 'down-trade'.

These are merely illustrative examples of some of the complexities involved in debates about tobacco-related policies and interventions but they serve to highlight the limitations of approaches which frame tobacco control as a battle between two, clearly opposed coalitions formed around coherent values. Even **Figure 1** is a simplified depiction of the variety of beliefs and interests that have been involved in promoting and resisting various tobacco control proposals. Hence, whilst value-based, network approaches provide a better means of understanding the 'tobacco wars' than rational, evidence-based frames, they do not necessarily do enough to explain the varying interests and beliefs of actors within coalitions. This is important both because it is impacts on actors' interpretations of the policy consequences of the available evidence and because it is likely to inform the varying fortunes of coalitions over time.

(iii) Broader, network-based approaches (including Actor-Network Theory)

One of the particularly useful features of the ACF is its attention to diverse groups of actors and this is also a feature of the broader literature on 'policy networks', which ranges from 'iron triangles' involving stable relationships between politicians, interest groups and career civil servants (Overman and Don 1986) to larger, more fluid 'issue networks' (Heclo 1978). Marsh and Rhodes (1992) suggest that particular policy issues tend to be characterised by the existence of *either* an 'issue network' or a 'policy community'. However, Read (1992) argues that, during the 1980s, tobacco in the UK was characterised by the simultaneous existence of an 'issue network' (consisting of tobacco industry representatives and tobacco control lobbyists) and a 'policy community' (consisting of policymakers and tobacco interests but excluding tobacco control advocates). This highlights the potential limitations of focusing on particular kinds of policy networks and, given the breadth of the literature, this perhaps limits the utility of the concept. Moreover, like the ACF, the 'policy networks' literature generally offers few insights into the potential role of evidence and ideas in achieving policy change.

Alternative network-based approaches, developed in science studies, have also recently been applied to analysing tobacco debates (Young et al. 2012). Such theories, notably Actor-Network Theory (ANT), emphasise the importance of studying the processes involved in undertaking research and constructing, as well as disseminating, knowledge claims (Knorr-Cetina 1981; Latour and Woolgar 1986). ANT also places significant emphasis on the translation (as opposed to the transfer) of knowledge-claims (Latour 2005), encouraging analysts to trace how ideas change as they move between actors. It posits that the appearance of some actors as singular, discrete bodies (e.g. 'the government', 'the public health community' or 'the tobacco industry') is actually the effect of diverse underlying networks of actors which only become visible when they fail or when they are carefully uncovered through detailed anthropological observations (Latour 2005). Perhaps the most radical aspect of ANT is that the term 'actor' is extended to include non-humans, such as documents and technologies. As such, ANT usefully calls attention to the

construction and enrolment of evidence within tobacco debates, although in contrast to the ACF, it has little to say about the role of ethics or values.

Moreover, an assumption within ANT that the 'macro' is actually no different from the 'micro' (Law 1992)has led to criticisms that ANT may be politically disabling and uncritical, focusing analysts' attention on 'how' networks form and are performed, at the expense of considering why these networks are being produced and maintained (Bakker and Bridge 2006). This criticism is compounded by the fact that ANT is often promoted as a methodological approach requiring detailed anthropological research (Latour 2005) which tends, implicitly, to restrict the focus of research to small networks (or small parts of larger networks). This limits the possibility of applying ANT to an assessment of the UK's 'tobacco wars'.

(iv) Ideational and 'enlightenment' approaches

An increasing acknowledgement of the complexity involved in evidence-translation (e.g. Sanderson 2006; Smith and Joyce 2012) has led some analysts to focus on *ideas* (rather than evidence) as the entity that moves between research and policy (Smith 2007), or across geographical locations (Stone 2004). Mirroring this shift, there has been a burgeoning interest in ideas within theories of policy change (Béland 2005; Schmidt 2010). Focusing on 'ideas' not only acknowledges the potential for translation, rather than transfer, thereby incorporating a key aspect of ANT, it can also be used to capture some of the interactions between politics, ethics, values and evidence (Sanderson 2006). However, the concept of 'ideas' is poorly defined (Blyth 1997), having been used to refer to ideologies, frames, norms, 'paradigms', explanatory theories *and* specific policy proposals. Further, because ideas 'do not leave much of a trail when they shift' (Hall 1993), it can be difficult to assess whether what appears to be the translation of a particular idea is merely another idea with similar characteristics (Smith 2007). Nevertheless, focusing on ideas helps emphasise that even evidence-informed messages can be continually translated as they become intertwined with politics, ethics and values (Sanderson 2006; Smith and Joyce 2012).

An analysis of the 'tobacco wars' focusing on *ideologies* might look very similar to the value-based approaches considered in the previous section. Alternatively, employing Weiss' (1977) 'enlightenment model' of the function of research draws attention to the potential influence of research-inspired ideas. Such ideas may involve specific policy proposals but also, as Weiss argues, may influence policy via a process of gradual diffusion that leads to changes in the way the public and policy actors think about particular issues. Berridge (2006) has already applied this 'enlightenment' approach to historical tobacco control debates. It potentially helps explain why evidence about the health harms of tobacco took so long to trigger any significant policy action and why, once public and policy perceptions had shifted, multiple policy developments were enabled, including those for which evidence was limited. For, once ministers were assured of sufficient public support for tobacco control, interventions to restrict tobacco use would have appeared far more viable (see Cairney 2007 for the importance of policy perceptions of public opinion about tobacco policy interventions).

However, it does not seem sufficient to attribute shifts in public and policy opinion to the gradual diffusion of evidence about the health harms of tobacco without also considering the evidence and ideas that tobacco interests constructed and employed in this period. Here, the concept of 'framing', which represents another way of thinking about the role of ideas in policy, seems more useful. This involves assessing the frames (or narratives) being used to portray particular issues (Scheufele and Tewksbury 2007). Policy frames can inform beliefs and ideas about particular issues, limiting how actors perceive potential policy options and, relatedly, informing the positions adopted by networks/coalitions. As such, they have been described as a 'weapon of advocacy' (Weiss 1989). Various authors have examined the 'frames' employed around specific tobacco-related policy developments (e.g. Larsen, 2010; Weishaar et al, 2012) but it has not (to our knowledge) been used to assess tobacco debates more broadly (i.e. to understand what role particular framing devices might have played in the conceptual shift in public and policy opinion described above). Doing so highlights some important changes in the way tobacco control advocates have framed their arguments over time.

Initially, tobacco control advocates tended to focus exclusively on evidence relating to the health harms of tobacco (i.e. employing a health-orientated frame). In contrast, tobacco interests often employed economic and 'free personal choice' frames, helping to emphasise their economic contributions (e.g. through employment and revenue), whilst minimising suggestions that policy interventions were needed to protect health (Cairney 2007; Warner 2000). Reflecting this, the policy audience for tobacco control advocates tended to be policymakers in the Department of Health whilst tobacco interests focused on the Treasury and the Department of Trade and Industry, both of which tended to wield more power than Health (Cairney 2007; Read, 1992). However, from the late 1970s onwards, tobacco control advocates began to develop their own economic frame, which challenged the industry one. This was an important development as an internal Philip Morris from 1978, outlining the basic premise of this shift, reflects:

> 'More industry antagonists are using an economic argument against cigarettes; i.e. cigarettes cause disease; disease requires treatment; major health coats are borne by the government; the taxpayers pay in the end. Thus, as health costs rise astronomically, the opposition becomes armed with more potent weapons. We must be prepared to counter this line of argument' (Saligman, 1978)

Despite industry efforts, tobacco control advocates did develop persuasive claims about the economic (healthcare-related) costs of smoking (Warner, 2000) and this played an important role in the US litigation cases brought against tobacco companies by various US states and health insurance companies (Warner et al. 1999). A 1999 World Bank report, which concluded that tobacco was economically damaging to all but a handful of tobacco-dependent agricultural economies, reinforced the credibility of tobacco control's economic frame. This kind of framing is now frequently evident in UK tobacco control advocacy material (e.g. ASH 2011).

At least two additional changes to the 'frames' employed in tobacco debates deserve consideration. First, as Cairney (2007) points out, growing evidence about the health harms caused by passive smoking enabled tobacco control advocates to challenge the industry's framing of smoking as a matter of personal choice. Second, more recently, tobacco control measures have been positioned as a means of reducing health inequalities (e.g. Gruer et al. 2009) as well as reducing smoking (despite the fact some health inequalities researchers dispute this, e.g. Scott-Samuel 2009). This is important in the post-1997 UK era because reducing health inequalities were a policy priority that both the Department of Health and the Treasury were signed up to (see Cairney 2007; Smith and Hellowell, 2012).

Overall, a focus on 'policy frames' supplements value-orientated, network-based and conceptual accounts of the 'tobacco wars' in the UK. It helps demonstrate how tobacco control advocates' evidence and arguments shifted over time, in ways which appear to have helped attract greater policy and public support (or, in ACF terms, greater coalition support). The ability of tobacco control advocates to develop an economic frame seems likely to have been particularly important as this effectively re-presented tobacco control as a 'win-win' scenario for a variety of policy interests.

Concluding Discussion

Like Larsen (2008) and Berridge (2006), this paper quickly concluded that rational, evidence-focused approaches are inadequate for understanding the fraught relationship between public health evidence about, and policy responses to, the UK's 'tobacco epidemic'. Such approaches leave key questions unanswered, notably why there was such a long delay between the emergence of evidence about tobacco related harms and significant policy action to reduce those harms. Once the multitude of different types of evidence is delineated (e.g. evidence concerning the health harms of smoking, from evidence relating to the potential costs and benefits of particular interventions, to evidence concerning public opinion), and the importance of interpretation more widely acknowledged, focusing on the role of evidence in policy debates seems more useful. However, policy commitments to

evidence-based policy in the UK (and, indeed, accounts within public health) have tended to ignore the diversity of evidence-types and the potential for differing policy interpretations, in favour of a simple, linear account in which evidence represents the basis of policy change. The paper argues that such linear, rational depictions are not only descriptively inaccurate but that they can serve to restrict policy innovation.

Building on Farquharson (2003) and others (e.g. Breton et al. 2006; Princen 2007), the paper went on to examine more value-orientated approaches to understanding the role of evidence in tobacco policy debates, notably Sabatier and Jenkins-Smith's (1993; 1999) ACF. Like Farquharson (2003), this paper argues that the ACF provides a more convincing means of understanding the 'tobacco wars' than evidence-orientated accounts and, like Cairney (2007), it found the ACF's emphasis on diverse policy actors was useful. Indeed, the decision to employ the term 'tobacco wars' throughout the paper reflects the extent to which the ACF seems to descriptively reflect UK tobacco debates from the 1950s onwards. However, the paper also argues that, on closer examination, neither of the opposing 'coalitions' is necessarily as unified as the ACF literature implies. Indeed, recent debates about harm reduction within tobacco control seem so divisive (Gartner et al, 2007) that it could be argued the 'tobacco control' coalition is at risk of experiencing a 'civil war'. Meanwhile, positions on tobacco taxation vary within both health and industry coalitions. This highlights the extent to which apparently cohesive coalitions can unravel as policy proposals evolve, potentially limiting the utility of the ACF. Moreover, the ACF offers few insights into the role of evidence within policy debates and does not sufficiently explain how particular coalitions gain and lose support over time.

Conscious of the need to maintain a focus on multiple kinds of actors, the paper briefly considered how other network-based approaches might aid analyses of the 'tobacco wars'. It concluded that the literature on 'policy networks' was too diverse to be useful but that ANT helped draw attention to the potential fragility of networks and to the social construction of knowledge-claims (ideas, evidence and arguments). However, ANT's concern with the 'micro' makes it difficult, if not impossible, to apply

to the decades-long, multi-sectoral 'tobacco wars'. Moreover, ANT says little about the values and beliefs that seemed so useful when employing the ACF as a theoretical framework.

In the final section, the paper focused on ideational approaches (Béland 2005) to understanding the 'tobacco wars'. Specifically, it considered how conceptual changes may occur over time and how coalitions can develop and employ particular 'frames' to help attract support. This approach retained some of the sociological interest in the construction and translation of knowledge-claims evident in ANT, but better captured the role of values, interests, interpretation and advocacy in the translation of evidence. All this suggests that ideas (rather than evidence) may be the more appropriate unit of analysis when studying the relationship between evidence and policy, which also reflects the broader public policy turn to 'ideas' (Blyth 1997; Béland 2005; Schmidt 2010). This seems to offer a particularly fruitful approach to thinking about the potential role of evidence in policy when combined with an analysis of relevant networks, such as that offered by the ACF.

Although this paper has focused solely on tobacco, we believe an ideational, network-orientated approach to examining the relationship between evidence and policy may have broader application. Indeed, similar approaches have already been applied in studies exploring health inequalities and climate change debates (Smith 2007; Blok 2010). Other contemporary public health concerns arguably have even more in common with tobacco (e.g. Freudenberg 2005; Brownell and Warner 2009), although the ACF is likely to be less useful for policy issues which are not marked by strong oppositions. If the approach outlined in this paper does have broader applicability, further research might explore how evidence and ideas shape, and are shaped by, coalition strategies and tactics (e.g. Cairney 2007 notes the potential importance of multi-level governance and 'venue-shopping' in explaining the evolution of UK tobacco policy). More ambitiously, it might be possible to assess whether the characteristics of different ideas (including their relationship with evidence), and/or the strategies used to promote those ideas, can be categorised in ways which help explain why some (but not all) ideas enable policy change.

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