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The relationship between evidence and public health policy: Case studies of the English public health White Paper and minimum unit pricing of alcohol in Scotland

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BSc (Hons), MB ChB, MRCP, MSc, MFPH, PGCAP

**Thesis submitted for the degree of Doctor of Philosophy at the University
of Glasgow**

MRC/CSO Social and Public Health Sciences Unit

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Abstract

Background

Public health researchers and practitioners have repeatedly called for policy to be informed by academic evidence. The rise of the evidence-based medicine movement has demonstrated the potential benefits of using evidence for clinical decision-making. Recently, politicians and policy documents have echoed these calls for increased use of evidence in policymaking by drawing upon the discourse of evidence-based policy. However, efforts to understand the relationship between evidence and public health policy are underdeveloped and often make limited use of knowledge from other fields, including political science and sociology. This thesis aims to explore the relationship between evidence and public health policy in the UK using two contemporary case studies: the English public health White Paper, ‘Healthy Lives, Healthy People’; and the development of minimum unit pricing of alcohol in Scotland.

Methods

The first case study: ‘Healthy Lives, Healthy People’ case study investigates the extent that three prominent discourses that draw upon academic work are reflected by the policy statements contained within the White Paper. The three areas examined include evidence on ‘what works’, the Nuffield framework on public health ethics and insights from behavioural science (‘nudge’). These discourses were chosen as they are not only rhetorically prominent in the White Paper, but also because they reflect the range of direct use of specific research findings and more conceptual use of research-derived ideas. To examine the extent that evidence on ‘what works’ has been incorporated into ‘Healthy Lives, Healthy People’, the research evidence for each of 51 specific policy actions described in the White Paper was reviewed. A critical analysis of ‘nudge’ and the Nuffield framework was conducted by contrasting their application with the authors’ original articulation.

The second case study explores the development of the high-profile public health policy of minimum unit pricing of alcohol by drawing upon three different sources of data. First, a review of policy documents was conducted. Second, a systematic document analysis of evidence submissions that were received by the Scottish Parliament’s Health and Sport

Committee in response to its consultation on minimum unit pricing was performed. This analysis drew specifically on a framework for analysing political argumentation. Third, 36 semi-structured interviews were carried out with a broad range of policy stakeholders. Interviewees were purposively chosen to obtain diversity in supportiveness for minimum unit pricing, as well as by professional position (academic, advocate, civil servant, politician, industry representative). The evidence submissions and interview data were thematically coded and organised using NVivo 9.

Results

By systematically assessing the evidence underpinning the English public health White Paper, the study empirically established that public health policy does not meet conventional public health standards for being evidence-based. Similarly, the prominence of ‘nudge’ and the Nuffield framework in the text of ‘Healthy Lives, Healthy People’ do not appear to be matched by the actions suggested. However, this first case study finds that while evidence does have an influence, it does not determine policy. This relationship appears complex, partial and contingent rather than direct and instrumental, therefore necessitating a more detailed and focused case study.

The second case study begins by providing a detailed description of the process by which minimum unit pricing developed in Scotland. It then draws on the analysis of evidence submission documents combined with interview data to identify a crucial role of public health advocates, who reframed the alcohol policy debate to bring about policy change. Epidemiological concepts were important in helping to achieve this shift in policy framing. Having investigated more conceptual influences of evidence, econometric modelling carried out by a team at the University of Sheffield is focused on as an example of a specific piece of research evidence that was perceived by interviewees to be influential in the policy debate. The different types of influence that the modelling study had on the policy process are determined and reasons for its influence investigated. The study also finds that interviewees believed econometric modelling could be more widely used to inform future public health policymaking. Lastly, a ‘multiple lenses’ approach builds upon these findings and political science theory to produce a comprehensive explanation of the policy process and describe the roles of evidence on the minimum unit pricing policy process.

Discussion

Analysis of the ‘Healthy Lives, Healthy People’ White Paper shows that despite the prominent rhetoric for evidence-based policy, this is not reflected by the reality of current public health policy in the UK. The investigation of the development of minimum unit pricing of alcohol in Scotland demonstrates that evidence influences the policy process in a number of ways but these influences are heavily context-dependent. The role of evidence in changing the framing of the policy debate has been identified as of particular importance for this case study. The devolution process and evolving nature of political institutions also raises particular opportunities, but also challenges, for public health professionals.

The strengths of the thesis include its use of two case studies to investigate the relationship between evidence and public health policy, the analysis of multiple sources of data in relation to minimum unit pricing policy and the application of political science theories that are typically underused in public health research. Limitations include the caution required when making generalisations from these data, particularly since these case studies have been purposively chosen.

Drawing upon the two case studies, a conceptual model for the relationship between evidence and public health policy is articulated. The model suggests that evidence is likely to be used in different ways depending on the extent that the political values underpinning an issue are contested, with the importance of evidence for rhetorical purposes being a legitimate and helpful means of highlighting the health aspects of public policy issues. Lessons for public health researchers and practitioners, as well as directions for future research and theoretical implications, are considered and discussed.

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Author's declaration

The research reported is my own original work which I carried out in collaboration with others as follows:

English public health White Paper case study

The idea for carrying out a systematic analysis of the evidence base for 'Healthy Lives, Healthy People' was originally conceived by myself in conjunction with Martin Higgins. I developed the research methods in collaboration with Martin Higgins, Sally Macintyre, Lyndal Bond and Chris Bonell. I led the review process, data extraction and conduct of quality appraisal, with Martin Higgins acting as a second reviewer. I wrote the first draft of the accompanying paper with all other authors critically reviewing the manuscript.

The critical analysis of the application of Nudge and the Nuffield ladder were conceived and led by me. Martin Higgins, Chris Bonell and Lyndal Bond all discussed the findings and critically revised a manuscript for an accompanying paper. Sally Macintyre also provided comments on a draft manuscript.

Minimum unit pricing of alcohol in Scotland

I conceived the idea for studying the minimum unit pricing policy process and investigating the role of evidence in its development. I developed the research questions and methods for this case study, with advice and guidance from Shona Hilton and Lyndal Bond. I led the data collection, data extraction and analysis. Shona Hilton reviewed some aspects of the data to assure their quality, including checking the coding of evidence submission documents. Shona Hilton and Lyndal Bond discussed emerging findings with me and provided guidance about the write-up of the chapters and the associated papers that are under review.

Consideration of the legal aspects of the minimum unit pricing policy was carried out in collaboration with James McLean but the idea for the associated article, argument presented and draft article, led by me. Consideration of the role of devolution on the policy's development was led by me but has been improved by comments and suggestions from Katherine E Smith.

I have had sole responsibility for the conduct of all other aspects of the research presented within this thesis. Lyndal Bond, Chris Bonell and Shona Hilton have reviewed drafts of this thesis.

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not previously been presented for a higher degree at the University of Glasgow or any other institution.

Signature:

Printed name: Srinivasa Vittal Katikireddi

Competing interests

I have previously been a member of the Scottish Liberal Democratic Party, the political party that constitutes the minority party within the current UK Government. During the writing up period of this thesis, I have agreed to serve as a member of the steering group for the evaluation of the UK Government's Public Health Responsibility Deal. During the conduct of this research, I have been involved in developing a grant application for the evaluation of minimum unit pricing of alcohol in Scotland. As part of this work, I have provided briefings to representatives of the Scottish and UK Governments.

Acronyms and Abbreviations

ACF: Advocacy Coalition Framework

BMA: British Medical Association

EFS: Expenditure and Food Survey

HSE: Health Survey for England

Int: Interviewer

LCFS: Living Costs and Food Survey

MRC: Medical Research Council

MUP: Minimum Unit Pricing

PIF: Population Impact Fraction

SALSUS: Scottish Schools Adolescent Lifestyle and Substance Use Survey

ScHARR: School of Health and Applied Related Research

SHAAP: Scottish Health Action on Alcohol Problems

SHeS: Scottish Health Survey

SPHSU: Social and Public Health Sciences Unit

SNP: Scottish National Party

UK: United Kingdom

US: United States

1 Introduction to the thesis

This thesis examines the relationship between evidence and national public health policy in the United Kingdom (UK). It does so by examining two case studies, in turn: the English public health White Paper, 'Healthy Lives, Healthy People'; and the development of minimum unit pricing of alcohol in Scotland. The first case study has been chosen because it provides coverage of a broad range of public health policy and therefore allows for the relationship between evidence and policy across a broad range of topics to be studied. The second case study investigates the development of a single policy in far greater detail and therefore allows greater consideration of the role of context in the evidence-policy relationship. The two case studies are drawn upon in the discussion chapter to develop a conceptual model that seeks to describe the relationship between evidence and public health policy.

1.1 Research question and aims

The overall research question for this thesis is:

- How do different forms of evidence influence contemporary public health policy in the United Kingdom?

The aims of the thesis are to:

- examine to what extent different forms of evidence are incorporated into the current English public health White Paper, 'Healthy Lives, Healthy People'
- describe the policy process by which minimum unit pricing of alcohol developed in Scotland
- describe the different framings of the minimum unit pricing policy debate and establish the extent to which changes in framings contributed to policy change

- examine the role of econometric modelling on the minimum unit pricing policy process in Scotland and establish its potential utility for public health policy in the future
- explain the policy process by which minimum unit pricing developed in Scotland by drawing upon insights from political science
- identify potential lessons for public health researchers and practitioners from the above two case studies

1.2 Overview of the thesis

The material covered within each chapter of this thesis is now briefly outlined.

Chapter 2 will examine relevant literature about the relationship between evidence and public health policy. It will introduce key concepts from public health and political science which are drawn upon in the remainder of the thesis. It will finish by reviewing important debates about the role of evidence in informing public health policy.

Chapter 3 presents the background, methods and findings for the first case study of ‘Healthy Lives, Healthy People’, the current English public health White Paper. The chapter demonstrates the rhetorical prominence given to evidence within the White Paper and identifies three prominent discourses for further analysis: evidence on ‘what works’, a framework on public health ethics and ‘nudge’. The chapter then investigates how these three forms of evidence (from the more specific to the more conceptual) relate to the content of the White Paper. This first case study of a broad policy document concludes that a more detailed investigation of the development of a specific public health policy intervention would be informative.

Chapter 4 describes the methods used to study the second and more substantive case study of minimum unit pricing of alcohol in Scotland. A description of the data and analysis procedures is provided for the three different sources of data that are drawn upon: a review of policy documents, an analysis of evidence submission documents submitted by policy stakeholders to the Scottish Parliament, and semi-structured

qualitative interviews with policy actors. Issues of epistemology and reflexivity are discussed.

Chapter 5 will provide the first results chapter for the second case study. It seeks to provide a description of the events through which minimum unit pricing developed in Scotland as a necessary precursor to more detailed explanatory analysis. By providing a summary of the key events and actors within this chapter, unnecessary repetition will also be minimised.

Chapter 6 will examine the different ways that the minimum unit pricing policy debate has been framed by policy stakeholders. In particular, it will examine how different framings are associated with supportiveness or hostility to minimum unit pricing policy. Following this, it will establish if changes in the framing of the alcohol policy debate were associated with the development of minimum unit pricing policy. The chapter will also summarise the arguments presented for and against minimum unit pricing.

Chapter 7 will focus on the Sheffield model, an econometric study carried out to predict the likely impact of minimum unit pricing. It will first examine the views of policy actors on econometric modelling studies and investigate their perceived utility for public health policy. The chapter will then go on to study how the Sheffield model has influenced the minimum unit pricing policy process.

Chapter 8 builds upon the analyses presented in the previous three chapters, as well as drawing on insights from political science, to provide an explanation for the minimum unit pricing policy process. It takes a ‘multiple lenses’ approach to studying the policy process and identifies a number of factors that contributed to the development of minimum unit pricing policy.

Chapter 9 summarises the empirical findings and reflects upon the strengths and weaknesses of the research presented. It then introduces a conceptual model relating the relationship between evidence and public health policy which has been developed in light of the empirical findings. The chapter then outlines a number of considerations for those seeking to increase the role of evidence in public health policy. The chapter concludes by stating some implications for research and practice.

2 Literature review

2.1 Overview

This thesis, while exploring the relationship between evidence and policy and hence drawing heavily upon the disciplines of political science and sociology, is ultimately focused on public health. This chapter therefore reviews relevant academic literature published in these fields as well as highlighting relevant public health concepts.

The chapter starts by briefly explaining the purpose of public health and defines the scope of public health policy that will be studied within this thesis. Following this, key theories derived from political science that seek to explain the policy process are presented. Given that the larger second case study investigates the development of a public health policy within Scotland, an overview of the Scottish institutional and political context is provided. The chapter goes on to discuss the academic literature that seeks to understand the relationship between evidence and policy. The evidence-based medicine movement is then introduced and it is argued that this has provided a recent impetus to a longer-standing evidence-based policy movement. The chapter concludes by reviewing important debates about the evidence-based public health movement.

2.2 The nature of public health

2.2.1 *Health and its determinants*

The definition of health has been long contested and this debate continues (see, for example, Huber, Knottnerus et al. 2011). A widely accepted definition was originally voiced by the World Health Organization (WHO) in 1946:

Health is a state of complete physical, mental and social-wellbeing and not merely the absence of disease or infirmity. (WHO 1946)

The above definition has a number of important implications for this study. First, a broad definition of health suggests public health should be concerned not only with preventing

disease but also promoting wellbeing. It is evident that a broad conceptualisation of health suggests that a wide variety of factors influence health. This was famously articulated by Dahlgren and Whitehead in their ‘Social Determinants of Health’¹ model (1991). Second, the inclusion of physical, psychological and social domains of health means that public health professionals working to this definition of health may need to work on factors that act on all these domains. Third, the definition is an aspirational one. This in turn means that optimal population health may never be achieved but is inevitably worked towards. Public health practitioners will therefore be required to continually seek new ways of improving health.

Despite these helpful corollaries, the WHO definition has been extensively critiqued. Some health professionals and researchers have argued that its vagueness and idealised nature results in too broad a scope for health (Jadad and O’Grady 2008; Huber, Knottnerus et al. 2011). Such a definition, while legitimising public health’s attempts to influence non-health sectors, can be accused of facilitating ‘mission creep’, with public health professionals attempting to unduly influence too broad a range of activities. This may include attempts to restrict the actions of individuals or other actors (i.e. any person, organisation or other entity that carries out intentional actions) in a way that has been argued to be an infringement of personal liberties (Mann, Gostin et al. 1994). These caveats aside, the WHO definition represents the most widely used conception of health and helps establish the range of actions that will be considered within the remit of public health for this thesis.

A similar breadth of influences is now widely agreed to result in health inequalities – that is the unequal patterning of health outcomes between social groups (Graham 2009). Two further clarifications are necessary. First, important differences exist between models outlining the determinants of health and those outlining the determinants of health inequalities; hence some influences may act to improve health but increase health inequalities and vice versa (Graham 2004). Actions to improve population health are

¹ Single quotation marks will be used for three purposes: the first time a new term is introduced (so the start and end of the term being discussed is clear), to refer to published reports and lastly, to indicate a concept which could be considered problematic. Double quotation marks within the text will be used for short quotations (with longer quotations indented and separate from the main text). Italics will be used for emphasis or when foreign language words are used.

often referred to under the term ‘health improvement’ and are therefore distinct (but often overlap) with actions addressing health inequalities. Second, the term ‘health inequality’ is often used interchangeably with ‘health inequity’. The former merely reflects the fact that variations in health exist and indeed, many of these variations are likely to be unavoidable (Kawachi, Subramanian et al. 2002). For example, the health of older people may inevitably be worse than that of younger people. In contrast, the term ‘health inequity’ suggests that such a variation in health is unfair and there is therefore a (moral) obligation to take action against it. Having made the academic distinction between ‘inequality’ and ‘inequity’, UK public health policy documents do not typically do so and instead uses the former term for both the description of differences in health between social groups and passing moral judgements. For consistency, the term ‘inequality’ in its broader and less precise usage will be used throughout this thesis, in keeping with UK policy discourse.

2.2.2 What is public health?

Public health has a long history of viewing health as a consequence of a wide range of factors requiring a broad approach to improving population health (Berridge and Gorsky 2011). One influential definition illustrates the complex nature of the discipline:

Public health is the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organised community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organisation of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health (Winslow 1920, pg 30).

From a UK perspective, this definition was subsequently adapted by a former Chief Medical Officer (CMO) of England, Sir Donald Acheson, to:

[...] the science and art of preventing disease, prolonging life, and promoting health through the organised efforts of society (Acheson 1988)

While several decades separate both definitions, the focus throughout this time has been on public health being a science and an art which makes use of societal interventions. One notable change between the definitions has been the broadening conception of health – no longer limited to ‘physical health’ but latterly reflecting the previously discussed WHO definition.

Having established the breadth of the public health endeavour, it is worth briefly setting out some important areas of public health that are not within the scope of this thesis. Public health practice can be conceptualised as consisting of three domains: health protection, health service delivery and quality, and health improvement (Griffiths, Jewell et al. 2005). While acknowledging the need for the first two domains, this thesis will focus on the third. Part of the rationale for limiting the area of inquiry is pragmatic – to make the task manageable. However, the domain of health improvement has a scope that is multi-sectoral in nature and is therefore likely to pose different (and arguably greater) challenges for evidence-based public health efforts.

2.2.3 *Public health policy*

A wide range of definitions exist for the term ‘policy’, with it being used in different and overlapping ways depending on the context (Exworthy 2008). Some focus on policy as an outcome in relation to a specific decision-making situation:

Policy is a guide to action to change what would otherwise occur, a decision about amounts and allocations of resources: the overall amount is a statement of commitment to certain areas of concern; the distribution of the amount shows the priorities of decision makers. Policy sets priorities and guides resource allocation.
[emphasis in original] (Milio 2001, pg 622)

This above definition reflects the common usage of the term to refer to a specific policy document, i.e. an end-product (Exworthy 2008). Policymaking can therefore be considered as merely the development of a ‘policy’. However, this perspective downplays the importance of considering policy in terms of non-decision-making as well as decision-making. In other words, the absence of policy can be viewed as a policy position in and of itself and in many cases, the study of which issues are not reflected in active policy debates may be more illuminating than a focus on decisions that have been made. Other definitions better incorporate this aspect – for example, definitions that highlight the role

of values by referring to policymaking as “the authoritative exposition of values” (Greenhalgh and Russell 2006, pg 35).

In addition to the varied views of what constitutes ‘policy’ and ‘policymaking’, a divergent set of perspectives exist about the purpose of policy analysis. Some authors highlight the importance of distinguishing between analysis *for* policy (i.e. the purpose of analysis is to assist in the policymaking process) and analysis *of* policy (i.e. to understand the policy process) (Hogwood and Gunn 1984; Parsons 1995; Hill 2013). This study seeks to do the latter, although admittedly while hoping to help contribute to improving the way public health professionals engage with the policy process in the future. Another distinction worth noting is the difference between “*description* (how policies *are* made) and *prescription* (how policies *should* be made) [emphases in original]” (Hogwood and Gunn 1984, pg3). In this thesis, the focus will be on understanding how policies are made in real-life rather than arguing for a normative view of policymaking. However, the implications for prescription of the policy process from an evidence-based public health perspective will be reflected upon in the discussion.

Given the model of health as influenced by a broad range of determinants presented above, considerable public health gains could be expected from interventions aimed outside the health sector. In particular, the potential for governmental action to improve health through public policy has been focused upon by many public health professionals (Milio 1987). This perspective has been incorporated in numerous WHO policies for a number of decades (Walley, Lawn et al. 2008). Furthermore, interventions targeted at the determinants of health have the scope to prevent future ill-health and may therefore result in large health care savings (Wanless 2004). However, despite the longstanding realisation in public health circles of the potential to improve health through non-healthcare interventions, achieving a ‘healthy public policy’ approach, which considers health impacts arising from all policy sectors, has been difficult (Bacigalupe, Esnaola et al. 2010). The term ‘population health’ has been similarly used to draw attention to the need to tackle the social determinants of health but also emphasises the need to consider the distribution of health rather than only the overall sum of a population’s health (Starfield 2001); although as Kindig and Stoddard suggest, the term is used in varying ways (2003). One important approach for harnessing the potential health promoting effects of non-healthcare policy is through health impact assessment (Parry and Stevens 2001), although

the validity of the method and its benefits have been difficult to demonstrate (Petticrew, Cummins et al. 2007).

Within the domain of health improvement, it is non-healthcare policy interventions that will be the focus in this thesis. The term ‘public health policy’ will be used as a general term to include any policy outside the healthcare sector that is intended to improve health. An important reason for focusing on public health policy rather than healthcare policy is that the relationship between evidence and policy may differ between the two – for example, as a result of lower levels of agreement about the overarching goals of the policy (Contandriopoulos, Lemire et al. 2010).

2.3 Theories of policymaking

A wide variety of theories now exist that seek to explain the policy process but none appear satisfactory for all purposes (Sabatier 2007; Cairney 2011c; Hill 2013). Many of these theories are not entirely distinct but instead highlight separate aspects of the policy process and it can therefore be helpful to draw upon several theories in combination to understand the policy process (Allison 1969). This section will briefly review some of the better known theories of the policy process.

2.3.1 Power and public policy

Any discussion of policymaking has to at the very least acknowledge the political nature of the process and therefore the fundamental place that the operation of power has. However what ‘power’ is remains contested. In general, there is widespread agreement that one dimension of power is where an actor exerts power over another to act in a way that they would otherwise not (Dahl 1957). However, this conception of power has been portrayed as incomplete. One influential development in the literature seeking to locate power is the work of Lukes (1974) who argues that in addition to observable power as described by Dahl, a further two dimensions of power exist: the exercise of power which results in some issues being kept off the decision-making agenda (resulting in non-decision-making); and power to shape people’s preferences so that they are not aware of their own interests. The third dimension therefore occurs when there is conflict between the wants and preferences of the group over which power is exerted, and their wants and

preferences if they were to become aware of their true interests (a concept which echoes the notion of ideological hegemony (Bates 1975)). However, this third dimension of power has been critiqued as it suggests that ‘true’ interests (which are not determined by the individuals themselves) can be identified. This has resulted in an alternative perspective to the three dimensions of power being to focus on its two uses: ‘conduct shaping’ (whereby individual actions are directly influenced) and ‘context shaping’ (where power influences are made manifest in the structures, institutions and organisations which shape subsequent human action) (Hay 2002).

One approach to policy analysis is to focus on understanding power relationships between policy actors (Hill 2013). However, while acknowledging the importance of power in the policy process, this thesis seeks to understand the interplay between evidence (which can itself be viewed as an instrument of power (for example, Armstrong 1995)) and public health policy. An analytic focus on power processes may illuminate power relationships between policy actors. However, this may come at the expense of an adequate understanding of the role of evidence and the identification of potential lessons for public health researchers and practitioners. For the purpose of this study, approaches that do not focus on power imbalances between actors may therefore be more helpful while accepting that underlying policy developments may be changes in the distributions of power.

2.3.2 Linear stages

Historically, the policy process was conceptualised as occurring in a ‘rational’ manner which involved passage through a number of distinct stages which when linked together form a ‘policy cycle’ (Simon 1955; Hogwood and Gunn 1984). For example, an issue becomes identified as needing attention in the ‘problem identification’ stage; different issues compete for the attention of policymakers during ‘agenda-setting’; potential alternative policies are considered (‘option appraisal’); the chosen decision leads to its ‘implementation’; and the results are assessed through ‘evaluation’; thus resulting in a re-appraisal of the problem.

While this model continues to underpin (often implicitly) the perspective of many researchers and indeed those involved in policy development (Cabinet Office 2003), it is considered inadequate in explaining the policy process within much of the political

science literature for a number of reasons (Hogwood and Gunn 1984; Sabatier 2007; Cairney 2011c). First, empirical research has found that consecutive stages typically do not occur, so the above stages may occur out of sequence or simultaneously. Second, policymakers are usually bound by severe time constraints that make it impossible to comprehensively consider all aspects of any given policy problem. In order to cope with this, it has been suggested that policymakers exhibit ‘bounded rationality’, where they try to make rational decisions on the basis of inevitably incomplete information (Simon 1955). Furthermore, policymakers are typically curtailed in their ability to implement decisions they make, so that policy as enacted is often altered by those responsible for its implementation (Lipsky 2010). Despite these limitations, the stages model presents a helpful heuristic device and many of the processes described above often do occur during the policy process, albeit in an unpredictable manner.

2.3.3 Incrementalism and institutionalism

In direct contrast to the policy stages heuristic, Lindblom argues that policymakers ‘muddle through’ policymaking, considering a small range of policy options they think may be feasible and pursuing the option with the greatest stakeholder consensus (Lindblom 1959b; Lindblom 1979). This occurs as a direct consequence of the need for decision-makers to operate in a boundedly rational way. However, Lindblom argues not only that this is a more accurate description of how policy develops but that it is normatively better because it enables policymakers to learn from their growing policy experience and to adjust to unanticipated negative outcomes (Lindblom 1959a). This theory does not preclude the occurrence of large changes in policy, but sees such developments as occurring as a result of several consecutive policy developments.

In keeping with the literature on incrementalism, a diverse set of literature considers the role of institutions in influencing policy, often to maintain relative continuity rather than change (Hall and Taylor 1996; Beland 2005). Historical institutionalism sees institutions not just as administrative organisations but as being constituted by “formal or informal procedures, routines, norms and conventions embedded in the organizational structure” (Hall and Taylor 1996, pg 938). The notion of ‘path dependency’, whereby previous decisions influence subsequent decisions, is strongly associated with the historical institutionalism literature. The classical example is the existence of the QWERTY computer keyboard today, which can only be understood by studying the development of

the typewriter (David 1985). In contrast to the structural focus of historical institutionalism, rational choice institutionalism seeks to model the policy process by making behavioural assumptions about how individuals within an institution will act, given the incentives and constraints imposed by that institution (Hall and Taylor 1996).

2.3.4 Ideas and policy paradigms

There is a growing set of literature which emphasises the importance of ideas in explaining policy processes. Inspired by Kuhn's work on the revolutions that occur in scientific paradigms (Kuhn 1970), Hall studied macroeconomic policy in the United Kingdom (UK) from 1970 to 1989 and argued that three different levels of policy change can be distinguished (Hall 1993). First-order changes occur frequently and involve the finessing of a specific policy instrument that is already being used. This approach to policymaking fits with an incremental view where government learns from its recent experiences and adjusts policy in response. Second-order changes involve altering the policy instruments used but operate within the existing paradigm (i.e. "without altering the hierarchy of goals behind policy" (Hall 1993, pg 281-2)). In contrast, third-order changes occur infrequently and involve a wholesale change in the fundamental understanding of the policy problem and aims of the intervention. In other words, they involve a change in 'policy paradigm' – akin to a Kuhnian revolution in scientific paradigms. In keeping with Kuhn's work, such changes are social and/or political in their nature, rather than a result of learning from experience (as is the case in first- and second-order policy changes). The classic example of this provided by Hall is the move from Keynesianism to monetarism in UK macroeconomic policy. As acknowledged by Hall, but further developed by other political scientists since (for example, Hay 2004), these third-order changes are accompanied by shifts in the accompanying discourse used to discuss and also conceptualise the policy problem. In a similar manner to Kuhnian scientific revolutions, paradigm changes in policy are often triggered by an existing paradigm's perceived failure to explain developing events. In the case of macro-economic policy, the perceived inability of Keynesianism to account for stagflation provided such a challenge. Importantly, policy paradigms are theorised not to determine specific policy actions but rather to act as an intellectual scaffold for conceptualising policy decisions. Ideas and policy paradigms therefore highlight the importance of evidence in the form of academic concepts which allow policy actors to make sense of the world.

The ideational perspective remains an active area of theory development within the political science. In analysing the creation and more recent weakening of the Swedish welfare state, Blyth extended the perspective that ideas are central to understanding how policy paradigms are created and then encapsulated within the logic of institutions (Blyth 2001). Blyth identified a number of ways that ideas can influence policy paradigms: as ‘blueprints’ which enable the world to be conceptualised and in so doing, privilege some policy approaches over others; as ‘weapons’ to challenge existing conceptual frameworks and their associated institutions; and as ‘cognitive locks’, so previous ideas influence the potential ideas that are considered in the future (a concept related to path dependency where previous decisions impact upon future). It is important to note that ideas are not seen here as operating independent of power interests but rather:

Ideas tell agents what has gone wrong and suggest what to do in situations of uncertainty that lack fixed preferences and clear conceptions of self-interest. (Blyth 2001, pg 26)

To conclude this subsection, ideas are seen in some of the academic literature as having causal power over, at least aspects of, the policy process.

2.3.5 Policy networks and the advocacy coalition framework

Another set of theories focus on the role of diverse sets of actors, or ‘policy networks’, in shaping policy outcomes. Terminology relating to policy networks varies between authors but underlying much of this literature is the view that a given policy area is usually of major interest to a limited range of stakeholders and these stakeholders often have unique expertise that allow them to contribute to developing policy (Borzel 1998). The concept of ‘iron triangles’, developed in the United States (US), generally refers to stable relationships that develop between relatively few actors (typically politicians, powerful interest groups and career civil servants) (Overman and Don 1986). From this perspective, policy decisions are viewed as the outcome of negotiations within these tight-knit networks (from which others are generally excluded). The existence of these closed networks can make the development of policy more manageable since there are limits on the need for consultation, with each of the actors involved having specific skills or knowledge to contribute. In contrast to these relatively closed iron triangles, Heclio argued that policy decisions are often the end-product of negotiations between larger,

more fluid groups known as ‘issue networks’ (Heclo 1978). The policy networks literature can therefore be thought of as forming a continuum, ranging from tightly defined ‘policy communities’ (such as iron triangles) at one end, through to broad, unstable ‘issue networks’ at the other (Rhodes 1990).

Sabatier and Jenkins-Smith’s ‘advocacy coalition framework’ (ACF) provides a specific theory of the policy process that builds upon the insights of the ‘policy networks’ literature and falls somewhere in the middle of the above continuum (Sabatier and Jenkins-Smith 1999). The ACF suggests many different types of actors constitute networks (e.g. journalists, academics and think tanks as well as policymakers and interest groups) and these networks form around a shared understanding of the world (an ‘ideological frame’). The ideological frame includes shared values and beliefs about the causes (and therefore likely solutions) to a policy problem which provides the ‘glue’ that holds the network together. This contrasts with a more traditional emphasis on shared political and economic interests. Important critiques of the ACF centre on its inability to explain marked policy change rather than more modest policy developments (which can be accounted for by changes in ‘secondary’ beliefs) since the members of dominant networks are unlikely to promote radical new policies, given their shared ideological frame (John 2003). However, the ACF’s supporters argue that it allows for significant policy change to occur when a particular coalition’s ideas are perceived to be so successful that some actors switch between competing coalitions, thereby shifting the balance of power between the networks seeking to influence policy (Sabatier 2007).

2.3.6 Punctuated-equilibrium theory

The view of policymaking as operating through incremental processes has been challenged by the work of Baumgartner and Jones (1993). They observed that many areas of public policy exhibited little policy change (in their terms, were in ‘equilibrium’) while a few areas were focused on by policymakers and these experienced rapid shifts in policy (‘punctuations’). The punctuated-equilibrium theory argues that the time constraints policymakers operate under result in them being unable to focus on all areas of public policy simultaneously. In keeping with the literature on policy networks, the authors argue that most areas of public policy are influenced by relatively small groups of actors who have developed considerable expertise in the topic and these tend to exist largely in equilibrium, with relatively minor policy changes occurring. In contrast, far greater focus

occurs on the relatively few areas that have become ‘hot topics’ (i.e. those experiencing punctuations), attracting the attention of the media and a broader group of actors than previously engaged. Policy areas that are undergoing punctuations therefore experience an increased tendency towards policy movement as a result of the escalating interest driven by the media and the broadening range of policy actors involved. Punctuated-equilibrium theory (and the literature it builds upon (Riker 1986)) suggests that a change in the ‘framing’ (or ‘policy image’) of a policy issue or a change in a well-respected indicator can be crucial in triggering increasing interest in an existing policy problem (Baumgartner and Jones 1993; True, Jones et al. 2007). From studying the US political system (characterised by a federalist political system), they also argue that consideration of the ‘policy venue’ in which different interests are operating will have implications for the dominant policy image – a perspective further developed by multi-level governance (discussed in 2.3.8). An important reason for this is that different policy venues have different remits, so that a change in ownership of a policy area from one venue to another can help trigger punctuation.

2.3.7 Kingdon’s multiple streams model

Kingdon’s influential multiple streams model seeks to explain the earlier stages of the policy process (Kingdon 1984). In particular, he was interested in explaining the processes of agenda-setting and specification of alternatives (also referred to as option appraisal). To understand the former, Kingdon distinguished between the very large (or potentially even infinite) number of policy ‘issues’ which could be considered by government and the relatively small number of policy ‘problems’ which actually occupy the attention of policymakers. Agenda-setting is therefore the process by which problems are defined in order to allow action to occur.

Through a detailed investigation of the agenda-setting and alternative specification process in US central government, he identified three key factors or ‘streams’ which must come together (be ‘coupled’) for a policy to be pursued (Kingdon 1984). Importantly, the streams operate largely independently of each other. The ‘problem’ stream describes the existence of a policy issue that is construed as worthy of policy intervention. Problems are brought to the attention of those involved in the policy process by changes in well-respected indicators (including routinely available government statistics), focusing events (most notably, crises) and feedback from experience with existing policies. The ‘policy’

stream refers to the availability of a solution that could be used to address the problem. Kingdon refers to a ‘policy primeval soup’, which is constituted by a variety of alternative proposals developed by specialists. The implied evolutionary process for the survival of policy options has been developed further, with the suggestion that policy options evolve in response to selection pressures arising from deliberation, public opinion or the effects of interest groups (John 1999). The ‘politics’ stream refers to the political context operating at the time which may either help or hinder the consideration of a specific policy issue (Kingdon 1984). Components of the political stream could include swings in the ‘national mood’, pressure group campaigns or a change in governmental administration. Kingdon argues that typically agendas are set by the problem and/or politics streams while alternatives are generated in the policies stream. He suggests that these three streams can be coupled by ‘policy entrepreneurs’ who rely on the creation of a ‘policy window’ as a result of changes in either of the other two streams to allow them to advocate for their preferred policy option. According to Kingdon:

These entrepreneurs are not necessarily found in any one location in the policy community. They could be in or out of government, in elected or appointed positions, in interest groups of research organizations. But their defining characteristic, much as in the case of a business entrepreneur, is their willingness to invest their resources – time, energy, reputation, and sometimes money – in the hope of a future return. That return might come to them in the form of policies of which they approve, satisfaction from participation, or even personal aggrandizement in the form of job security or career promotion. (Kingdon 1984, pg 129)

Thus, potential policy entrepreneurs may operate in varied sectors and could, according to the above, be encouraged or hindered from adopting an entrepreneurship role, depending on the incentives under which they operate. While Kingdon’s work originally developed in the US, it has now been successfully applied internationally, including in the UK (for example, Exworthy, Blane et al. 2003).

2.3.8 Multi-level governance

The multi-level governance literature does not provide a theory of the policy process *per se* but drawing on recent European experiences, draws analytical attention to ongoing

changes in institutional competences (Hooghe and Marks 2003; Bache and Flinders 2004; Pollack 2005) and is premised upon two key principles. A multi-level perspective theorises a shift in power from one central governmental state authority to a range of institutions that operate both above and below the nation-state (Shore 2011). Meanwhile, the literature also theorises an increase in the range of actors responsible for policy (including increased non-governmental and private sector involvement in areas of traditional public policy), signalling the movement from ‘government’ to ‘governance’ (Rose and Miller 1992).

Traditional views of government in modern democratic systems have tended to emphasise the ability and legitimacy of the state in constructing and implementing policies (through the use of force if necessary) (Spruyt 2002). Over the course of the last century, the complexity of government institutional structures has increased markedly, thereby challenging this view of government (Shore 2011; Hill 2013). From a UK perspective, it has been traditional to view the British political system (at least in the nineteenth and twentieth centuries) as characterised by a strong central government with a hierarchical decision-making structure (Bache and Flinders 2004). While the extent that the reality of British policymaking has ever been reflected by this ‘Westminster model’ is debatable, there does appear to be a consensus that this model has become less accurate over the past fifty years or so (Bache and Flinders 2004). The power of the UK Government has been ceded to organisations operating both above the level of the nation-state and within the traditional UK state (Moran 2005; Leach, Coxall et al. 2006b). This includes the European Union (and its predecessor and affiliated institutions) which has gradually accumulated increasing influence across many areas (Bomberg, Peterson et al. 2008). Within the UK, the ongoing devolution processes, notably to Scotland, Wales and Northern Ireland but also within England, has led to some key policy responsibilities being delegated from Westminster to regional institutions (see for example, House of Lords Select Committee on the Constitution 2002).

The parallel process conveyed by the multi-level governance literature is the growing diffusion of power from government to broader institutions of governance: quasi-autonomous non-governmental organisations (quangos), arms-length independent regulators and private sector actors, amongst others (Rhodes 1994). However, it is not only those who are formally delegated responsibilities that have influence in the complex

world of governance; the term also encompasses the diverse range of non-governmental interest groups that attempt to influence policymaking, such as businesses, charities, think tanks and lobbyists (Stoker 1998). Two types of multi-level governance can be identified: type 1 indicating a system where power becomes generally diffuse (for example, in a federal system) and type 2 describing “task-specific jurisdictions” (Hooghe and Marks 2003).

A key claim in some of the multi-level governance literature is that, as traditional central and local government functions are ceded to other agencies, the nation-state is being ‘hollowed out’ (Rhodes, 1994; 1996). Rather than resting with any one governmental authority, power is seen to be diffuse, residing at a variety of institutional levels and across a broad range of state and non-state actors. The multi-level governance literature therefore highlights the difficulty in identifying who has power to make decisions and also who has authority to do so (Bache and Flinders 2004).

The absence of clear authority has led to confusion as to the authority of decision-makers and has resulted in a need to negotiate the *processes* through which policy is made, as well as its content, according to Hager (Hager 2003; Hager 2005a). He argues that the emergence of multiple and overlapping levels of government has resulted in what he terms an ‘institutional void’ where the rules and norms by which policymaking occurs are unclear and yet to be agreed upon. The result is that a double dynamic may operate:

Where policy making and politics take place in an institutional void we should pay attention to a double dynamic: actors not only deliberate to get to favourable solutions for particular problems but *while deliberating* they also negotiate new institutional rules, develop new norms of appropriate behaviour and devise new conceptions of legitimate political intervention. [emphasis in original] (Hager 2003, pg 175-6)

In other words, policy actors may need to work to influence the ‘rules of the game’ by which policy is made, which may then influence the conduct of future policy making negotiations, in addition to working to influence specific policy decisions.

2.3.9 A summary of theories of the policy process

This chapter section has described several influential theories of the policy process (Table 2.1). The linear stages model has often served as a point of departure for many of these political science theories and continues to be influential. A number of theories have sought to explain the observation for the relative stasis that occurs across most policy areas at any one time. These theories illustrate several important aspects of the policy process, including the tendency for policy to develop in an incremental fashion amongst relatively small policy networks in most areas. However, these theories are of less help when trying to understand the development of a new policy such as minimum unit pricing of alcohol in Scotland.

In contrast, punctuated-equilibrium theory and Kingdon's multiple streams model focus on trying to explain how and why policy change occurs. The former focuses more on the dynamics of the policy process, while the latter more specifically incorporates a role for policy solutions and has therefore been used to understand the potential influence of evidence on the policy process. Both theories can also incorporate literature on the role of ideas, which help actors make sense of the world and therefore influence their actions.

Table 2.1: A summary of political science theories and important limitations for their use in research

Theory	Key characteristics	Limitations
Linear stages	Policy proceeds rationally through a series of successive stages where problems are identified, options appraised and the best solution chosen.	Does not capture how policy develops in real life, ignores the existence of time constraints and the lack of single decision-makers with fixed values.
Incrementalism	Policy proceeds and should proceed by being boundedly rational and making small incremental changes to existing policy.	Does not explain radical shifts in policy well and is not clear that better policy develops from incremental policymaking.
Institutionalism	Focuses analysis on the role of the institution (including its rules, regulations and informal culture) in influencing the actions of actors.	May downplay the actions of individuals and does not explain how and why institutions develop in the first place.
Ideas and policy paradigms	Ideas frame the way policy actors make sense of the world and shifts in policy paradigms may result in different levels of policy change.	Ideas are ill-defined and often have multiple origins, making them difficult to study. Whether ideas exert a causal force is difficult to establish.
Advocacy coalition framework	Networks of policy actors share an understanding of the policy issue and this allows them to work together to influence policy development. The core beliefs are difficult to change but when they do, marked policy change can occur.	Often viewed as being better at explaining policy stability than change. Poor at predicting policy change and largely used for explanation afterwards.
Punctuated-equilibrium theory	Most areas of policy exhibit relatively little change (i.e. are in equilibrium) but a small number of issues become hot topics and undergo punctuation. External events, crises, venue shopping or changes in framing may lead to punctuation.	Better at explaining the dynamics of policy change but less strong at explaining the choice of policy response; often requires very long studies and may offer little explanatory value during equilibria.
Kingdon's multiple streams	Three streams operate largely independently: the problem (an issue seen as requiring action), policy (a feasible solution is available), and politics (favourable political climate). Streams may be coupled by policy entrepreneurs.	The extent that the three streams operate independently is disputed and the politics stream can be viewed as under-theorised.
Multi-level governance	Suggests there is a move from government to governance (with increased involvement of actors outside traditional government) and increasing layers of governmental institutions.	Does not provide an explanation of the policy process in itself but rather draws analytical focus to a specific modern European context.

2.4 Devolution and policy styles

The research presented in this thesis has been carried out during a period of ongoing institutional change in the political institutions of the UK. An understanding of the devolution process, particularly in terms of its influence on Scotland (which has marked implications for Scottish alcohol policy), and associated academic literature is therefore necessary.

2.4.1 Devolution

Historically, Scotland has been a separate nation within the UK but England and Scotland have had a shared Parliament in Westminster since the Acts of Union in 1707 (Cairney 2011b) so Scotland is often considered as part of the UK in policy terms. However, there were important differences between Scotland and the rest of the UK even prior to political devolution in 1999, including a different legal framework and education system and for much of this time, the existence of a separate Scottish Office with responsibility for the implementation of UK policies in a Scottish context (McGarvey and Cairney 2008).

The political union between Scotland and England was, for the first half of the twentieth century, supported by broadly similar electoral preferences (McCrone 2006). However, the Conservative-led UK Governments from 1979-1997 lacked Scottish political support, signalling an alleged ‘democratic deficit’ in Scotland (McCrone 1991; McCrone 2006) (although it is worth noting that England’s party political viewpoint is also divided geographically, most obviously between the North and South of England). This situation was exacerbated by the widespread belief that the policies being pursued by the UK Government during this period were having a particularly deleterious effect on Scotland (Collins and McCartney 2011); a legacy which is evident in the subsequently poor performance of the Conservative party in Scotland (for example, securing only one Scottish seat in the 2010 UK general election). Since this period, McCrone has argued that a political discourse has emerged in which “Scottishness is significantly linked to left-wing values” and a greater support for state intervention (2006, pg 34).

Against this backdrop, the UK election of a Labour Government (under Tony Blair) in 1997 promised a referendum concerning the introduction of a devolved Scottish Parliament (McGarvey and Cairney 2008; Cairney 2011b). Having achieved the necessary political

support, the first Scottish elections were held in 1999. Labour initially dominated, forming two consecutive coalition Governments with the Liberal Democrats in 1999-2003 and 2003-2007. Then from 2007-2011, the centre-left Scottish National Party (SNP) ran a minority Government and, in 2011, the SNP unexpectedly achieved Scotland's first majority Government. Under the Labour-Liberal Democrat coalitions, the administration in Scotland was referred to as the 'Scottish Executive', acknowledging its subordinate role to Westminster, but the SNP rebranded it the 'Scottish Government' in 2007. Whilst significant policy divergence was not necessarily anticipated while Labour remained the dominant party at UK and Scottish levels (Hopkin and Bradbury 2006), the SNP is a left-leaning, pro-independence party which might be expected to seek policy divergence from the rest of the UK to help highlight differences between Scottish and English interests, as well as its distinctiveness as a party and its ability to govern (Smith and Hellowell 2012).

The relationship between the Scottish and UK Parliaments is complicated by the fact that only some policy areas are 'devolved' to Scotland (Cairney 2011b). Health was one of the most important policy areas to be devolved to Scotland (alongside education and social care). Table 2.2 summarises responsibility for different policy areas and illustrates the potential for responsibility to be unclear, with policy areas potentially lying either with the UK Parliament or European institutions rather than Scottish Parliament.

Table 2.2: Responsibility for different policy areas in Scotland

Policy areas reserved	Blurry boundaries	Policy areas devolved
International relations Defence, National security Fiscal and monetary policy Immigration and nationality Drugs and firearms Regulation of elections Employment Company law Consumer Protection Social Security Regulation of professions The Civil Service Energy, Nuclear safety Air transport, Road safety Gambling Equality Broadcasting, Copyright	UK-Scotland: Industrial Policy Higher Education Fuel Poverty Child Poverty Smoking Ban Malawi NHS Compensation New Nuclear Plants Cross-cutting themes: New Deal 2007 Election review Scotland-Europe: Common Agricultural Policy Common Fisheries Policy EU Environment Directives Medical Contracts	Health Education and training Economic development Local government Law and home affairs Police and prisons Fire and ambulance services Social work Housing and planning Transport Environment Agriculture Fisheries Forestry Sport The arts Devolved research, statistics

Content of table adapted from (Cairney 2011b)

Following the establishment of the Scottish Parliament, Scotland has pursued high profile divergent policies in some areas, including the abolition of tuition fees for Scottish students attending Scottish higher education institutions and the provision of free personal care for the elderly. Perhaps most pertinently in terms of public health policymaking, Scotland was the first country in the UK to pass smoke-free in public places legislation and it took an innovative route to doing so (Cairney 2009). While the stated aim of the legislation in the Republic of Ireland, which occurred shortly before the Scottish legislation, was to protect the health of employees in workplaces (including pubs, bars and restaurants), employment regulation remained a matter reserved to the Westminster Parliament (Cairney 2007b). Therefore the Scottish smoke-free legislation was introduced on public health, rather than employee health grounds, demonstrating the potentially creative approach of policymaking in a devolved context. England subsequently introduced its own smoke-free legislation two years later on the basis of protecting the health of those working in public places.

Lastly, it is worth noting that it is fruitful to view devolution as a *process* rather than an event (McGarvey and Cairney 2008; Cairney 2011b). This suggests that devolved and reserved areas should not be viewed as static but rather subject to ongoing negotiation and change between the different institutions. Furthermore, the relationships between policymaking institutions (such as the Scottish Parliament, UK Parliament and European Commission) are the subject of ongoing evolution – a point raised by the work of Hajer (2003) earlier.

2.4.2 Policy styles

A prominent theme in the academic literature on the devolution process has been the potential for the operation of a ‘new politics’ following devolution. This debate usually refers to the ‘policy style’ which “simply means the way that governments make and implement policy” (Cairney 2008, pg 350). In preparation for devolution, several key political players (including the inaugural First Minister, Donald Dewar) called for a new Scottish policy style, to replace the centralised authoritarian approach to policymaking which the Westminster model was presented as (Hassan and Warhurst 2001).

Three components of the putative Scottish policy style have been identified (Cairney 2008; McGarvey and Cairney 2008; Cairney 2011b). First, the architects of the Scottish Parliament established a proportional representation system of parliament, intentionally designed to limit the potential for ‘majoritarian’ governments, in contrast to the UK level. This was seen to minimise the risk of a move to independence which might occur with the election of a majority SNP government. Second, and related, a stated intention of the new Scottish Parliamentary system was for political parties to operate in a more consensual manner. This was reflected in the design of the Scottish Parliament where the main chamber is a semicircle, in contrast to the separate sides facing each other for the government and the opposition in Westminster. The third component of the new devolution style was a more engaged and responsive politics with the hope that there would be greater engagement with civil society – clearly echoing the move from government to governance as described earlier (see section 2.3.8).

The extent that devolution has in reality resulted in a new style of politics continues to be debated but in general, the differences in style between the Scottish Parliament and Westminster appear to be a matter of degree rather than substantial divergence (McGarvey and Cairney 2008; Cairney 2011b). One area where Scottish institutions do appear different is their responsiveness and accessibility to those outside government. Following devolution, there is evidence to suggest that civil servants have been particularly willing to engage with non-governmental actors, thought to be at least in part due to a shortage of civil service capacity (Greer 2005; Cairney 2011a). Another factor identified in the political science literature that has arguably favoured the accessibility of Scottish institutions is the small size of the policymaking communities within Scotland. It has also been argued that individuals involved in Scottish politics are able to develop better relationships with each other as they are likely to work together over many years, even if specific posts change. There are therefore stronger incentives for ensuring consultation.

The more recent academic literature on the Scottish policy style has theorised three factors, inspired by Kingdon’s work, that are potentially important in explaining policy divergence between devolved territories: ‘powers’ (an institution’s ability to make and implement decisions), ‘politics’ (especially party political considerations), and the ‘policies’ being promoted by the policy communities associated with a specific institution

(Greer and Jarman 2009). The smaller size of the Scottish policymaking community is of particular relevance in relation to this last factor.

In addition to the complexities raised by devolved policy styles, both the Scottish and UK Westminster Parliaments are also subject to constraints imposed by supranational organisations and agreements (e.g. European Union policy and international trade agreements). Historically, many of these institutions have evolved from negotiations between nation states to foster ‘free trade’, that is to help increase trade between countries by removing potential barriers to the free movement of goods and services (Bomberg, Peterson et al. 2008). Therefore supra-national organisations are arguably characterised by a distinct policy style. While a discussion of the pros and cons of such an international trade system lies outside the scope of this thesis, it is worth noting that concerns have been expressed that a primary focus on trade may result in policies that harm other important policy areas (such as health or environmental concerns) (Smith, Lee et al. 2009). Over time, many institutions (and especially the European Union) have engaged in a broader scope of policy areas including human rights, monetary policy as well as health, thus raising the possibility that the dominance of economic interests may have lessened (Bomberg, Peterson et al. 2008). The limited empirical evidence is somewhat contradictory at present, suggesting that within the European Union trade interests remain influential but are by no means universally dominant (Baumberg and Anderson 2008; Smith, Fooks et al. 2010).

2.5 Evidence and policy

So far in this chapter, key aspects of the literature on public health, the policy process and devolution in Scotland have been presented and summarised. Next, it is worth examining the relationship between evidence and the policy process and in particular, the different influences evidence may have on the policy process.

2.5.1 *Meanings of research utilisation*

In the field of social science, there have been repeated calls over several decades, particularly within the USA, for evidence (including evaluations of policy interventions) to

be both created and subsequently used in policy (for example, Campbell 1969). However, there was a sense of disappointment that policy continued to ignore social science research in the 1970s, spurring research to determine why the findings of research evidence did not appear to result in direct policy change. The work of Weiss has been particularly influential and provides a helpful and still widely used framework (Nutley, Davies et al. 2000) for understanding the different ways evidence can influence the policy process – summarised in Table 2.3 below.

Table 2.3: Different models for the utilisation of evidence in the policy process

Model of evidence use	Explanation
Knowledge driven	The development of knowledge results in the creation of new applications and therefore policies. For example, biochemical research leads to the production of the oral contraceptive pill and new policies develop as a result
Problem-solving	Decision-makers face a problem and draw upon evidence to help solve that problem (either by commissioning research or encountering existing research)
Interactive	A back-and-forth dialogue occurs between those engaged in policy and a range of different communities, including researchers. Research forms one input of many into the process and decisions are not or cannot be delayed until the research is completed.
Political	Research is drawn upon by those involved in the policy process to strengthen their existing position
Tactical	Research is used not for its findings but typically, to demonstrate something is being done or to delay difficult decision-making
Enlightenment	The conceptual and theoretical perspectives derived from evidence change how those involved in the decision-making process think about an issue

Based upon material from (Weiss 1979).

It is worth highlighting a couple of points in relation to the above table. First, the ‘linear’ (also referred to as ‘direct’ or ‘instrumental’) forms of relationships between evidence and policy, namely the knowledge-driven and problem-solving models, appear to be less common than other forms of influence (Nutley, Walter et al. 2007). The latter problem-solving models have been viewed as particularly desirable and ‘rational’ in some of the early policy studies literature (Bulmer 1982). However, empirical research suggests that the enlightenment function of evidence has the greatest impact over the longer-term on the policy process (Weiss 1977). Importantly, this ‘conceptual’ use of evidence does not arise in an intentional way and the ultimate use of the research may result in a variety of positive or negative unanticipated impacts. While the conceptual use of evidence is empirically most dominant, this does not mean that it is necessarily desirable, with some advocates of evidence-based policy arguing that a more direct function for research

evidence would be normatively preferable (Sheldon, Guyatt et al. 1998; Brownson, Gurney et al. 1999).

2.5.2 Evidence as rhetoric

A separate emerging set of literature emphasising the importance of ‘rhetoric’ provides an alternative perspective that has been less explicitly considered within the public health field until relatively recently (Greenhalgh and Russell 2006; Russell, Greenhalgh et al. 2008). Rather than seeing the purpose of evidence as informing attempts to maximise utility, this perspective seeks to use evidence as also a means of helping clarify competing values which different policy interests have (Majone 1989). As Russell and colleagues explain in relation to health:

The academic study of argumentation (that is, of reasoning and persuasion) is an interdisciplinary field, attracting attention from philosophers, logicians, linguists, legal scholars, political scientists and sociologists. The foundations of argumentation theory were laid by Aristotle, who defined three dimensions of scholarship – analytic (logical argument using premises based on certain knowledge) dialectic (debating to argue for and against a standpoint) and rhetoric (the use of persuasion to influence the thought and behaviour of one’s audience). (Russell, Greenhalgh et al. 2008, pg 41-2)

The use of evidence is therefore presented as helping to inform debates about values. Rather than seeing the use of evidence as purely symbolic (as might be understood by the political use of evidence in Weiss’s framework), rhetoric is seen as an appropriate and core part of the policy process. This perspective makes the normative case that fundamentally policymaking should be a process of argumentation, where debate between a plurality of viewpoints should result in the development of a consensus as some actors change their positions in response to persuasive arguments (Habermas and McCarthy 1985). Importantly, such debates are rarely purely technical matters but often incorporate technical or highly scientific aspects:

When science, technology, and public policy intersect, different attitudes, perspectives and rules of argument come into sharp conflict. Scientific criteria of truth clash with legal standards of evidence and with political notions of what constitutes sufficient ground for action. Factual conclusions are not easily separable

from considerations having to do with the plausibility of the opponent's assumptions and his selection of the evidence or choice of methodology. And because there seems to be no objective way of checking the conclusions of analysis, the credibility of the expert becomes as important as his competence.
(Majone 1989)

The academic literature on the importance of ideas and policy paradigms discussed earlier (see section 2.3.4) is relevant here since both perspectives emphasise the role of language and discourse in influencing the policy process. The work of Deborah Stone is particularly noteworthy in this regard since it explicitly relates the definition of policy issues by drawing upon specific causal ideas through persuasive rhetoric to policymaking:

Problem definition is a process of image making, where the images have to do with fundamentally attributing cause, blame and responsibility. Conditions, difficulties or issues thus do not have inherent properties that make them more or less likely to be seen as problems or to be expanded. Rather, political actors *deliberately portray* them in ways calculated to gain support for their side. [...] In politics, causal stories are neither right nor wrong, nor are they mutually exclusive. (Stone 1989)
[emphasis in original]

2.5.3 Actor-network theory

Actor-network theory (ANT) is derived from studies on the sociology of science and posits that to understand the influence of research it is necessary to trace how both human and non-human actors interact to create action and knowledge (Latour 2005). By focusing on non-human objects as actors, it allows for objects, such as research documents, to change the meanings of research findings rather than merely passively *transfer* information (i.e. non-human actors are invested with non-intentional agency to *translate* and not just reproduce meanings). In contrast to more traditional sociological approaches, ANT argues that social structures only exist as a result of the previous actions of actors (in the broad sense referred to above) and so suggests that a detailed anthropological approach is necessary. ANT perspectives have been used in several classical studies of the relationship between evidence and policy, including in relation to public health policy (for example, Bartley 1988), because it provides an explicit focus on the processes by which evidence impacts on the policy process.

An ANT perspective has more recently informed the work of Smith (2007) who has drawn upon ANT to identify three different journeys that ideas on health inequalities may undergo when travelling between research and policy: ‘successful’ journeys result in ideas being fully incorporated into policy (e.g. health behaviours as a cause of health inequalities); ‘partial’ journeys occur if research influences policy rhetoric noticeably more than policy action (e.g. material-structural theories on health inequalities resulting in rhetoric alluding to the importance of tackling socio-economic determinants with little accompanying action); and ‘fractured’ journeys describe situations in which ideas are notably transformed to the extent that only particular aspects of research-informed ideas are visible in policy, with others having been lost along the way. In relation to fractured journeys, Wilkinson’s research on health inequalities has been presented as an example since it has been understood among policy actors to imply that there is a need to create interventions to improve social capital instead of the main implications of his research being the need to tackle income inequalities. The use of ANT led Smith to focus on research findings as ‘actors’ within the policy process which allow for the translation and not just transfer of research meanings to be better studied. This literature therefore highlights how and why the articulation of evidence within policy contexts may differ considerably from researchers’ own interpretations.

2.6 Evidence-based medicine

A NEW [sic] paradigm for medical practice is emerging. Evidence-based medicine de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making and stresses the examination of evidence from clinical research. Evidence-based medicine requires new skills of the physician, including efficient literature searching and the application of formal rules of evidence evaluating the clinical literature. (Evidence-Based Medicine Working Group 1992, pg 2420)

There has been longstanding interest in the use of evidence to inform public policy (Bulmer 1982). However, the evidence-based medicine movement has undoubtedly influenced recent discourses on evidence-based policy, particularly within public health (Bulmer, Coates et al. 2007) and is therefore worthy of specific consideration. As

indicated above, the movement (which has been inspired by the pioneering work of Archie Cochrane amongst others (Starr, Chalmers et al. 2009)) seeks to systematically apply research evidence to the clinical practice of medicine. Underpinning this perspective, is a view of evidence derived from epidemiology – the science that is traditionally seen as underpinning public health (Holland, Olsen et al. 2007). A brief introduction to epidemiology is necessary prior to discussing how evidence has been drawn upon to inform clinical decision-making and more recently, public health decision-making. Some key critiques of taking an evidence-based approach to public health will then be reviewed.

2.6.1 Epidemiology

Epidemiology is the “study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems” (Porta and Last 2008). By studying the pattern and distribution of disease and its determinants in a population, it helps identify actions which may improve population health (Bhopal 2008).

Causal thinking is central to epidemiology as it facilitates the development of interventions to disrupt the processes leading to suboptimal health states. Epidemiologists have developed a range of study designs which can be used to help make causal judgements. This form of epidemiological thinking has been drawn upon by the evidence-based medicine movement to create a well-known ‘hierarchy of evidence’ (see Figure 2.1) which explicitly acknowledges that different study designs are susceptible to different biases and is typically used to help assess the effectiveness of interventions.

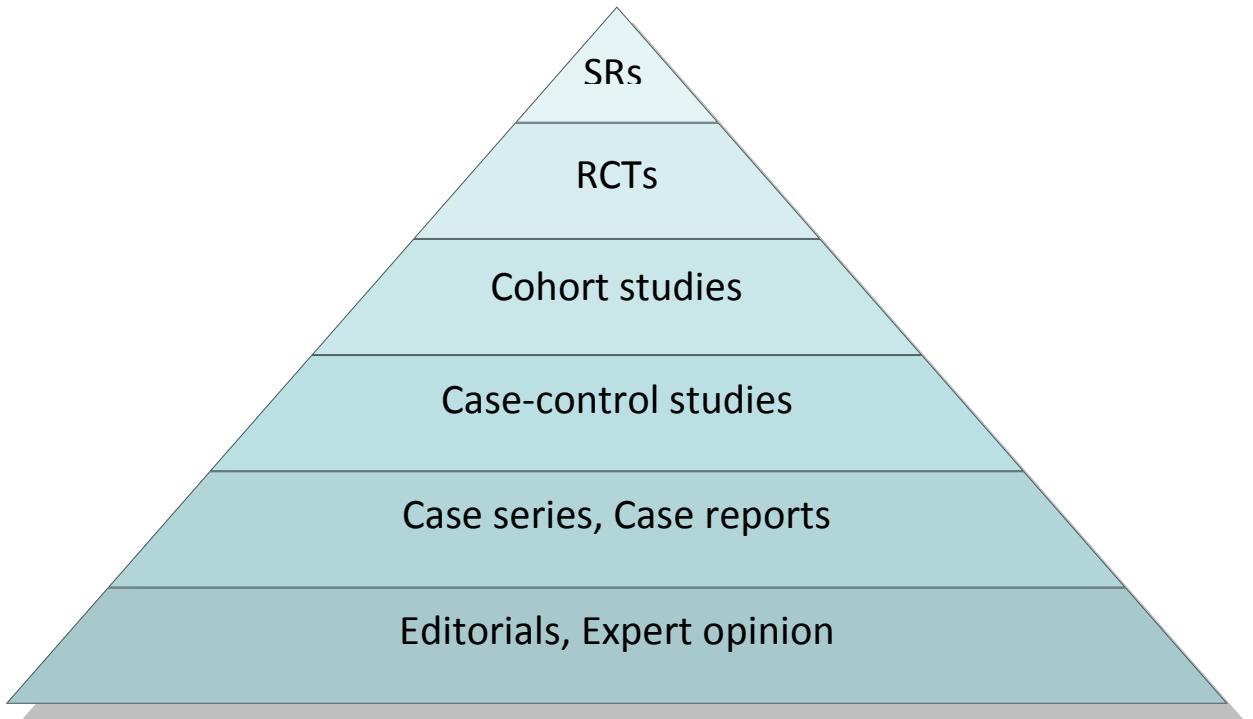


Figure 2.1: A hierarchy of evidence

Key: RCTs= Randomised Controlled Trials ; SRs = Systematic Reviews

The evidence-based medicine movement has used hierarchies (such as the one above) to facilitate clinical decision-making on the basis of the highest quality evidence for a causal relationship. A helpful way of conceptualising causality in epidemiology is the ‘potential outcomes’ or ‘counterfactual’ framework (Rothman, Greenland et al. 2008). The effect of an exposure of interest under such a framework is the change in health status that occurs when the observed effects of the exposure are compared to the hypothetical unexposed case (i.e. the potential outcome that would occur in the alternative unobservable situation). The higher up the evidence pyramid, the greater is the study design’s ability to contribute to this causal assessment of the effect of an exposure (usually an intervention in the case of evidence-based medicine). At the heart of establishing causation is the ability to estimate the unobserved unexposed scenario to allow the causal effect to be estimated. Randomised controlled trials provide strong evidence for causal relationships between the exposure and the outcome because by randomly assigning the units of comparison (most often individuals) to the exposed and unexposed groups, this allows the counterfactual scenario to be estimated (i.e. what would the outcomes of the

exposed group have been if they had remained unexposed). In contrast, weaker study designs are more susceptible to differences between the groups being compared other than the exposure of interest resulting in the causal effect being mis-estimated.

It is worth noting that the hierarchy of evidence does not capture all aspects of study validity that may be of interest to public health and healthcare. An important distinction is between internal and external validity:

Internal validity is the degree to which the results of a study are correct for the sample of people being studied. External validity (generalisability) is the degree to which the study results hold true for a population beyond the subjects in the study or in other settings. [emphases in original] (Rychetnik, Hawe et al. 2004, pg 539)

Therefore the hierarchy of evidence focuses on internal validity but does not consider external validity.

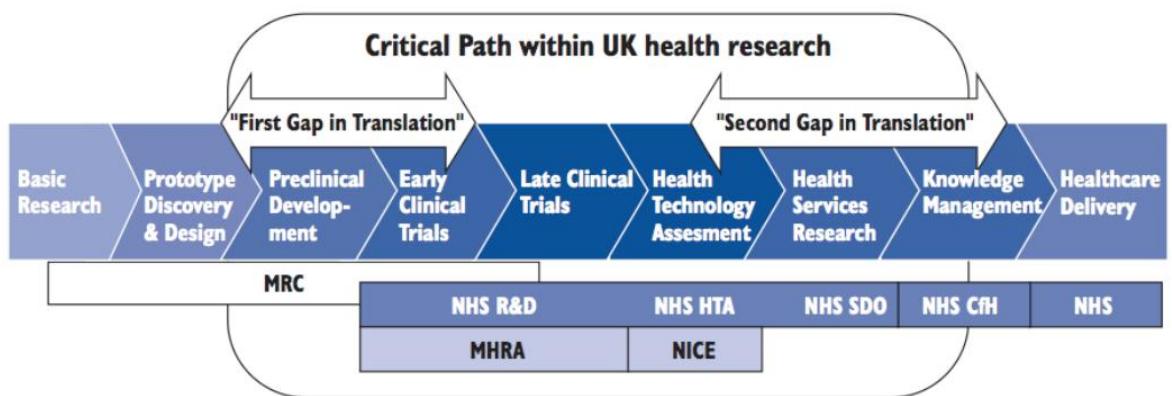
Synthesis of primary research data through systematic reviews (particularly of randomised controlled trials) has been core to the evidence-based medicine movement (Evidence-Based Medicine Working Group 1992), hence justifying systematic reviews' position at the top of the evidence hierarchy. A wealth of knowledge has accumulated by making use of the principles of systematic searching and appraisal of the literature, as illustrated by the Cochrane and Campbell Libraries on health and social interventions respectively (Higgins and Green 2011). The systematic reviews typified by these organisations aim to minimise bias through the use of transparent methods (ideally with a publicly available protocol), exhaustive searches of the available literature on a narrowly defined question and privileging studies with the greatest internal validity in the synthesis process. In instances where included studies are highly comparable (i.e. show little heterogeneity), this approach allows pooling of outcomes across studies through statistical meta-analysis. The benefits of this approach to systematic reviewing are widely acknowledged in the medical and other literature, with the example of thrombolysis for acute myocardial infarction showing how effective treatments could have been identified far earlier, thus avoiding unnecessary research duplication and suboptimal care (Lau, Antman et al. 1992).

The availability of high-quality evidence, and in particular systematic reviews, has facilitated the production of evidence-based guidelines to assist clinicians to provide high

quality medical care (Guyatt, Oxman et al. 2008). Within the UK, organisations such as the National Institute of Health and Clinical Excellence (NICE) in England and the Scottish Intercollegiate Guidelines Network (SIGN) have adopted systematic review methods to determine the most effective treatments, and more recently cost-effectiveness analyses has been used to determine if such treatments are cost-effective (NICE 2009a; SIGN 2011).

Great progress in healthcare has been achieved as a result of the evidence-based medicine movement, with these benefits inspiring recent calls for a comparable evidence-based policy movement, which can be viewed as seeking to intentionally transform the policy process (Macintyre 2003; Macintyre 2010; Haynes, Service et al. 2013). Underlying this approach to incorporating evidence into the decision-making process is a relatively linear view of the relationship between evidence and policy. This is illustrated by the relationship between various forms of evidence and medical practice that was described in the UK Government's review of health research funding (Figure 2.2).

Figure 2.2: Pathway for the translation of health research into healthcare improvement



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2.7 Evidence-based public health

Following the rise of the evidence-based medicine movement, there has been increasing interest in pursuing evidence-based public health (Brownson, Gurney et al. 1999; Heller and Page 2002). While the discipline of evidence-based medicine has been underpinned by clinical epidemiology, the underpinning principles for evidence-based public health are more contested. While epidemiology plays a key role, there is widespread agreement that broader forms of evidence are needed and this view is becoming more accepted within the evidence-based medicine movement too. This section will start by scoping the field of public health epidemiology, in particular introducing the importance of adopting a population perspective as illustrated by the work of Geoffrey Rose. It will then go on to review some important critiques of the evidence-based public health endeavour.

2.7.1 Public health epidemiology

The recent practice of epidemiology has made important contributions to improving population health but is also the subject of ongoing critique (Pearce 1996; Susser and Susser 1996). Modern epidemiology has been particularly successful in identifying the causes of disease by identifying the role of individual risk factors – such as smoking, alcohol use, physical activity and diet – in the development of a multitude of diseases. This has helped in the development of more effective clinical practice, health information and screening programmes. As noted above, evidence-based medicine, building on epidemiological insights has improved the quality of medical care.

However, it has been argued that this ‘clinical epidemiology’, primarily serving improvements in healthcare delivery, has resulted in the neglect of ‘public health epidemiology’ – the latter taking a public health approach by focusing on determining and addressing the causes of disease at a population rather than individual-level (Mackenbach 1995; McMichael 1999; Beaglehole and Magnus 2002).

A key insight from epidemiological thinking is that the causes of disease at a population-level may not be the same as the causes of disease within an individual (Bhopal 2008). A sociological perspective as developed by Durkheim can be viewed as echoing this epidemiological perspective (Bryman 2008). In epidemiology, studies that compare risk across a single population may identify important individual-level factors as the cause of a

given outcome of interest (Bhopal 2008). For example, cohort studies investigating the risk factors for obesity in a single population may identify specific genetic variations within the population as of fundamental importance. In contrast, studies comparing populations (either over time or place) may identify environmental factors as the key explanatory factors of variation between populations. Importantly, these environmental factors may not be identifiable if studying a single population which are all exposed to a common risk factor, even if the effect size of that risk factor is very large. In the case of obesity, changes in society that impact on everyone (or nearly everyone), such as a reduction in walkability of built environments, will be relatively difficult to identify as important determinants of health if studies only investigate variations within a single population.

One influential public health epidemiology perspective was provided by the work of Geoffrey Rose who described a range of different approaches to improving the health of populations (Rose 1992). He argued that the most appropriate approach to tackling a given disease depends on the distribution of risk across the population. Where risk is concentrated amongst a small minority of the population, interventions that target those individuals may be the most appropriate method of improving population health. This approach minimises the adverse impacts of the intervention on the low-risk population and is likely to result in a more efficient use of scarce resources. In contrast, when risk follows a normal distribution across the population, a more appropriate strategy to improve population health may be to reduce risk across the entire distribution. This requires knowledge of the determinants of differences in risk between populations, rather than between individuals. Therefore the identification of causes at both individual and population-level may result in different interventions, both of which may result in important health gains. It is important to note that Rose's strategy does not imply that population-based interventions will necessarily result in greater health gains than individual-based interventions (Manuel, Lim et al. 2006), but rather an understanding of the distribution of risk is required to facilitate a choice of approach.

In addition to concerns that epidemiology has become overly focused on the individual rather than the population, it has also been viewed by some as disconnected from its application to improve health. One perceived manifestation of this is an undue focus on the description and, to a lesser extent, understanding of public health problems with the

identification of solutions being relatively neglected (Pearce 1996; Macintyre, Chalmers et al. 2001; Batty 2011). This has become an increasingly acknowledged issue as there is a growing appreciation that epidemiological knowledge of causes does not automatically result in effective public health interventions, with a need for the development and evaluation of interventions (Petticrew, Platt et al. 2008; UK CRC 2008).

Application of the evidence-based medicine paradigm to public health faces a number of challenges arising from the limits of current public health epidemiology. An important gap appears to be a lack of knowledge about the effects of interventions, with evidence particularly lacking on the effects of changes in the social determinants of health (Macintyre, Chalmers et al. 2001; House of Commons Health Committee 2009c). Clearly, the state of public health epidemiology places limits on the potential for pursuing evidence-based public health, but more fundamental concerns have been raised with the evidence-based public health project.

2.7.2 Methodological difficulties for evidence-based public health

Several methodological concerns have been raised about the potential for evidence to inform public health in the purely instrumental manner implied by the evidence-based medicine model. First, concerns exist around the capacity to conduct studies with similar levels of internal validity as are traditional within clinical medicine. As noted earlier, randomised controlled trials have been seen as the optimal method of primary research to make causal inferences relating exposures to outcomes of interest. There have been ongoing questions regarding the feasibility of randomised trials of public health interventions, particularly in relation to the social determinants of health, where randomisation has often been regarded as unethical or politically difficult (Macintyre 2010). However, randomised trials of social interventions are often possible and therefore need to be given serious consideration (House of Commons Health Committee 2009c; Macintyre 2010), with cluster randomised trials being helpful when the unit of allocation is a group of individuals (Torgerson and Torgerson 2008). However, there are some important areas of public health where the method cannot be applied. Under such circumstances, alternative forms of evidence may help inform public health decision-making (Petticrew and Roberts 2003). This greater heterogeneity in the forms of public health evidence means that decision-making on the basis of a relatively transparent hierarchy of evidence is difficult. However, it should be noted that these criticisms (albeit

to a lesser extent) have also been applied to the evidence-based medicine movement itself (Smith and Pell 2003), resulting in the acknowledgement that diverse forms of evidence are needed to inform clinical practice (NICE 2009a; Owens, Lohr et al. 2010).

It is nevertheless the case that public health policy interventions may be more likely to require broader forms of evidence which can be difficult to incorporate into the decision-making process (NICE 2009b). Therefore study designs such as evaluations of natural experiments may provide particularly valuable evidence when changes in exposure occur across the entire population but establishing their internal validity can be challenging (Sanderson, Tatt et al. 2007; Bonell, Hargreaves et al. 2011; Craig, Cooper et al. 2011). Population-based interventions may have very large impacts on population health (for example, Pell, Haw et al. 2008). Therefore a focus on only internal validity, while neglecting the magnitude of impact on population health, may result in a neglect of population-based interventions that could result in the greatest potential population health gains (Schwartz and Carpenter 1999; Ogilvie, Egan et al. 2005; Simmons, Ogilvie et al. 2009). In other words, a tension sometimes exists between the potential to produce high quality evidence of effectiveness and the potential magnitude of population health benefit.

The conduct of systematic reviews faces a number of particular difficulties when applied to public health interventions compared to the systematic reviews of medical interventions. First, the process of searching for evidence can be more difficult than for clinical interventions (Ogilvie, Hamilton et al. 2005). This is made more problematic by the heterogeneity of evidence sometimes required for public health (Gomersall 2007). Second, and as alluded to above, the quality appraisal that helps reviewers to distinguish evidence based on its internal validity can be difficult since the relative potential for bias of different studies can be difficult to ascertain (Sanderson, Tatt et al. 2007; Petticrew and Roberts 2009). Third, making recommendations on the basis of synthesised research evidence can be more problematic than for clinical interventions for a number of reasons including a lack of evidence, varying study findings (which may arise as a result of differences in study quality that are difficult to assess, contextual differences or intervention-context interactions) and the need to consider a broader range of outcomes (including non-health outcomes) (Petticrew 2003). These limitations should not be equated with systematic reviews having no utility in public health policy. For example, in

keeping with systematic reviews of medical interventions, systematic reviews of public health policy may provide important evidence of harmful (as well as positive) effects of interventions (Petticrew 2003).

Public health evidence brings into sharp focus considerations of external validity, which were historically less considered within the evidence-based medicine movement (Dobrow, Goel et al. 2004; Dobrow, Goel et al. 2006). While randomised controlled trials (and other outcome-focused evaluations) provide high quality evidence of the average effectiveness of a treatment, they have been critiqued for not providing evidence about which participants benefited and in what context (Pawson 2006). Thus, a trial or evaluation may show that a particular intervention has good ‘efficacy’ but when applied outside the carefully controlled environment of a clinical trial, the ‘effectiveness’ may differ. It has been argued that the importance of context for public health practice is even greater than in clinical practice (Nutbeam 1999b; Nutbeam 1999a).

Interventions targeting the social determinants of health through healthy public policy can face particular difficulties when attempting to transfer an intervention from one setting to another (Pawson and Tilley 1997). First, public policy interventions address problems which may have different underlying determinants in different contexts but which manifest in the same observed problem. In particular, the causal mechanisms through which interventions target the broader determinants of health may be longer and therefore be potentially more variable between settings. An intervention that is effective in one setting may therefore not address the right determinants in another setting. For example, actions to address health inequalities that operate through parenting programmes may have lower effectiveness in a country with high levels of maternal education and a comprehensive health visitor service. Second, just as clinical treatments often have differing acceptability between patients, public policy interventions often have differing acceptability between populations as a result of differences in cultural norms (Stone 1997). Third, the feasibility for implementing an intervention may differ between contexts (Hawe, Shiell et al. 2004). When compared to public policy, health care may be delivered in a more standardised manner (but notably even then, not rigidly standardised), so transferring public policy interventions from one setting to another may be undermined by the feasibility of implementation. For example, efforts to effectively address health inequalities through policy interventions delivered via

the health service may be impossible in the absence of universal access to health services. Finally, social interventions may be better theorised as operating in a complex system. Theorising public health interventions within a complex system can be viewed as a fundamental challenge to evidence-based policy (Byrne 2011). In order to understand these debates, an appreciation of complex systems is necessary.

2.7.3 Implications of complexity theory

Complexity thinking takes insights from mathematics and physics arising from chaos theory and is being increasingly applied to public health. Underpinning complexity theory is the principle that a system may be irreducible to its parts so that an understanding of the whole may result in different insights from understanding the individual components of a complex system (Weisbuch and Solomon 2007). Application to public health can be considered in relation to a complexity-oriented theorisation of public health problems (which is sometimes subsumed in the description of ‘wicked’ issues (Petticrew, Tugwell et al. 2009)) and conceptualising interventions as complex. The former allows public health issues to be considered in relation to different types of systems:

Complex systems are highly composite ones, built up from very large numbers of mutually interacting subunits (that are often composites themselves) whose repeated interactions result in rich, collective behaviour that feeds back into the behaviour of the individual parts. Chaotic systems can have very few interacting subunits, but they interact in such a way as to produce very intricate dynamics. Simple systems have very few parts that behave according to very simple laws. Complicated systems can have very many parts too, but they play specific functional roles and are guided by very simple rules. [emphases in original] (Rickles, Hawe et al. 2007, pg 933)

Of these systems, the easiest to understand is the simple system whereby the few components of the system are related in a simple way e.g. the balls on a snooker table can be conceptualised as a simple system that obey Newton’s classical laws of physics. Meanwhile, complicated systems are differentiated by the number of interacting components but the relationships between components operate in a fundamentally similar way to simple systems (Rickles, Hawe et al. 2007). In contrast, complex systems are characterised by a number of features: sensitivity to initial conditions, interactions

between system components and feedback. The last feature incorporates: phase transitions (such that the system may demonstrate stability under some situations but when reaching a critical threshold, experience a shift that is not just a matter of degree but results in a qualitative difference to the operation of the system) and emergence (so that the characteristics observable of the system as a whole cannot be explained by an understanding of the individual components). This view of simple and complex systems shares some features of the debate between individual and population-based perspectives in epidemiology but is nevertheless different, particularly since complex systems thinking explicitly recognises the dynamics and potential intransigence of a system over time.

Another set of literature worth briefly noting is that on complex interventions. Here, the above literature on complex systems is applied to view specific interventions as in themselves complex (usually characterised by the existence of ‘several interacting components’, although noting that the distinction is rarely clear-cut) (Craig, Dieppe et al. 2008). The fact that an intervention is characterised by complexity does not mean that it cannot be evaluated using traditional evaluation methods (including randomised controlled trials to ascertain efficacy). While evaluation of complex interventions does benefit from more explicit consideration of some aspects (such as the importance of investigating the interaction between intervention components and context), it is possible for research based within an evidence-based medicine paradigm to produce studies with high levels of internal validity that assess efficacy of complex interventions.

Theorising public health problems as complex systems raises more fundamental challenges to producing robust evidence (Byrne 2011). For example, from this perspective, a public health intervention may show no effect since the complex system adapts to the intervention until a point is reached when a phase transition occurs (sometimes referred to as a ‘tipping point’ (Gladwell 2006)). Evaluations may therefore suggest that an intervention is ineffective even though it subsequently contributed to a radical improvement in public health. Similarly, an intervention may only be effective in some situations but ineffective (or even cause adverse impacts) in others. Studies, particularly of population-based interventions (where the number of contexts studied is often inevitably limited), may therefore fail to identify which interventions will be effective in which contexts.

Complexity perspectives (which have also been applied to the study of the policy process (for example, Smith and Joyce 2012)) pose important questions for mainstream epidemiology (and other disciplines that seek to provide causal or predictive models of the world based on observational data, including economics) (Hawe, Shiell et al. 2009). There have been repeated calls for the increased incorporation of complexity thinking into new approaches which rely on multidisciplinary working (Joffe and Mindell 2006; Jayasinghe 2011), although empirical examples remain relatively rare. The different forms of evidence and divergence in views about quality of evidence have resulted in debates and refinements to the evidence-based medicine paradigm too (for example, Green and Britten 1998; Tilburt 2008). These active debates and disputes about appropriate evidence and syntheses for decision-making appear particularly visible within public health policy.

2.7.4 The rhetoric for evidence-based public health

Evidence based public health can be defined as a public health endeavour in which there is an informed, explicit, and judicious use of evidence that has been derived from any of a variety of science and social science research and evaluation methods. (Rychetnik, Hawe et al. 2004, pg 538)

Following the ascendancy of evidence-based medicine within clinical practice, there have been similar calls for the systematic application of evidence to the practice of public health (Brownson, Gurney et al. 1999; Macintyre, Chalmers et al. 2001; Macintyre 2003; Briss, Brownson et al. 2004). These calls are echoed by a discourse of ‘evidence-based policy’ within political circles that became prominent under the New Labour government in the UK (Parsons 2002). For example, Tony Blair suggested that, “what counts is what works” in the 1997 Labour Party election manifesto (Labour Party 1997). Rhetoric about the importance of evidence continued after the Party’s election with David Blunkett as Home Office Minister saying:

This Government has given a clear commitment that we will be guided not by dogma but by an open-minded approach to understanding what works and why. This is central to our agenda for modernising government: using information and knowledge much more effectively and creatively at the heart of policy-making and policy delivery. (cited in Wells 2007, pg 22)

However, the Labour Government's health policies were subsequently criticised by a House of Commons Health Select Committee on health inequalities for ignoring important evidence-based policy options and not rigorously evaluating the impact of actions implemented (House of Commons Health Committee 2009c).

The discourse around using evidence for policy appears to have been adopted by the Conservative party too. Andrew Lansley, a Conservative MP, highlighted its importance in 2008, prior to serving as part of a coalition UK Government:

We want an evidence-based policy, and funding which supports success. (Lansley 2008)

In May 2010, a coalition Government took office and the rhetoric advocating evidence-based policy continued. In his speech to the Faculty of Public Health conference in July 2010, Andrew Lansley, the then Secretary of State for Health stated:

Our new approach across public health services, must meet tougher tests of evidence and evaluation [...] We must only support effective interventions that deliver proven benefits. (Lansley 2010)

There therefore appears to have been considerable stated interest in pursuing evidence-based policy within the UK. However, the concept of evidence-based policy has not been accepted uncritically, with numerous arguments made against the pursuit of evidence-based policy. It has been argued that what counts as evidence is key and a focus on certain types of evidence (for example, those with the greatest internal validity) may result in the neglect of more impactful public health approaches (Smith, Ebrahim et al. 2001). Importantly, at the heart of the evidence-based policy movement is a belief that greater certainty in the effects of an intervention will allow improved outcomes to arise. However, Smith and colleagues have argued that the greatest public health benefits have arisen from improvements in infrastructure (such as sanitation) at a time when their effects were relatively unproven. Evidence-based policy is often contrasted with its supposed opposite, policy-based evidence, which is often described in negative terms, as being based on anecdote, opinion and prejudice (for example, Marmot 2004). However, evidence-based policy may not be politically neutral but rather serve to obfuscate the underlying ideological values upon which policy is based, thereby undermining the legitimate role for democratic debate and accountability (Hunter 2003a). In particular, a

focus on evidence may stifle discussion about underlying values informing policy and the important issue of what outcomes evidence assesses (since the evidence base invariably does not consider all issues of interest to all policy stakeholders) (Stone 1997). There is therefore not an academic consensus that evidence-based policy should be aspired to.

An evidence-based policy underpinned by a linear relationship between evidence and policy has also been criticised as unrealistic and unattainable since it neglects the realities of policymaking (Black 2001). In particular, it has been suggested that it ignores the fundamental and immutable constraints of time limitations and the lack of existence of unitary decision-makers within democratic political systems. There have therefore been moves to acknowledge that evidence will rarely form the basis for policymaking but rather only form one input into the policymaking process – a move to ‘evidence-informed’ rather than ‘evidence-based’ policymaking (Bowen and Zwi 2005; Chalkidou, Walley et al. 2008). This position argues that evidence should help inform the policy process but explicitly emphasises that decisions are not ‘based’ upon evidence alone. Policymaking is viewed as more than a mere technical exercise – one which instead revolves around the importance of competing values (Kemm 2006; Sanderson 2006). This evidence-informed viewpoint is arguably the dominant approach in evidence-based medicine too, with clinical practice reflecting judgement as well as research evidence, although the term ‘evidence-informed medicine’ is not often used (Sackett, Rosenberg et al. 1996; Straus and McAlister 2000).

More recently, there have been calls for further moves from ‘evidence-informed’ to ‘intelligent’ policymaking. Under such a framework, the role of evidence is to assist in the learning that policymakers are engaged in during a ‘trial and error’ process (Sanderson 2009; Mackenzie, O’Donnell et al. 2010), a perspective that echoes an incrementalist approach to policy. However, such a position remains controversial (Bond, Craig et al. 2010) within the academe and may mean that evidence that is obtained from research is not generalisable (Greenhalgh, Russell et al. 2011).

2.7.5 Increasing research impact

In keeping with the increased interest in evidence-based and/or evidence-informed policy, there has been considerable research on how best to increase the impact of research on the policy process. As noted earlier, efforts to increase research impact of

evidence on policy are not new and much contemporary work builds on research conducted in the 1970s in response to a sense of disappointment that policy was not being based on social science research (Nutley, Davies et al. 2000).

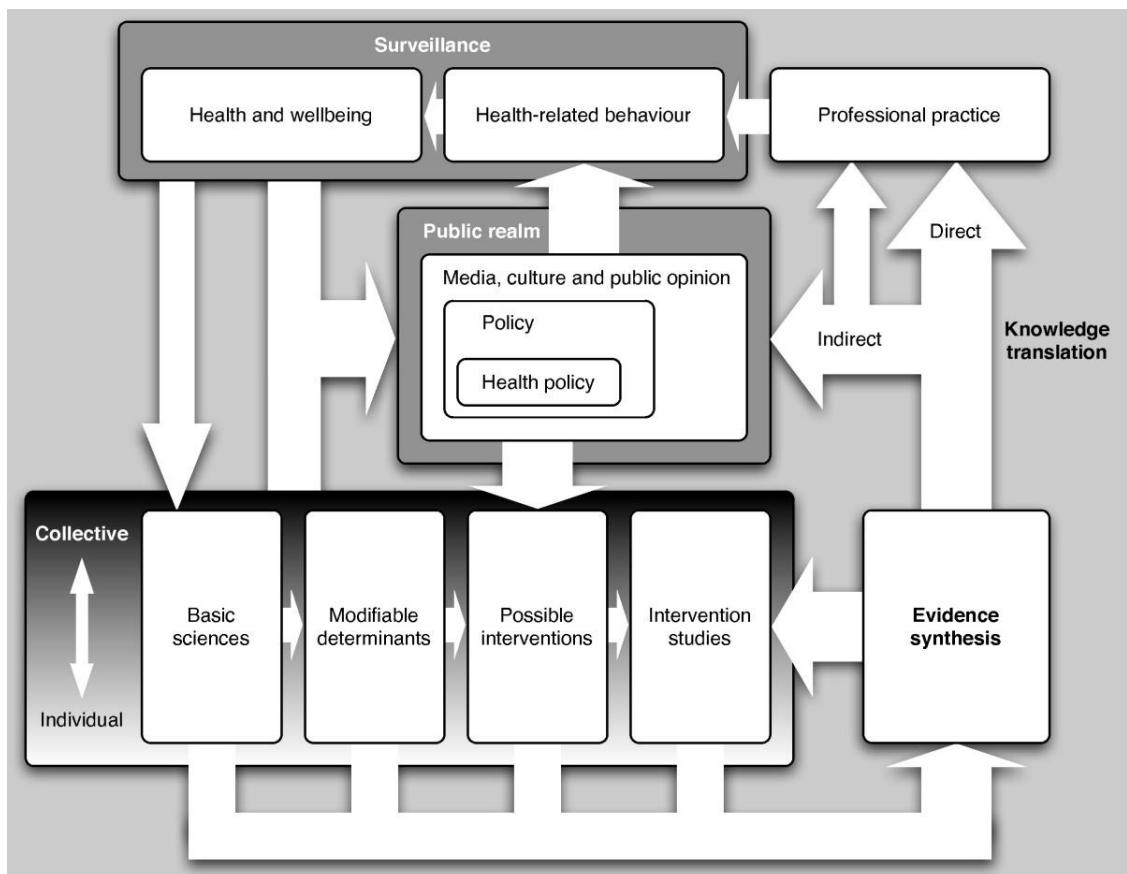
A body of literature builds on the idea that researchers and policymakers inhabit two communities (Caplan 1979). Importantly, Caplan did not just argue that these communities do not come into contact with each other, but rather that a cultural gap exists. However, Caplan's explanation for the lack of influence of evidence on policy has been critiqued for several reasons. First, the model presupposes the existence of two communities whereas it is increasingly acknowledged that several communities exist which contribute to policymaking – for example, professional groups, third sector organisations, think tanks and private sector actors to name a few (Lindquist 1990). In addition, the policy networks literature challenges the premise of two communities since it is argued that often differences in culture operate between policy areas rather than between the two communities of researchers and policymakers (Rhodes 1990). Evidence that there appears to be considerable movement of individuals between jobs in research and policy supports the view that differences in culture are likely to be overemphasised (for example, Smith 2007). Another broad set of criticisms centre on the limited perspective taken to understand 'research utilisation', with the two communities model focusing mainly on instrumental use (which appears to have the least long-term impact on policy).

Many current initiatives to improve research utilisation are underpinned by such a model and aim to 'bridge the gap' by either improving communication and/or understanding between the research and policy communities (Court and Cotterrell 2006; Lomas 2007; Mitton, Adair et al. 2007). 'Knowledge transfer' initiatives typically aim to push research findings to policymakers while 'knowledge exchange' initiatives emphasise the two-way processes between researchers and policymakers in jointly developing evidence (Lee and Garvin 2003; Davies, Nutley et al. 2008). The former are intended to improve dissemination of findings to those that might want them, while the latter seeks to improve understanding between the two cultures by emphasising that researchers should engage in two-way communication with policymakers. Many of these initiatives make use of 'knowledge brokers' (also referred to by various names including linkage agents, research brokers, translational scientists), whose role is typically to engage with members

of the policymaking community (van Kammen, de Savigny et al. 2006; Lomas 2007). Given the above critiques of the two communities model, such initiatives may therefore be overly focused on instrumental use of evidence and may result in a relative lack of engagement with the multiple communities engaged in the policy process. In addition, it is assumed that increased communication via linkage programmes may change the behaviour of those involved in the policy process – a premise for which there is little current support (Thompson, Estabrooks et al. 2006; Mitton, Adair et al. 2007). However, communication of findings from the producers of research to end-users is likely to be a necessary but not sufficient condition for its instrumental use (Bowen and Zwi 2005).

An alternative to the Cooksey report's health research impact framework has been developed for public health research (see Figure 2.3) (Ogilvie, Craig et al. 2009). Importantly, the framework more explicitly accepts that policy is not and should not be only evidence-based.

Figure 2.3: A translational framework for public health research



Reproduced from (Ogilvie, Craig et al. 2009). Copyright Creative Commons license

This alternative approach to conceptualising research impact explicitly incorporates the multidirectional nature of the relationship between research and policy, emphasises the need for evidence synthesis and highlights the role of multiple forms of evidence derived from both the individual and population level. The authors suggest that their framework for achieving research impact highlights the need for four areas of work to improve research impact: descriptive research, including the refinement of public health theory; effectiveness-based research; operationalisation of understanding to practice/policy (including communication between communities); and strategic – “reflection and debate on the evidence gathered to agree where research and operational effort should be concentrated to achieve maximum translational impact”. Importantly, the strategic efforts at communication suggest that not all research should be actively disseminated to policy communities but rather key messages (based on the findings of systematic reviews) are more appropriate for dissemination.

2.7.6 The research impact agenda

A corollary of the two communities model, that posits a gap between researchers and policymakers, is the suggestion that research could be made more useful for policy by ensuring that the incentives for the two communities are brought into closer alignment (Buuren and Edelenbos 2004; Hunter 2009). Accompanying the increasing rhetoric around evidence-based policy (and to an extent following on from ‘new public management’ initiatives which sought to increase managerial control over delivery of other government-funded areas (Parsons 2002)) has been increasing interest in making research more ‘useful’ for public policy. Within the UK, this is manifested in the new Research Excellence Framework which will assess the performance of academics on the basis not just of academic quality but also ‘research impact’ (Anon 2012a). From a public health perspective, changes in the incentive structure could facilitate increased efforts to ensure that research findings result in actual public health gains and also, may result in researchers tailoring their research to areas of priority for public health. However, incentives for increasing the use of evidence may not be wholly beneficial. As noted by the translational framework for public health research described above (Figure 2.3), the findings of individual research studies may not be the most appropriate basis for informing policy. An increase in researchers seeking to communicate with policymakers may therefore result in information overload – potentially encouraging political use of

evidence (Colby, Quinn et al. 2008). Also of concern is the possibility that important areas of research which ultimately influence policy in the long-term (through an enlightenment function) may be neglected by researchers (Smith 2010a).

2.8 Gaps in the public health academic literature

This chapter has presented a summary of key academic literature relevant to the study of the relationship between evidence and public health policy. Recently, discourses around evidence-based policy have become prominent in public health policy in the UK (and elsewhere internationally). Researchers and practitioners within the field of public health have sought to improve the uptake of evidence in public health policy but frequently do not appear to make use of political science in their efforts. These combined developments make study of the relationship between evidence and public health policy particularly worthwhile for a number of reasons. First, there are indications of changes in public health policy discourse and it is therefore possible that previous research findings of a lack of instrumental use of evidence may no longer be true. Second, it remains relatively uncommon for research on the policy process to deliberately adopt a public health perspective and identify lessons for public health researchers and practitioners by explicitly applying political science theory. Third, the two case studies focused on within this thesis are of substantive interest in themselves and therefore worthy of investigation (Greenhalgh, Russell et al. 2011). Furthermore, the relationship between evidence and policy is known to be sensitive to context, hence making research across two studies potentially particularly fruitful. Lastly, debates within public health have often revolved around how best to make decisions in the absence of evidence. The use of econometric modelling in the case of minimum unit pricing provides one potential practical way forward but remains unusual within public health policy and is therefore worthy of further investigation.

2.9 Chapter summary

This chapter has provided an overview of the key literature underpinning this thesis by setting out the purpose of public health, examining a range of theories that seek to explain the policy process and by providing an overview of the current institutional context operating in Scotland and the UK. The literature exploring the relationship between evidence and policy, mainly originating in the fields of social science and political science, was introduced. A separate disciplinary perspective provided by the influential evidence-based medicine movement was then introduced. Key debates about public health evidence and evidence-based public health have been summarised, concluding that moves to achieve research impact are increasing. Lastly, a rationale for studying the relationship between evidence and public health policy was provided.

3 ‘Healthy Lives, Healthy People’: The influence of ideas, frameworks and public health evidence

3.1 Overview

This chapter starts by introducing the English public health white paper, ‘Healthy Lives, Healthy People’, and describes the policy context in which it was introduced. It describes the prominence of rhetoric around the use of evidence for policy, including within public health, and highlights three prominent discourses within the white paper: evidence on ‘what works’, a framework on public health ethics and ‘nudge’. These three discourses can be conceptualised as relating to differing forms of evidence – evidence as understood in instrumental terms, a relatively well described ‘conceptual framework’ and a more nebulous evidence-derived ‘idea’ respectively. The chapter then seeks to investigate how these three forms of evidence relate to the content of the White Paper. Most of the empirical analysis seeks to establish whether the rhetorical claims to use evidence of ‘what works’ are matched by instrumental use of public health evidence. This is supplemented by analyses that critically contrast the White Paper’s application of the Nuffield framework and nudge with the original articulations of these broader conceptual forms of evidence.

3.2 Chapter aims

This chapter presents the findings of the first case study in this thesis, an investigation of the influence of evidence on the English public health White Paper, ‘Healthy Lives, Healthy People’. It aims to:

- Describe the policy context and briefly review relevant published literature about the White Paper
- Assess the extent that evidence of effectiveness ('what works') underpins the proposed actions to improve population health and address health inequalities
- Examine the application of a 'conceptual framework' (the Nuffield Council's framework on public health ethics) and critically evaluate its use

- Examine the application of an ‘idea’ derived from academia (‘nudge’) in relation to the specific actions to improve population health and address health inequalities

3.3 Background: ‘Healthy Lives, Healthy People’

Following the election of a Conservative-Liberal Democrat coalition UK Government in May 2010, there have been a variety of public policy reforms with the potential to markedly influence population health. Two White Papers were specifically dedicated to improving health. This chapter focuses on the ‘Healthy Lives, Healthy People’ White Paper which “outlines a radical shift in the way we tackle public health challenges” (pg 2). While the other White Paper, ‘Equity and Excellence: Liberating the NHS’ (Department of Health 2010a) has perhaps been of higher profile in the mass media, this chapter will not consider that policy document further except for briefly acknowledging that White Paper’s importance to public health. Previous research has been conducted that considers the structural reforms to the organisation of the NHS (in England and Wales) which may result in considerable negative impacts on population health and health inequalities (Pollock, Price et al. 2012; Reynolds and McKee 2012) but the focus of this thesis is on public health policy operating outside the healthcare sector.

The ‘Healthy Lives, Healthy People’ White Paper outlines the Government’s:

[...] commitment to protecting the population from serious health threats; helping people live longer, healthier and more fulfilling lives; and improving the health of the poorest, fastest. (Department of Health 2010b, pg 4)

The White Paper sets out a broad approach to achieve this including organisational reforms that aim to change the structure of the public health workforce, a number of measures relating to NHS service delivery (interlinked with the ‘Equity and Excellence: Liberating the NHS’ White Paper (Department of Health 2010a)) and an outline of proposals for actions to improve population health.

The new public health system articulated in the White Paper intends to put ‘localism’:

[...] at the heart of this system, with responsibilities, freedoms and funding devolved wherever possible; enhanced central powers will be taken where absolutely necessary (Department of Health 2010b, pg 8)

Therefore plans are outlined to move much of the public health workforce from primary care trusts (which have now been scrapped as part of the broader NHS reforms) to local authorities in order to make public health ‘responsive’ to local communities and the social determinants of health. In addition, the White Paper makes the case for a new organisation, Public Health England, which will operate within the Department of Health to assure the continuation of public health actions that are presented as requiring national coordination – especially emergency preparedness and health protection. A wide range of concerns with this new structure have been expressed, including the risk of increased political interference in public health functions; the potential lack of influence Directors of Public Health may have within local authorities; and despite intentions to ring-fence public health budgets, the possibility that public health funding may be subsumed within other local authority budgets (since much activity could be badged as public health) (McKee, Hurst et al. 2011).

As noted in Chapter 2, instrumental use of evidence does not constitute the only (or most prevalent) form of utilisation within policy. The ideational turn in political science points to the way evidence does not just refer to evaluation of individual interventions, but rather extends to conceptual frameworks or even more general ideas that inform policy. It may be expected that the influence of evidence may vary across this spectrum and therefore a fruitful approach would be to investigate the influence of differing forms of evidence. Within the public health White Paper, three evidence-derived discourses are prominent: ‘nudge’, the ‘Nuffield ladder’ of public health interventions and pursuing ‘what works’. Each of these discourses can be conceptualised as providing guidance on differing specificity for policy; moving from an indistinct idea to a more specific framework and finally, drawing upon direct instrumental use as suggested by the evidence-based medicine model. Given the prominence of these discourses within the White Paper, and the potential utility for studying multiple forms of evidence on policy, these different discourses are investigated.

3.3.1 Nudge – An evidence-based idea?

The coalition Government have stated that their approach to public policy has been informed by “insights from behavioural science” (Department of Health 2010b), particularly as popularised by the work of the behavioural economists Thaler and Sunstein in their book *Nudge* (2008). Indeed, Thaler has provided advice to the coalition Government on public policy issues, including public health (Wells 2010). *Nudge* could therefore be reasonably expected to constitute an example of an ‘evidence-based idea’ that has travelled into policy.

The authors of *Nudge* set out their case by first making the distinction between ‘humans’ (as they behave in reality) and ‘econs’ (how economists have traditionally assumed humans behave i.e. operating to maximise their utility as rational agents) (Thaler and Sunstein 2008). Consistent with empirical findings from psychology, they note that the environment (referred to as the ‘choice architecture’) that a decision is made in, impacts upon the actions individuals take. Importantly, they note that choices are often impossible to present in an entirely ‘neutral’ way – the presentation of a decision requires a choice architecture of some sort (which may foster or hinder public interests). While acknowledging the premise that the environment is an important determinant of behaviour, nudge is underpinned by a specific position they describe as ‘libertarian paternalism’ which they explain by:

The libertarian aspect of our strategies lies in the straightforward insistence that, in general, people should be free to do what they like—and to opt out of undesirable arrangements if they want to do so. To borrow a phrase from the late Milton Friedman, libertarian paternalists urge that people should be “free to choose.” We strive to design policies that maintain or increase freedom of choice. When we use the term *libertarian* to modify the word *paternalism*, we simply mean liberty-preserving. And when we say liberty-preserving, we really mean it. Libertarian paternalists want to make it easy for people to go their own way; they do not want to burden those who want to exercise their freedom. [emphases in original] (Thaler and Sunstein 2008, pg 5)

They therefore argue that it is legitimate for government to intervene in the lives of individuals to improve health but that such interventions should not entail compulsion and curtail freedoms as little as necessary (Thaler and Sunstein 2008). However, it is

worth noting that they do not provide a justification for this implicitly normative stance. They argue that the best approach for addressing important areas of public policy (drawing upon examples from a range of sectors including public health) is to make use of nudges, described as:

A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior [sic] in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not. (Thaler and Sunstein 2008, pg 6)

The idea of nudge has, however, been extensively critiqued. For example, Bonell and colleagues point out that the ill-defined idea of nudge offers little new to the public health armoury as it is already widely accepted in public health circles that information-giving alone is inadequate and hence broader, generally non-coercive, actions are already used (Bonell, McKee et al. 2011b). Furthermore, it is argued that the principles of manipulating choice architecture have been widely used by industry for some time to further their own interests rather than for the improvement of population health – exemplified by the change from active travel to car use or the increase in alcohol consumption associated with increasing alcohol outlet availability (Douglas, Watkins et al. 2011; Marteau, Ogilvie et al. 2011). At present, the evidence base for nudge providing an effective approach for public health interventions is limited (Marteau, Ogilvie et al. 2011). In addition, the application of nudge to UK public health policy has been called into question. In particular, it has been suggested that a false tension between the use of nudge and government using its formal authority to influence corporate interests has been created which is not apparent within Thaler and Sunstein's thesis (Bonell, McKee et al. 2011a).

A stated key approach for incorporating nudge has been the Public Health Responsibility Deal – a mechanism by which government is brokering voluntary agreements with business and other partners to help achieve public health gains. Five networks (on food, alcohol, physical activity, health at work and behaviour change) have been established, with the first four working to develop pledges in relation to specific topic areas while the

last “seeks to put behavioural science expertise at the disposal of the other networks” (Department of Health 2011b, pg 4).

3.3.2 A framework for public health ethics – The Nuffield ladder

The White Paper reproduces the ladder of interventions outlined in the Nuffield Council on Bioethics’ framework to help guide its policy (Department of Health 2010b). The explicit emphasis on ethics is unusual in public health policy documents with previous UK policy documents not reflecting on ethical debates in a similar way.

The Nuffield framework was developed by an independent expert panel (through a process of deliberation, informed by ethical and philosophical work) to help fill a perceived gap between clinical ethics, where individuals are the focus of concerns, and public health ethics, where whole populations are considered. The Nuffield report starts with Mill’s classical liberalism, the focus on the balance between freedom and state interference, and the importance of the ‘harm principle’:

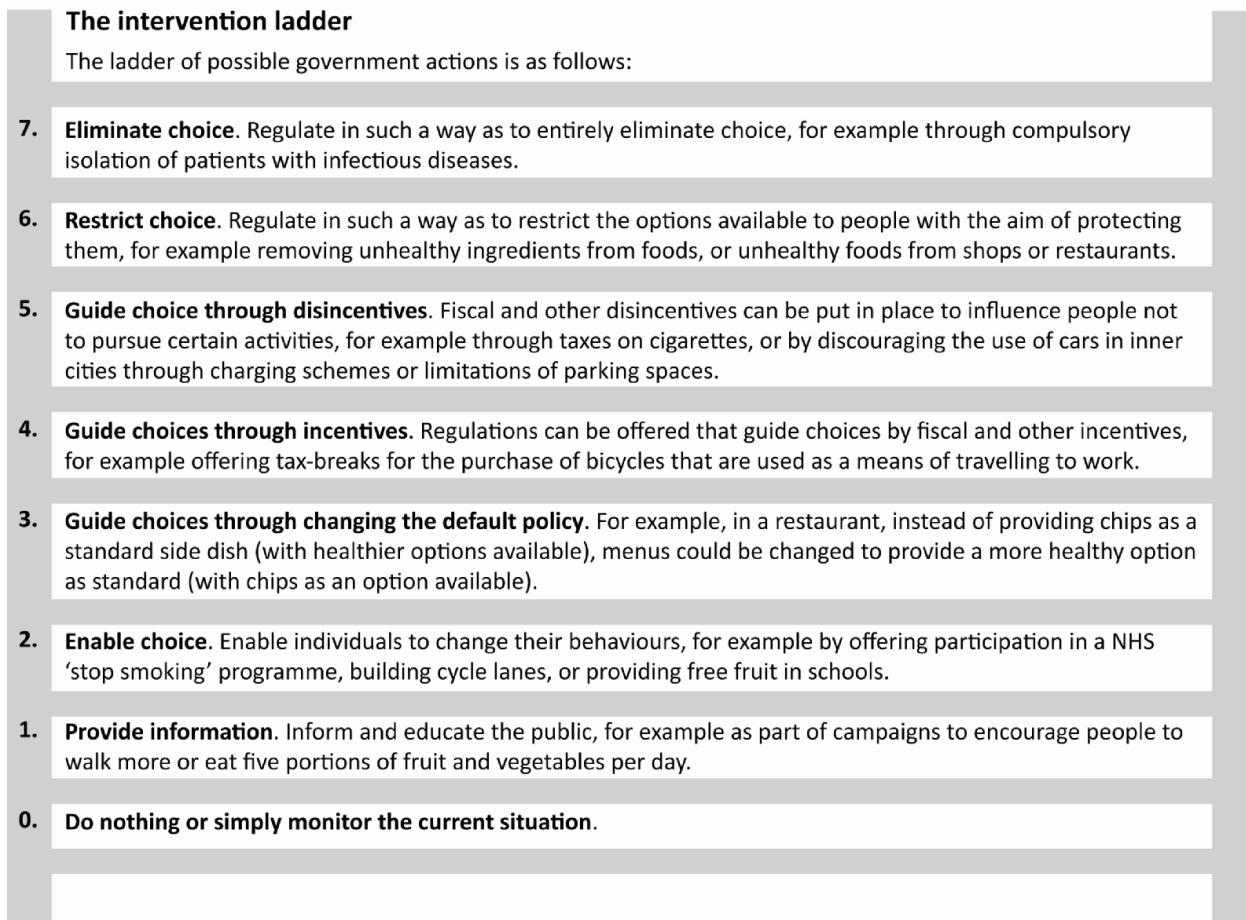
The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. (Mill 1859, pg 8)

The Nuffield report argues that the harm principle, and classic liberalism, is inadequate for public health practice as it is overly focused on individual autonomy, undervalues the importance of the distribution of health outcomes and solely considers individuals while ignoring the needs of communities (Nuffield Council on Bioethics 2007). Instead, it advocates a ‘stewardship’ model, which sees the government’s role in public health as addressing the needs of people individually and collectively to improve health and tackle health inequalities.

The Nuffield report focuses on the importance of proportionality as a means for assessing the ethical implications of public health action. To help make decisions about what interventions are appropriate in any given circumstance, the Council introduces the intervention ladder (see Figure 3.1). This is based on creating a hierarchy of the actions that the state can take from simply providing information (considered the least restrictive) to eliminating choice (the most restrictive); with “lower levels being preferred

to the higher levels *provided they are of equal effectiveness*" [emphasis added] (Nuffield Council on Bioethics 2007).

Figure 3.1: The Nuffield Council on Bioethics' ladder of intervention



Adapted from (Nuffield Council on Bioethics 2007) with permission

It is noteworthy that many interventions aiming to manipulate the choice architecture (i.e. informed by nudge) would tend to operate between these two extremes, with guiding choice through changing the default policy being the example *par excellence* (level 3). However, as noted previously, nudge has tended to be ill-defined and examples are often inconsistent with its underlying theory (Bonell, McKee et al. 2011b). In addition, the report highlights the need for government action to make provision for vulnerable people (especially children and adults lacking capacity to make informed choices) and the need to create an environment conducive to health. Within the Nuffield Report, a

number of case studies (including one on obesity) are provided to help illustrate some of the ethical issues involved in the framework's application.

The Nuffield Council's work has been critiqued by various public health ethicists (Coggon 2008; Baldwin, Brownsword et al. 2009). For example, Radoilska argues that a distinctly liberal approach of non-interference can be in keeping with the harm principle and provides a consistent framework for public health ethics without requiring further modification (2009). Others have argued that broader forms of liberalism (such as social liberalism) which emphasise 'freedom to' undertake actions rather than 'freedom from' others provides a more coherent starting point for an ethical framework (Gostin and Gostin 2009; Wilson 2011). The concept of being able to have a single framework to underpin public health has itself been questioned with alternative pluralistic approaches being suggested (Selgelid 2009). While the author of this thesis is sympathetic to some of these critiques (with an alternative framework based on social liberalism being potentially attractive), the focus within this chapter is not on the underpinning ethical theory but rather the application of the Nuffield framework within 'Healthy Lives, Healthy People'. This seems justifiable given that the White Paper itself reproduces the ladder of interventions while not explicitly rejecting (or indeed questioning) any of the principles underpinning the Nuffield Council's framework (Department of Health 2010b, pg 30).

3.3.3 Evidence of effectiveness – What works?

Another prominent rhetorical feature of Healthy Lives, Healthy People is its use of the discourse of evidence-based public health. The White Paper particularly emphasises the importance of using evidence to identify the effectiveness of interventions:

This White Paper sets out a radical new approach that will empower local communities, enable professional freedoms and unleash new ideas based on the evidence of what works [...] (pg 6)

The best evidence and evaluation will be used, supporting innovative approaches to behaviour change [...] (pg 8)

There is patchy use of evidence about 'what works'. Despite much activity at both national and local levels, further progress is needed to build and apply the evidence base for 'what works' and to ensure that resources are used most effectively and

are linked to clear health outcomes. A culture of using the evidence to prioritise what we do and test out innovative ideas needs to be developed, while ensuring that new approaches are rigorously evaluated and that the learning is applied in practice. (pg 27)

Given the focus on using evidence to identify ‘what works’, it seems appropriate to systematically investigate the extent that actions proposed within the White Paper meet this stated objective. This seems particularly relevant given recent calls for available evidence to be collated to inform policy (Aldridge, Cole et al. 2011).

A priority for public health remains tackling health inequalities (as noted in Chapter 2). The White Paper explicitly acknowledges the importance of addressing health inequalities but previous research has suggested that policy actors often describe a lack of evidence in relation to the effectiveness of actions to tackle health inequalities (Whitehead, Petticrew et al. 2004). Understanding the use of evidence for tackling health inequalities within the white paper is therefore also of particular interest.

3.4 Methods

The first aim was addressed through a systematic appraisal of the evidence base, with the methods described in sections 3.4.1. The application of the Nuffield Council’s framework and has been evaluated through a systematic approach and critical examination of the White Paper, as described in section 3.4.2. The application of nudge was investigated by critically reviewing its use in the White Paper (section 3.4.3).

3.4.1 Evidence of effectiveness

To investigate the evidence base for interventions outlined in the White Paper, a structured approach to assessing the evidence was undertaken. Importantly, this was systematic in terms of the process adopted but given the number of interventions described, did not follow systematic review methods. Instead, rapid reviews of the evidence base were conducted (see Figure 3.2). Given the potential for bias in terms of study inclusion, a second reviewer (MH – see acknowledgements) independently produced a list of proposed actions, checked literature searches, data extraction, study

quality assessment and independently assessed the quality of evidence underpinning an intervention.

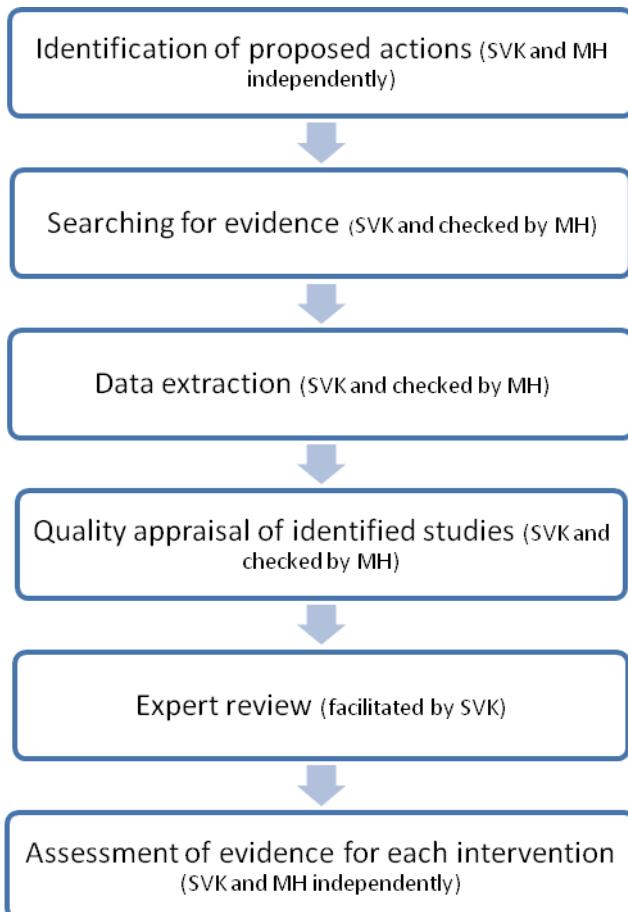


Figure 3.2: Flowchart of the process used to assess the evidence base for the interventions included within the English public health White Paper

Key: SVK = Srinivasa Vittal Katikireddi, MH = Martin Higgins

3.4.1.1 Identification of proposed actions

Prior to assessing the quality of evidence, it was first necessary to identify specific proposed actions. A list of all instances when a specific intervention to improve population health was described in the White Paper was produced. Statements describing a healthcare service for treatment of specific conditions (e.g. drug and alcohol treatment services), broad strategies or programmes not describing the method for achieving improvements in health, organisational reforms of public health or related structures and funding reallocation not associated with the administration of a described intervention were excluded. This allowed a focus on interventions targeted at improving population health for which relevant evidence could be sought. When the exact nature of the

intervention was unclear, both reviewers discussed any discrepancies until a consensus was reached.

3.4.1.2 Searching for evidence

Evidence directly cited in the White Paper was retrieved and searches conducted for evaluations of the specific intervention using simple (Google) internet searches and checking relevant websites if not directly cited. Given that policy documents do not usually directly cite supportive academic literature (which could nevertheless have informed decision-making), searches for the existence of wider relevant literature were needed.

A structured approach to the searches was followed. First, relevant systematic reviews were sought by searching the Cochrane and Campbell databases (The Campbell Collaboration 2011a; The Cochrane Collaboration 2011), followed by the Centre for Reviews and Dissemination's Database of Abstracts of Reviews on Effects (DARE) (Centre for Reviews and Dissemination 2011), and lastly, if no recent and directly relevant systematic reviews were found, the TRIP database (TRIP database 2011). In addition, relevant NICE public health guidelines and their associated systematic reviews (NICE 2011) were retrieved. In instances where no systematic review-level evidence or high quality evaluations were found, the most relevant evidence available from the Medline, Embase and Google Scholar databases was sought. All searches were carried out from January 2011 to May 2011 by the author with a second reviewer (MH) checking for other relevant literature. Standardised search terms were not possible given the number and diversity of interventions, but the searches were informed by advice from an information scientist (CF – see acknowledgements).

Choice of evidence was made on the basis of the ability to ascertain the effectiveness of the intervention in relation to health outcomes (broadly defined). This process was based on a subjective assessment, given the lack of clarity of articulated policies within the White Paper. In the rare instances when multiple health outcomes were described, the consistency of effects was considered. When multiple systematic reviews were identified, one or more systematic reviews were chosen on the basis of whether the review focused on the specific intervention of interest, quality (see 3.4.1.4 for appraisal process) and being the most up-to-date.

3.4.1.3 Data extraction

A standardised data extraction table to collate the identified evidence was created in Microsoft Word 2007. Information on evaluation design, findings, applicability, impact on inequalities and quality were extracted (see Appendix 1).

3.4.1.4 Quality appraisal

All evaluations were quality appraised by the author using NICE guidelines (including their standard quality assessment templates) (NICE 2009c) and checked by the second reviewer (see Appendix 2). Systematic reviews published in the Cochrane and Campbell databases are conducted according to clear criteria and subject to rigorous quality control (The Campbell Collaboration 2011b; The Cochrane Public Health Group 2011) and were therefore not quality appraised. The Centre for Reviews and Dissemination at the University of York run the DARE database and carry out quality appraisal (by two reviewers) for all systematic reviews included within the database (with the exception of Cochrane and Campbell systematic reviews). These critical appraisals were used when available, with all other systematic reviews being quality appraised (as per NICE guidance). Disagreements over the quality appraisal were resolved by discussion between the reviewers. Quality appraisal assessments were entered into Microsoft Excel 2007.

3.4.1.5 Expert review

In order to ensure the comprehensiveness of the review process, academic experts for particular topics (identified from personal contacts or through the literature) were contacted by e-mail and asked to comment on whether the evidence identified in relation to the cited statement from the White Paper was the most appropriate to ascertain effectiveness of the intervention. They were also asked to identify any additional evidence they considered important and to provide their opinion on the quality of the evidence base in relation to the statement from the white paper. A full list of the experts contacted is included in the Acknowledgements.

3.4.1.6 Assessment of evidence quality

A rating scale for evidence of effectiveness was developed to help analysis. The rating system ranged from ‘++’ representing high-quality evidence of effectiveness to ‘--’

indicating the presence of high-quality evidence that the stated intervention is ineffective. The existence of only weak evidence supporting an intervention received '+', while weak evidence of ineffectiveness received '-'. The score 0 indicated a lack of existing evidence to assess effectiveness while the score '+/-' indicated that conflicting evidence exists.

Inter-rater agreement for assessments prior to discussion was assessed by calculating the Cohen's kappa statistic for the evidence assessments using Stata v11.

3.4.2 Critical evaluation of the Nuffield framework's application

In order to evaluate the application of the framework on public health ethics developed by the Nuffield Council on Bioethics, two different approaches were pursued. First, a similar systematic approach to that described above in relation to effectiveness was conducted by two reviewers. Numerical codes to describe the level of the Nuffield ladder each intervention related to were assigned by the two reviewers independently (see Figure 3.1). Discrepancies were again resolved by discussion between the reviewers. All interventions considered have been grouped into sector following data extraction, to assist interpretation. A weighted kappa statistic to assess the extent of agreement before discussion between reviewers was calculated for the Nuffield ladder assessments (given the ordinal nature of the variable) using Stata v11.

Second, a critical review of the application of the Nuffield Council's ladder of interventions was performed. This was done by first, reviewing the development, explanation and rationale of the Nuffield framework. Second, the description of the Nuffield ladder in the White Paper was identified and finally, indications of its application elsewhere in the public health White Paper were sought. In other words, the extent that the White Paper is consistent with the Nuffield ladder's conceptual basis was critically reviewed. Since the topic of obesity has been considered in detail within the Nuffield report and the White Paper, more detailed consideration is given to this topic.

3.4.3 Critical evaluation of nudge's application

A similar process of critical evaluation as described for the Nuffield framework was pursued to investigate the influence of nudge on the White Paper. This therefore involved

reviewing nudge as originally articulated, identifying signs of nudge's rhetorical influence in the White Paper and finally, contrasting these with actual actions advocated.

3.5 Results: Evidence of effectiveness

A total of 51 statements describing specific interventions aiming to improve population health were identified in the White Paper (see Table 3.2). To improve clarity, the interventions have been grouped according to different topic areas but it should be noted that these topic areas do not map directly to the layout of the White Paper (where many interventions are described in intermittent boxes throughout the document). Overall, a marked diversity exists in the nature of interventions suggested and the underpinning evidence base. Moderate agreement for evidence assessments was achieved (kappa statistic = 0.57, 68% agreement). Full details of evidence assessments for each intervention are available in Appendix 1 with an example provided in Table 3.1 below.

Table 3.1: Example of summary table for evidence assessments

Full tables provided in Appendix 1 and details regarding the quality assessment process in Appendix 2.

Key

Pg = Page reference (with section where available) that statement is from

NR = No reference provided within White Paper

Grading as per NICE Public Health guidelines i.e. [-]=Few or no quality criteria fulfilled and the conclusions are likely or very likely to alter; [+] = Some criteria fulfilled, where not fulfilled or not reported, the conclusions are unlikely to alter; [++)=Most of the criteria fulfilled, where not the conclusions are very unlikely to alter

Quality of evidence underpinning interventions:

-- = strong evidence that the intervention as described is ineffective in improving population health (e.g. well-conducted systematic reviews, negative RCTs, negative robust evaluations)

- = weak evidence that the intervention as described is ineffective (e.g. before-and-after studies, modelling studies, NICE guideline statements not based on the above)

0 = absence of evidence to allow assessment of effectiveness for health outcomes (including interventions where only studies highly susceptible to bias exist)

+/- = mixed evidence on effectiveness.

+ = weak evidence that the intervention as described is effective (e.g. before-and-after studies, modelling studies, NICE guideline statements)

++ = strong evidence that the intervention as described is effective (e.g. systematic reviews, negative RCTs, negative robust evaluations)

Topic: Early Years Interventions

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of available evidence	Notes
Pg 7 11c: "refocusing Sure Start Children's Centres for those who need them most" [NR]	Targeting Sure Start centres Sure Start is an area-based intervention aimed at all children growing up in a deprived area [+]	(Melhuish, Belsky et al. 2010) [+] Cohort study with synthetic control group from MCS.	Mixed impacts with absence of evidence for change across many outcomes. Of those outcomes that did change, more positive (predominantly around maternal wellbeing and care) were observed.	Equal impact found amongst different population groups (e.g. lone parents) and between different levels of deprived areas.	Highly applicable evidence to suggest that original Sure Start intervention had overall positive impact.	
Pg 32 3.6: "alongside the evidence-based Family Nurse Partnership (FNP) programme" [NR]	Family Nurse Partnership programme FNP aims to aggressively intervene early for at-risk mothers to improve future life chances of mother and baby [+]	(Olds, Henderson et al. 1986) [+], (Kitzman, Olds et al. 1997) [++], (Olds, Robinson et al. 2002) [++] 3 American RCTs	Varying beneficial effects of intervention reported – reduced smoking, pre-eclampsia, reduced injuries. No effects on behavioural problems or maternal employment.	Intervention targeted at most deprived therefore likely to reduce inequalities.	High quality evidence. US-based evidence where the role of health visitor is not well established compared with the UK therefore low applicability.	
Pg 33 3.11: "potentially through intensive intervention models such as Family Intervention Projects" [NR]	Family Intervention Projects. Aiming to reduce causes of anti-social behaviour by working with whole family to address root causes [0]	(White, Warren et al. 2008) [-] Process evaluation with 'before and after' comparison of intervention. No control group.	78% of those families referred were eligible and participated in the programme. For 90 families who completed the intervention, ASB, crime, child educational problems and housing problems reduced. No long-term follow-up reported.	Intervention targeted at deprived population including families who are or at risk of homelessness.		

Table 3.2 summarises the statements describing interventions within the White Paper. Interventions targeting physical activity were most frequent. No academic articles were directly cited in relation to interventions described by the white paper. Six interventions referenced websites and all other statements do not directly state any supporting sources. Table 3.3 summarises the assessments of the quality of evidence supporting the effectiveness of interventions described.

Table 3.2: Summary of intervention statements within ‘Healthy Lives, Healthy People’ by topic area

Topic area	Statements within the White Paper	Number of interventions
Physical activity	Pg 35 3.20: “Olympic and Paralympic-style school sports competition” Pg 35 3.20: “Living Street’s ‘Walk Once A Week’ initiative” Pg 35 3.20: “Department of Transport’s (DfT) funding for Bikeability cycle training” Pg 36 3.22: “offered incentives to walk to school through Step2Get, using new near field communication (NFC) technology” Pg 41: “running club called Run Dem Crew (RDC), partnering with sportswear company Nike. RDC is based at Nike’s 1948 Brand Space in Shoreditch and combines running and creative arts workshops to turn regular running into a trendy social activity” Pg 39 3.32: “sharing learning from the experiences of the nine ‘Healthy Towns’” Pg 39 3.32: “Initial evidence from the first round of cycle towns showed that there was an increase in cycling across all social groups combined with a reduction in sedentary behaviour and single car use, when compared with people in similar towns” Pg 39 3.34: “Building on the Olympics, DCMS has announced a £100 million Mass Participation and Community Sport legacy programme” Pg 39 3.34: “The Walking for Health programme of volunteer-led health walks” Pg 39 3.34: “Let’s Get Moving will also provide important opportunities for people to be active” Pg 47 3.55: “The Cycle Challenge works by encouraging and supporting existing cyclists to persuade colleagues who rarely or never cycle to give it a try”	11

Topic area	Statements within the White Paper	Number of interventions
Welfare	<p>Pg 45, 3.48: reformed Welfare to Work programme is being developed, ensuring that work always pays by replacing existing means-tested working-age benefits with a single Universal Credit.”</p> <p>Pg 45, 3.48: “Existing support will be consolidated into a new integrated Work Programme to provide support for people to move into work”</p> <p>Pg 45, 3.48: “Work Choice will provide support for severely disabled people entering work”</p> <p>Pg 45, 3.48: “existing adult careers advice has been simplified into a single service called NextStep”</p> <p>Pg 45, 3.48: “Central government is also helping people to stay in work. Our innovative Fit for Work Service pilots are multi-disciplinary projects delivered by local providers, focusing on early intervention and designed to get workers who are off sick back to work faster and to keep them in work.”</p> <p>Pg 45, 3.50: “The new Fit Note was introduced in April 2010, allowing GPs and individuals to focus on how to get people on sick leave back into work.”</p> <p>Pg 50, 3.69: “We will also maintain the value of the state pension through the triple guarantee – the basic state pension will increase by the highest of the growth in average earnings, prices or 2.5%.”</p>	7
Housing and neighbourhood	<p>3.59 pg 48, “Neighbourhoods and houses can be better designed to support people’s health, such as by creating Lifetime Homes”</p> <p>Pg 48 3.59: “and by maintaining benefits such as the winter fuel allowance”</p> <p>Pg 48 3.59: “and free bus travel, which keep people active and reduce isolation.”</p> <p>Pg 48 3.60: “For example, the Department of Energy and Climate Change will develop a Green Deal across sectors to improve the energy efficiency and warmth of homes from 2012, alongside the new Energy Company Obligation”</p> <p>Pg 49, 3.62: “The Warm Front scheme will also continue until 2012/13, providing grants to improve housing warmth and sustainability”</p> <p>Pg 49, 3.63: “We are committed to keeping older people in their homes longer through funding home adaptations and are maintaining programmes such as Supporting People, the Disabled Facilities Grant and Decent Homes, which keep homes safe and in good condition.”</p>	6

Topic area	Statements within the White Paper	Number of interventions
Community	<p>pg 43 “Altogether Better started out as a BIG Lottery-funded regional collaborative and has grown to become a movement with a network that reaches beyond its original Yorkshire and the Humber region to as far away as China. Altogether Better aims to build capacity to empower individuals and communities to improve their own health and wellbeing through a flexible, locally tailored Community Health Champions approach.”</p> <p>Pg 45, 3.47: “supporting the training of volunteer Community Learning Champions to engage local people in learning activities, acquiring new skills and embarking on new career routes”</p> <p>pg 48, 3.61: “Gloucestershire Village Agents – a rural volunteer network addressing exclusion”</p> <p>Pg 50, 3.67: “For example, Older People’s Day on 1 October aims to change attitudes to ageing. This has become a real community movement which celebrates later life and this year included over 3,000 events across the country.”</p> <p>Pg 50, 3.68: “The Department for Work and Pensions will provide Active@60 grants to voluntary and community groups to establish Community Agents in their area. Volunteers will work with people typically in their 60s to help them make a good start to their later life.”</p>	5
Early years	<p>Pg 7 11c: “refocusing Sure Start Children’s Centres for those who need them most”</p> <p>Pg 32 3.6: “alongside the evidence-based Family Nurse Partnership (FNP) programme”</p> <p>Pg 33 3.11: “potentially through intensive intervention models such as Family Intervention Projects”</p> <p>Pg 33 3.11: “and group parenting programmes”</p>	4
Food	<p>Pg 38 3.30: “Change4Life ‘Great Swapathon’, partners will give £250 million of vouchers to make healthy lifestyle choices easier”</p> <p>Pg 38, 3.30: “This partnership between the Department of Health and the Association of Convenience Stores is aimed at increasing the availability and sales of fresh fruit and vegetables in convenience stores in deprived areas. Work includes the positioning of dedicated fruit and vegetable chiller cabinets in prominent positions and the use of Change4Life branding.”</p> <p>Pg38, 3.31: “The Department for Environment, Food and Rural Affairs’ (Defra) Fruit and Vegetable Task Force has recommended that food containing fruit or vegetables with other types of food should be added to the 5 A DAY licensing scheme.”</p> <p>Pg 38, 3.31: “In addition, Government Buying Standards for food will support more balanced choices in areas that central government is directly responsible for, such as in its own workplaces.”</p>	4

Topic area	Statements within the White Paper	Number of interventions
Green space	<p>Pg 40 3.35: "DCLG is working with Defra to create a new designation to protect green areas of particular importance to local communities and providing practical guidance to support community groups in the ownership of public spaces."</p> <p>Pg 40 3.36: "It is intended that, through this new designation, people will have improved access to land, enabling them to grow their own food."</p> <p>Pg 40, 3.37: "Defra will also lead a national campaign to increase tree-planting throughout England, particularly in areas where increased tree cover would help to improve residents' quality of life and reduce the negative effects of deprivation, including health inequalities."</p> <p>Pg 40 3.37: "The charity Campaign for Greener Healthcare has developed a five-year project to improve the health of staff and patients through access to green spaces. It aims to plant one tree per employee – over a million trees – on NHS land."</p>	4
Smoking	<p>pg 37, 3.25 "The Government will look at whether the plain packaging of tobacco products could be an effective way to reduce the number of young people taking up smoking and to help those who are trying to quit smoking."</p> <p>Pg 37, 3.26: "We are also considering options for the display of tobacco in shops, recognising the need to take action both to reduce tobacco consumption and to reduce burdens on businesses."</p> <p>pg 37, 3.26 "The recent legislation to stop tobacco sales from vending machines will come into effect on 1 October 2011, so removing an easy source of cigarettes from under-age smokers and a source of temptation for adults trying to quit."</p>	3
Employment	<p>Pg 46, 3.54: "further development of the Change4Life employee wellness programme"</p> <p>Pg 46 3.54: "the promotion of the Workplace Wellbeing Tool to help organisations assess progress and understand further steps. This important tool can help demonstrate the business case that investing in the health and wellbeing of your workforce will increase productivity as well as staff engagement"</p> <p>Pg 50, 3.69: "We are committed to phasing out the default retirement age, allowing employers to use retirement ages of 65 or higher. This will allow people who otherwise would have been prevented from working longer to do so and means that they will be able to maintain the health and social benefits of working."</p>	3

Topic area	Statements within the White Paper	Number of interventions
Alcohol	<p>pg 41, 3.38 “The Home Office will seek to overhaul the Licensing Act to give local authorities and police stronger powers to remove licences from, or refuse licences to, any clubs, bars and pubs that are causing problems, close any shop or bar found to be persistently selling alcohol to children and charge more for late-night licences.”</p> <p>Pg 41 3.38: “The Home Office is committed to implementing the ban on selling alcohol below cost without delay.”</p>	2
Primary care	<p>pg 42 “Healthy Living Pharmacies (HLPs) are making a real difference to the health of people in Portsmouth, with 10 pharmacies awarded HLP status by NHS Portsmouth. HLPs have to demonstrate consistent, high-quality delivery of a range of services such as stopping smoking, weight management, emergency hormonal contraception, chlamydia screening, advice on alcohol and reviews of the use of their medicines.”</p> <p>pg 42, 3.40 “NHS Health Checks will continue to be offered to men and women aged 40 to 74. Everyone receiving an NHS Health Check will receive individually tailored advice and support to help manage their risk of heart disease, stroke and diabetes.”</p>	2

Table 3.3: Quality of evidence underpinning interventions described in ‘Healthy Lives, Healthy People’ and assessments of the extent that they limit individual liberty

Topic area	Intervention	Evidence for effectiveness to improve population health	Nuffield ladder level
Early years	Targeting Sure Start services for families most in need	+	2
	Family Nurse Partnership	+	3
	Family Intervention Projects	0	4
	Group parenting programmes	+	4
Physical activity	Sports competitions for children	0	2
	School-based interventions to promote walking (Walk Once A Week)	++	2
	Cycle training	+	2
	Incentives to promote walking (Step2Get)	-	4
	Community running for young people (Run Dem Crew)	0	2
	Healthy Towns	+	3
	Cycle Demonstration towns	++	3
	Olympics legacy programme	+/-	2
	Volunteer-led walks (Walking for Health)	++	2
	Primary Care screening and motivational interviewing (Let’s Get Moving)	+	2
	Cycle Challenge	0	2
Food	Voucher incentives to encourage fruit & vegetable consumption	+/-	4
	Fresh fruit & vegetable promotion in convenience stores	-	3
	Expanding foods counted towards ‘5 a day’ guidelines	0	1

Topic area	Intervention	Evidence for effectiveness to improve population health	Nuffield ladder level
	Workplace healthy food choices	+	3
Alcohol	Increase stringency of licensing requirements	+	6
	Ban on below-cost alcohol sales	-	5
Smoking	Tobacco plain packaging	+	3
	Stop tobacco displays in shops	+	6
	Ban on tobacco vending machines	+	7
Primary care	Provision of health promotion advice and services via pharmacies (Healthy Living Pharmacies)	+	2
	Universal cardiovascular health checks to 40-74 year olds	+/-	1
Employment	Employee wellness programmes (Change4Life employee wellness programme)	+	2
	Tool to stimulate employers to take action to promote health	0	1
	Removal of default retirement age	+/-	3
Welfare	Incentivising welfare payments towards work	0	4
	Welfare-to-Work programmes	+/-	2
	Support programmes for severely disabled people	+	2
	Vocational advice and support services for the general population	0	2

Topic area	Intervention	Evidence for effectiveness to improve population health	Nuffield ladder level
	Early work-based interventions for individuals developing health problems	+	3
	Fit Note	0	3
	Maintain the value of the state pension	+	3
Green space	Community ownership of green space	0	2
	Grow your own food	0	2
	National tree-planting campaign	0	3
	Tree-planting on NHS land	0	3
Housing and neighbourhoods	Lifetime Homes	+	2
	Winter fuel payments	+/-	3
	Free bus travel for the elderly	+/-	4
	Improved energy efficiency and warmth of homes (Warm Front Scheme)	++	4
	Home adaptations for elderly	+/-	4
	Improving condition of private sector homes for social housing tenants (Decent Homes)	0	3
Community Interventions	Community Health Champions to facilitate behaviour change	+/-	2
	Community Learning Champions	0	2
	Community agents to promote uptake of services (Gloucestershire Village Agents)	+	2
	Celebratory event day (Older People's day)	0	1
	Community volunteers to work with older people	-	2

Key

-- = strong evidence that the intervention as described is ineffective in improving population health (e.g. well-conducted systematic reviews, negative RCTs, negative robust evaluations)

- = weak evidence that the intervention as described is ineffective (e.g. before-and-after studies, modelling studies, NICE guideline statements not based on the above)

0 = absence of evidence to allow assessment of effectiveness for health outcomes (including interventions where only studies highly susceptible to bias exist)

+ = weak evidence that the intervention as described is effective (e.g. before-and-after studies, modelling studies, NICE guideline statements)

++ = strong evidence that the intervention as described is effective (e.g. well-conducted systematic reviews, positive RCTs, negative robust evaluations)

+/- = mixed evidence on effectiveness.

Nuffield ladder levels as explained in Figure 3.1.

3.5.1 Evidence underpinning interventions by topic area

3.5.1.1 Early years

Four statements describing population health interventions were identified. Evaluations conducted in this area tend to be high quality although much evidence was US-based and may not be applicable to a UK context, given the difference in welfare systems. The 'Family Nurse Partnership' is a programme of home visits by nurses for young first-time mothers to improve future life chances of both mother and baby. Three randomised-controlled trials (RCTs) conducted in the US suggest the intervention is effective and a detailed UK-based evaluation (including randomised components) is ongoing (Olds, Henderson et al. 1986; Kitzman, Olds et al. 1997; Olds, Robinson et al. 2002; Barnes, Ball et al. 2011). Family intervention projects, taking a whole-family approach to tackling anti-social behaviour, have been evaluated but methodological limitations make assessment of effectiveness difficult (White, Warrener et al. 2008). Group parenting programmes appear to reduce the length of time children spend in institutions, but no significant health improvements were found in a Cochrane systematic review published in 2001 (Woolfenden, Williams et al. 2001). 'Sure Start' is an area-based intervention available to all children that was originally delivered to the most deprived areas of the UK (The National Evaluation of Sure Start (NESS) 2010). The White Paper states that the

Government plans to target Sure Start centres to those “who need them most”. The National Evaluation of Sure Start, a well-conducted quasi-experimental study, suggests that the intervention had largely beneficial health impacts, particularly for parents, but the effectiveness of a more or less targeted approach is unclear (The National Evaluation of Sure Start (NESS) 2010). Additionally, the lack of randomisation makes determination of effectiveness difficult for this programme. It is unclear if the White Paper statement reflects plans to limit attendance to families in greater need (assessing individual need) or instead closing Sure Start centres in more affluent areas. The former would directly conflict with Sure Start’s underlying theory of change (National Evaluation of Sure Start (NESS) 2005).

3.5.1.2 Physical activity

Eleven statements related to increasing physical activity amongst either children or adults. There was supportive evidence for school-based interventions to promote walking (such as the ‘Walk Once A Week’ initiative (NICE 2009e; Wavehill Consulting 2009; Chillon, Evenson et al. 2011)), volunteer-led walks ('Walking for Health' programme)(Dawson, Boller et al. 2006; Ogilvie, Foster et al. 2007), and primary care-based motivational interviewing ('Let's Get Moving') (NICE 2006; Williams, Hendry et al. 2007) . Exercise referral schemes, which can be considered within 'Let's Get Moving', do not appear to be effective for improving population health in a recent systematic review (Foster, Thompson et al. 2008; Pavey, Anokye et al. 2011). The evidence suggests a number of 'novel' interventions proposed in the White Paper, such as the use of incentives to promote children walking to school (Step2Get) or community running groups (RunDemCrew), are likely to be ineffective or only have a limited impact on population health as these programmes are expected to be taken up by those already physically active (Kavanagh, Trouton et al. 2006; van Sluijs, McMinn et al. 2007; and Nanette Mutrie, Personal Communication). There is conflicting, poor quality evidence to support Olympics-based activities to increase physical activity. Systematic reviews indicate that large positive benefits are unlikely (Weed, Coren et al. 2009; McCartney, Thomas et al. 2010). There is supportive evidence for interventions such as 'Healthy Towns' (combining infrastructure and social marketing) (Romon, Lommez et al. 2008) and 'Cycle Demonstration Towns' (a comprehensive town-wide approach to promoting

cycling) that comprise multiple components including structural changes (Cavill 2009; Yang, Sahlqvist et al. 2010).

3.5.1.3 Food

In terms of promoting healthy eating, four interventions were described: promoting fruit and vegetables via convenience stores; the use of discount coupons; workplace-based interventions; and the ‘5 a day’ labelling scheme. Promotion of fruit and vegetables via convenience stores (under the Change4Life campaign) had little impact on food purchasing in the Department of Health-commissioned evaluation (Jigsaw Research 2009; Synovate 2009). A systematic review has noted that environmental interventions in grocery stores were the least effective approach in comparison to other environmental interventions (Seymour, Lazarus Yaroch et al. 2004). Discount coupons to promote healthy eating appear to result in short-term improvements that are not sustained in a recent UK-based RCT (currently unpublished) (Stead, Eadie et al. 2011). Workplace-based interventions to improve healthy food consumption have good supportive evidence (Pomerleau, Lock et al. 2005; Steyn, Parker et al. 2009). No evidence to determine the effectiveness of expanding the range of foods counted towards the ‘5 a day’ fruit and vegetables licensing scheme was identified.

3.5.1.4 Alcohol

Two statements in the White Paper described interventions to reduce alcohol harms (strengthening alcohol licensing and a ban on below cost sales). Some evidence supports the possibility that increasing stringency of alcohol licensing reduces alcohol-related harms (Department for Culture Media and Sport 2008; Jackson, Johnson et al. 2010). However, the expert adviser noted this would only be effective if accompanied by adequate enforcement, which may be less likely if local authorities are spending less money in this area (Petra Meier, Personal Communication). Modelling studies suggest a ban on selling alcohol below cost is equivalent to a minimum unit price of 20p and is ineffective at reducing consumption and harm (Purshouse, Brennan et al. 2009; Purshouse, Meier et al. 2010).

3.5.1.5 Tobacco

Three statements describe tobacco interventions, namely: cigarette plain packaging, banning tobacco displays in shops and banning tobacco vending machines. No jurisdiction has yet introduced and evaluated plain packaging of cigarettes, but evidence of likely mechanisms for the intervention (such as reductions in brand appeal and increases in effectiveness of health warnings) and expert opinion provide some supportive evidence for this intervention (NICE 2008b; Hammond 2010). Evaluations and empirical support for mechanisms suggest banning the display of tobacco in shops (Lovato, Linn et al. 2003; Wakefield, Germain et al. 2006; McNeill, Lewis et al. 2011) and banning the sale of tobacco from vending machines (Stead and Lancaster 2005; Bates, Blenkinsop et al. 2007; NICE 2008b) will be effective in reducing tobacco consumption and underage use.

3.5.1.6 Primary care

Two statements describe primary care population health interventions – ‘Healthy Living Pharmacies’ and universal cardiovascular screening. The provision of health promotion advice and services from pharmacies (‘Healthy Living Pharmacies’) has supportive evidence (Sinclair, Bond et al. 2004; Bowhill, Bowhill et al. 2010; NICE 2010b). However, the provision of universal cardiovascular risk screening for those aged 40-74 years is not supported, with targeted screening a more cost-effective option (Chamnan, Simmons et al. 2010; NICE 2010b).

3.5.1.7 Employment

Three employment interventions were described in the White Paper (employee wellness programmes, tools for employers to improve health and removal of the default retirement age). In general, NICE guidelines provide support for employee wellness programmes. But in an accompanying systematic review, problems related to the quality of evaluations are noted (Graveling, Crawford et al. 2008; NICE 2009d). A tool to stimulate employers to promote health is included in NICE guidance, but the associated systematic review again notes that no evidence was identified on facilitators for employers in promoting health (Dugdill, Brettle et al. 2007; NICE 2008c). Phasing out the default retirement age has some limited supportive evidence (Waddell and Burton 2006; Joyce, Pabayo et al. 2010; Maimaris 2010). In particular, the evidence suggests increased control

over retirement decisions may confer health benefits, but the evidence base is weak and differential impacts have not been assessed.

3.5.1.8 Welfare

The White Paper argues that seven different welfare reforms will result in health benefits (see Table 3.2). Early work-based interventions for individuals developing health problems appears to be effective in maintaining employment and there is supportive evidence for some specific health outcomes, notably musculoskeletal problems (Waddell, Burton et al. 2008). An Institute for Fiscal Studies modelling analysis suggests that incentivising welfare payments towards work (via the introduction of the single ‘Universal Credit’) will tend to be effective in encouraging movement of unemployed individuals to paid employment and will benefit poorer families overall (Brewer, Browne et al. 2011). A systematic review of the impact of changes to disability benefits found equivocal evidence that tightening assessment processes resulted in increased labour market participation (Barr, Clayton et al. 2010). There was some evidence that large increases in the generosity of benefits may result in a small reduction in labour market participation. However, the health effects are uncertain and while there is supportive evidence for health benefits of paid work, it is unclear if this relationship is causal (Waddell and Burton 2006).

‘Welfare to Work’ programmes (aiming to help people on benefits move back into paid employment) are generally associated with improved employment outcomes in US studies (Smedslund, Hagen et al. 2006). UK evidence suggests that the population effect may be limited, with those most in need not being reached (Clayton, Bambra et al. 2011). Some evidence relating to the new ‘Fit Note’ (replacing the previous system which relied on sick notes) suggests people are more likely to remain in work as a result of this approach, but there is a lack of evidence on health impacts (Sallis, Birkin et al. 2010).

3.5.1.9 Green space

For all four stated interventions in this area (community ownership of green space, growing your own food, a national tree-planting campaign and tree-planting on NHS sites), there was an absence of evidence and therefore it is not possible to assess likely effectiveness. However, there was supportive evidence for an association between green

spaces and health derived from observational epidemiological studies and human experimental studies assessing biochemical measures (Bowler, Buyung-Ali et al. 2010; Lee and Maheswaran 2010; Park, Tsunetsugu et al. 2010). In addition, there is some observational evidence that differential access to green space may contribute to the creation of health inequalities (Hartig 2008; Mitchell and Popham 2008).

3.5.1.10 Housing and neighbourhood

Six statements in the White Paper related to housing and neighbourhood (see Table 3.2). There was an overall lack of evidence assessing effectiveness of interventions for health outcomes in this area. Lifetime Homes are voluntary building standards that aim to facilitate access for those with disabilities, especially focusing on wheelchair-users (Habinteg 2011b). An evaluation of residents' views noted high levels of resident satisfaction, but health outcomes have not been assessed (Sopp and Wood 2001). In addition, concern has been expressed at the voluntary nature of the Lifetime Homes standard (rather than incorporating these features as a default in the compulsory Part M building requirements (Habinteg 2011a)) and its failure to tackle negative social attitudes amongst those in the housing industry (Milner and Madigan 2004; Imrie 2006). Interventions to address fuel poverty such as winter fuel payments (El Ansari and El-Silimy 2008), improving energy efficiency of homes (Thomson, Thomas et al. 2009) and the Warm Front Scheme (Warm Front Study Group 2008) had largely positive evidence for effectiveness. There currently appears to be a lack of evidence of effectiveness for health outcomes for home adaptations to maintain health and mobility amongst older people in general (Clemson, Mackenzie et al. 2008; Martin, Kelly et al. 2008; Turner, Arthur et al. 2011). Free bus travel for older people appears to have a limited impact on health or social inclusion, but does appear to promote modal shift (reducing car use) (Scottish Government 2009b).

3.5.1.11 Community interventions

Five statements could be characterised as community interventions and in general, there was a lack of evidence for this topic. The use of community agents to promote the uptake of services (such as 'Gloucestershire Village Agents') has some supportive evidence but of poor quality (Popay, Attree et al. 2007; Callinan 2008; Swainston and Summerbell 2008). 'Community Health Champions' aiming to improve healthy behaviours appear to have

poor quality evidence to support their effectiveness for some behaviour changes but not others (Swainston and Summerbell 2008; Fleury, Keller et al. 2009; White, South et al. 2010). Community agents to work with older people to reduce social isolation have trial evidence showing no effect but these studies may not be directly applicable to modern England (Cattan, White et al. 2005; Dickens, Richards et al. 2011). We were unable to find evidence on health impacts for ‘Community Learning Champions’ (NIACE 2011) and ‘Older People’s Day’. It is noteworthy that the range of actions suggested by the White Paper is narrower than those described by the NICE guidance on community engagement to improve health (which highlights the breadth of community engagement that can be achieved) (NICE 2008a).

3.5.2 Evidence on inequalities

There was an absence of evidence relating to differential impacts of interventions on population subgroups throughout. This was also a consistent finding amongst systematic reviews that attempted to assess effects by subgroup (Bambra, Gibson et al. 2008). Evaluations of many interventions targeted at specific communities (e.g. deprived populations) tended to describe those affected or participating, but to what extent the intervention had been successful in reaching those in most need was often not reported. Evaluations of interventions not targeted at specific communities usually did not report how well those most in need had been reached.

3.5.3 Quality of evaluations

Many of the evaluations of specific named interventions highlighted in the White Paper (such as ‘The Cycle Challenge’ (Bennett and Stokell 2009), ‘Altogether Better Community Health Champions’ (White, South et al. 2010), ‘Change4Life’ promotion of fruit and vegetables in convenience stores (Jigsaw Research 2009; Synovate 2009) and the ‘Gloucestershire Village Agents’ (Callinan 2008)) did not assess effectiveness in a robust way. Frequent methodological issues include inappropriate outcomes (e.g. subjective provider assessments of participant benefit), inadequate characterisation of participants receiving the intervention (i.e. a lack of description regarding the population studied, making generalisability difficult), the lack of a control group, ignoring the impact of attrition and response bias. Explicit attempts to reduce the potential for confounding at design (e.g. randomisation) or analysis (e.g. adjustment) were also uncommon.

Evaluations frequently did not report on health outcomes, even those assessing interventions explicitly targeted at improving health; instead often reporting on the satisfaction and uptake of interventions. For example, the ‘Altogether Better’ thematic evaluation of ‘Community Health Champions’ did not attempt to measure outcomes but instead aimed to capture learning about the community health champion role (White, South et al. 2010).

3.6 Results 2: The application of the Nuffield ladder

3.6.1 A systematic analysis

By adopting a systematic approach to categorising statements within the White Paper, this allows the application of the Nuffield ladder to be assessed in an explicit way. The assessments (conducted by two independent reviewers) relating White Paper statements to the Nuffield ladder are presented in Table 3.3. Good agreement was achieved for the Nuffield ladder categorisation between the two reviewers (weighted kappa=0.76, 95% agreement) of the 51 interventions within the White Paper.

In general, interventions in the White Paper largely focus on enabling individuals to change their behaviour in order to improve health, rather than more direct government-led approaches targeting the overall population (mode=2, median=3 and range=1-6). There appears to be no clear relationship between the level of the Nuffield ladder targeted by an intervention and its effectiveness.

The extent of state intervention appears to vary markedly across topics. Interventions to reduce alcohol and tobacco use tend to be the most restrictive with interventions such as a ban on tobacco vending machines, stopping tobacco displays in shops and increasing the stringency of alcohol licensing requirements showing a willingness to operate at the higher rungs of the ladder. In contrast, physical activity interventions tend to enable choice with community running, cycle training, volunteer-led walks and sports competitions for children, providing examples. The greater willingness for state intervention within alcohol and tobacco is a theme that will be returned to in Chapter 9.

3.6.2 A critical analysis

The White Paper's application of the Nuffield ladder appears to differ markedly from the original Nuffield report. In the original articulation by Nuffield, the report proposes that lower rungs of the intervention ladder should be used in preference when equally effective measures exist. However, the Nuffield report explicitly rejects the idea that the lower rungs should be tried before more restrictive action is taken – an approach which the White Paper suggests:

Working through our new Public Health Responsibility Deal, the Government will aim to base these approaches on voluntary agreements with business and other partners, rather than resorting to regulation or top-down lectures. However, if these partnership approaches fail to work, the Government will consider the case for ‘moving up’ the intervention ladder where necessary. For example, if voluntary commitments from business are not met after an agreed time period, we will consider the case for introducing change through regulation in the interests of people’s health. (Department of Health 2010b, pg 30)

The above quotation also illustrates how the private sector's role in public health considerations differs markedly between the two documents. In the Nuffield report, the importance of regulation is highlighted with government having an “important facilitatory role through the policies and laws it puts in place” (Nuffield Council on Bioethics 2007). In contrast, the above quotation shows that the White Paper advocates partnership working with industry, particularly through its high profile Public Health Responsibility Deal.

The White Paper is also inconsistent in its application of public health ethical principles across different areas of public health. Most noticeably, it introduces an explicit distinction between the government's role in health protection and other areas of public health with a more interventionist approach advocated within health protection than elsewhere. No specific rationale is provided for this distinction. The application of the ladder of interventions is further confused when the White Paper advocates evidence-based regulatory measures for smoking and alcohol while ignoring evidence-based regulatory measures that might be applied to physical activity and food interventions. It is unclear why smoking and alcohol should differ from physical activity and food. In

contrast, the Nuffield framework adopts consistent principles to its treatment of all areas within public health.

Comparison of the White Paper's approach to obesity with the Nuffield Council's approach illustrates how they differ despite apparently drawing on the same underlying principles. The Nuffield report emphasises the limitations of information and individual choice:

The notion of individual choice, responsibility and autonomy is especially difficult to apply in relation to obesity. There are barriers for people wishing to achieve behaviour change [...] People's personal behaviour 'choices' are to a substantial degree shaped by their environment, which in turn is heavily influenced by local authorities and national government, industry and others [...] Therefore, policies based on education, information and individual choice alone are not likely to succeed. (Nuffield Council on Bioethics 2007, pg 86)

In contrast, the White Paper repeatedly emphasises the importance of choice. It also argues that central government initiatives to address public health problems have failed:

The dilemma for government is this: it is simply not possible to promote healthier lifestyles through Whitehall diktat and nannying about the way people should live. Recent years have proved that one-size-fits-all solutions are no good when public health challenges vary from one neighbourhood to the next. (Department of Health 2010b, pg 2)

The argument against regulation is therefore based on the basis of the perceived failure (without giving supportive evidence) of central government action.

Food labelling provides a more concrete example that highlights the difference between the two approaches to policies for tackling obesity. Application of the Nuffield Council's stewardship model suggests regulation of the food industry to introduce an effective front-of-pack label scheme is warranted:

[...] we consider that businesses, including the food industry, have an ethical duty to help individuals to make healthier choices. The food and drink industries should therefore review both the composition of products that they manufacture and the way they are marketed and sold. Where the market fails to uphold its responsibility, for instance in failing to provide universal, readily understandable

front-of-pack nutrition labelling or in the marketing of food more generally, regulation by the government is ethically justifiable. (Nuffield Council on Bioethics 2007, pg 90)

Such a commitment is noticeably absent from the coalition government's White Paper and subsequent public health policy. Unlike the Nuffield report, the White Paper does not make a distinction between restriction on individual freedom and corporate freedom. Food labelling highlights the importance of this distinction.

Consideration of an ethical framework within the White Paper reminds those involved in public health that ethics are integral to public health policy and action. There remains a need for refinement of the principles underpinning public health ethics and their application to inform policymaking (Roberts and Reich 2002; Kass 2004; Wilson 2009; Walton and Mengwasser 2012). A government's approach to public health is legitimately a political decision (subject to democratic accountability) and not something that has to be based on one specific ethical framework; the ethical approach could be liberal, utilitarian or stewardship-based, for example. However, this analysis suggests that the application of a conceptual framework in public health policy can result in its modification in subtle ways, perhaps to fit the political context. This modification of ideas may be problematic, especially since this interpretation of the Nuffield ladder may serve as a template for the consideration of public health ethics in future policy documents.

To conclude this comparative analysis, the coalition Government draws on the Nuffield Council's framework on public health ethics to inform its public health approach. However, there is a disjunction between the Nuffield framework's original articulation and its use in policy. The ethics of 'Healthy Lives, Healthy People' seem more akin to a classical liberal position (Radoilska 2009). The general emphasis on personal choice and responsibility rather than use of regulation and legislation is not unique to the current White Paper. Indeed, the previous Labour Government's last public health strategy placed an increased emphasis on behaviour change and personal responsibility (Department of Health 2004). But the partial use of the Nuffield report makes the White Paper's ethical basis unclear, especially the application of the intervention ladder. It is unclear, for example, whether the emphasis on partnership between individuals, governments and corporations will allow for the nuanced distinction between individual and corporate rights that Nuffield argues is important for an effective public health ethics. In addition,

this examination shows the potential for ideas to be modified as they travel from evidence into policy.

3.7 Results 3: An abstract idea – Nudge

As expected based on broader rhetoric from the coalition Government, insights from behavioural science are drawn upon to argue that it is necessary to help guide people's choices by:

[...] changing social norms and default options so that healthier choices are easier for people to make. There is significant scope to use approaches that harness the latest techniques of behavioural science to do this – nudging people in the right direction rather than banning or significantly restricting their choices. (Department of Health 2010b, pg 30)

Thus the White Paper explicitly acknowledges the inevitable influence that the environment (or choice architecture) has on individual decision-making. Furthermore, specific reasons for pursuing a behavioural science approach are referred to. For example:

Few of us consciously choose ‘good’ or ‘bad’ health. We all make personal choices about how we live and behave: what to eat, what to drink and how active to be. We all make trade-offs between feeling good now and the potential impact of this on our longer-term health. (Department of Health 2010b, pg 29)

Here, the White Paper appears to particularly draw upon some of the same critiques that are made in the book Nudge to argue that humans do not behave like purely rational beings, exhibiting preferences that vary and are inconsistent over time (referred to as ‘dynamically inconsistent’ in Nudge (Thaler and Sunstein 2008)).

In addition to the acknowledgement that environments are important in influencing health, the White Paper also argues against paternalism on the same basis as within the book Nudge:

When it comes to improving people’s health and wellbeing, we need a different approach. We cannot just ban everything, lecture people or deliver initiatives to

the public. This is not justified and will not work. Nor should we have one-size-fits-all policies that often leave the poorest in our society to struggle. (Department of Health 2010b, pg 29)

Similarly, as noted in relation to the Nuffield ladder, the White Paper emphasises the importance of “enabling and guiding people’s choices wherever possible”. In addition, Nudge is one of the few academic references cited that was not government-commissioned. Thus, a reasonable claim can be made that the idea of nudge appears prominent in the rhetoric. In setting out the coalition Government’s position, the White Paper appears to articulate a view of libertarian paternalism which would therefore be focused on addressing public health issues through changing the choice architecture that people encounter in their lives, to facilitate the adoption of healthier behaviours. However, this position stated in the White Paper appears to relate poorly to the actions described. When compared to the assessments of the level of the Nuffield ladder, 14 of the 51 interventions relate to the level that would best constitute a nudge, for example.

Establishing what constitutes a nudge is problematic and this crude measure can only provide an illustration of the disconnect between the behavioural science rhetoric and articulated policy actions of the White Paper. Another approach to considering the extent to which interventions related to nudge are actually incorporated into policy is to look at some of the most clearly described and prominent actions within the White Paper. A total of seven interventions in the White Paper are highlighted by presenting a more detailed box which act as exemplars for the coalition Government’s vision of public health. Of these, only two appear to draw directly upon nudge: ‘Change4Life’ describes changing the display of fruit and vegetables within convenience stores; and ‘Step2Get’ which describes the use of a swipe card to obtain rewards as a method to encourage students walking to school). In contrast, ‘Gloucestershire Village Agents’, ‘Workplace Cycle Challenge’, the ‘Lesbian and Gay Foundation: Face2Face Counselling’, ‘Altogether Better Community Health Champions’, ‘Healthy Living Pharmacies’ and ‘Run Dem Crew’ do not appear to draw upon nudge in any meaningful way.

3.8 Discussion

This chapter has investigated the influence of three different forms of evidence on ‘Healthy Lives, Healthy People’. Assessing the evidence of effectiveness for interventions referred to in the White Paper provided the bulk of the findings of this chapter. Detailed consideration of this instrumental use of evidence was pursued since this direct influence coincides closely with the mainstream medical and public health perspective of how evidence should be used. In contrast, to the White Paper’s rhetoric about pursuing ‘what works’, many interventions that were advocated lacked evidence and some had evidence to suggest they would be ineffective. In addition, evidence in relation to the impacts on health inequalities for interventions specified within the White Paper was lacking.

More conceptual forms of evidence, the Nuffield framework of public health ethics and nudge, were investigated by critically contrasting the original work articulating them with their application within the White Paper. These are helpful to supplement the main analysis since conceptual forms of evidence may help policy actors in their attempts to understand the world by providing an intellectual paradigm from which to think about policy issues. Despite the clear incorporation of both the Nuffield framework and nudge into rhetoric, the White Paper did not appear to apply these directly into the stated actions. In the case of the Nuffield framework, despite directly reproducing elements of the Nuffield framework into the White Paper, the application of the framework appeared to differ markedly from the approach described within the original Nuffield report. Meanwhile, insights from behavioural economics received rhetorical prominence, but there appeared to be relatively few actions that built upon the perspective described by nudge.

3.8.1 Implications for thesis

While there are a number of limitations of the work presented (discussed in Chapter 9), this examination of the coalition Government’s public health White Paper describes a number of relevant findings for this thesis. First, the chapter systematically demonstrates that despite the prominent discourse relating evidence and policy, instrumental use of evidence continues to be limited. The fact that no supportive evidence for population

health interventions advocated is cited illustrates that policy documents are targeted at different audiences from academic papers or reports (Prior 2003). This is no surprise but is nevertheless worth stating. However, of more interest is the fact that there clearly are cases where the White Paper engages with the existing evidence base. For example, in relation to the ‘Family Nurse Partnership’, the White Paper states:

At neighbourhood level, increased numbers of health visitors, working with children’s centres and GPs, will lead and deliver the Healthy Child programme, alongside the evidence-based Family Nurse Partnership (FNP) programme.

(Department of Health 2010b, pg 32)

But why is specific evidence alluded to in these cases and has the existence of this evidence actually influenced policymaking? Or in the terms of Carol Weiss (1979), are these examples of evidence exerting an instrumental or political impact on policymaking? To better understand this, it would be necessary to ‘know’ first, what the authors (widely defined, hence including politicians and civil servants) of the policy document actually understood of the evidence base and second, whether this influenced the policy decisions adopted. While this broad case study provides a good method for describing the relationship between evidence and policy across national public health policy, it is poorly suited to identifying explanations for how and why influences have occurred.

Second, there is an absence of evidence (and especially high quality evidence) in many areas. This is especially the case for interventions targeted at the population (rather than the individual) or that aim to influence the distal determinants of health. As noted in the previous chapter, traditional epidemiological techniques have been stronger at allowing inferences to be made for interventions at the individual-level and that allow manipulation by the investigator (and hence likely to be a proximal determinant of health). While methodological developments (such as new guidance on the evaluation of natural experiments (PHSRN 2010)) may help in addressing this gap, there remains a tension between implementing novel interventions and pursuing an evidence-informed approach.

Third, and in contrast to the point above, there are interventions which have supportive evidence that are not incorporated into stated policy. Examples include a traffic-light system of food labelling and meaningfully increasing the price of alcohol (through, for

example, minimum unit pricing), despite these high-profile interventions having been advocated within the public health community around this time (NICE 2010b; NICE 2010a). What are the processes that lead to such interventions being considered and ultimately, incorporated into policy? Again, answering such questions requires more detailed qualitative work than this chapter allows.

Fourth, the examination of more conceptual pieces of evidence provides a helpful complementary perspective on the relationship between evidence and policy. The Nuffield report describes a conceptual framework and could therefore be regarded as more susceptible to changes in interpretation than an evaluation of a specific intervention. In the case of the White Paper, study of the Nuffield framework illustrates the potential for evidence-based ideas to be adapted to fit the political context – the journey from evidence into policy is not straightforward. Rather, the Nuffield framework appears to have been deliberately reinterpreted to support an ethical position more akin to classical liberalism, a process reminiscent of the concept of a ‘fractured journey’ (Smith 2007). As Smith notes from her research on health inequalities:

Interviewees suggested the ‘sellability’ of ideas was shaped by the wider political framework; if an idea is thought to overtly conflict with ruling political ideology, marketing to a policy audience may require a shift in meaning of the idea or, at the very least, a more flexible construction of the idea.

Indeed, authors of the Nuffield Council’s report were consulted by the Department of Health during the development of the White Paper. It therefore appears necessary to understand the role of political context within policymaking, as evidence and politics may intersect.

Studying the relationship between nudge and the White Paper draws attention to the possibility of other journey types from evidence to policy. In relation to nudge, the disconnect between rhetoric and policy suggests that the idea has undergone a partial journey (Smith 2007), where rhetoric has obtained prominence within policy discourse but has not (yet) led to observable change in stated policy. However, the theoretical inconsistency underpinning nudge makes assessing the extent that actions are informed by nudge difficult to assess.

3.9 Chapter summary

This chapter has therefore illustrated that the relationship between evidence and public health policy continues to be complex and despite the rhetoric, is not a straightforward ‘rational’ picture of policymaking. However, there are signs of evidence being influential, but not always in the ways that might be expected. Frequently, there remains an absence of evidence in many areas of public health policy. While this could be considered disappointing, it may be inevitable, as policymakers continually seek to provide innovative solutions to complex problems in a continually changing context (Sanderson 2002; Tang, Ehsani et al. 2003). To better understand the processes by which evidence influences policymaking, it appears clear that political factors must be considered alongside the evidence base.

In the remainder of this thesis, the development of minimum unit pricing of alcohol will therefore be considered as a more detailed case study. This intervention is worthy of study for a number of reasons. First, alcohol policy is an area that has become a policy priority over recent years. The development of minimum unit pricing therefore allows an investigation of the process through which the topic captured the attention of policymakers, and in particular, if evidence played a role in this process. Second, it represents a novel intervention where conventional forms of evidence (particularly evaluation studies) were unavailable. It therefore provides an opportunity to learn how evidence can inform decision-making in the common situation (as this chapter demonstrates) where there is an absence of evidence. Third, minimum unit pricing is itself an intervention of substantive public health interest since it has been identified as having the potential to result in considerable benefits for both population health (Purshouse, Meier et al. 2010) and health inequalities (Bambra, Joyce et al. 2010). An understanding of the factors that resulted in this policy’s adoption within Scotland may have implications for those advocating for alcohol, or more broadly public health, policy elsewhere.

4 Methods

4.1 Overview

This chapter describes the methods used for a more detailed analysis of the role of evidence in the development and debate around minimum unit pricing of alcohol – a major public health policy recently introduced into legislation in Scotland. However, an investigation solely focusing on the roles of evidence when investigating the policy process risks neglecting the importance of the role of agency and broader social, political and institutional factors. Therefore a broader approach to understanding the policymaking process, while highlighting the implications for the evidence-policy debate, is needed.

To investigate the relationship between evidence and public health policy, minimum unit pricing has been investigated as a policy case study. Three complementary approaches to investigating the development of minimum unit pricing were used:

- A review of policy documents was conducted in an attempt to construct a timeline of key events and provide a description of the policy's development.
- A content analysis of documents submitted to the Scottish Parliament's Health and Sport Committee by relevant stakeholders to the minimum unit pricing debate was conducted.
- In-depth interviews were carried out with a range of policy stakeholders (including politicians, civil servants, academics and minimum unit pricing advocates) working in the Scottish and UK contexts.

These three approaches were used in combination to answer these research questions (that are covered in the subsequent four chapters, in turn):

- Describe the development of minimum unit pricing policy and the role of evidence in this process
- Examine the role of framing in the policy debate and how evidence was used to support different constructions of the policy issue.

- Describe the perspectives of different policy stakeholders on the utility and influence of econometric modelling for public health policy.
- Provide explanations for how and why minimum unit pricing developed in Scotland.

4.2 Methodological approaches

The overall methodological approach underlying the investigation of minimum unit pricing policy has been the policy case study. Case study methods are generally well suited to identifying explanations for the occurrence of contemporary phenomena over which the researcher has little control (Yin 2008). They are particularly well suited to developing and refining theory. For the analysis of minimum unit pricing, three different data sources have been drawn upon, each requiring distinct methods for analysis. Table 4.1 describes how these sources of data were used to answer the different research aims in the subsequent empirical chapters. Following this, each of the methodological approaches used to analyse each data source is detailed.

Table 4.1: Data sources and NVivo coding models used for each research aim in the minimum unit pricing of alcohol case study

Chapter	Research aims	Source of data used	Analysis models (see Appendix 8)
5	Describe the development of minimum unit pricing policy	Primarily review of policy documents, supplemented by descriptive analysis of interview data	1
6	Describe competing framings of the minimum unit pricing debate	Evidence submission documents	2
	Investigate the influence of changes in the framing of the debate on the policy process	Evidence submission documents and interview data	3
	Describe key arguments for and against minimum unit pricing	Evidence submission documents	4
7	Describe policy actors' views on econometric modelling	Interview data	5
	Investigate the influences of the Sheffield model on the policy process	Interview data	6
8	Explain the development of minimum unit pricing using different political science theories	Primarily interview data supplemented by the review of policy documents	7
	Provide an analysis of the policy process that draws upon 'multiple lenses'	Primarily interview data supplemented by the review of policy documents	7

4.3 Review of policy documents

To understand the context and policymaking process for the development of minimum unit pricing, a review of relevant policy document literature was conducted. The intention was to establish a timeline of key events that occurred and build up a picture of the broad context of alcohol policy within Scotland (and to a lesser extent the UK). Published documents were sought which reported on: quantification of alcohol-related issues (either positively or negatively); assessing causes and/or consequences of alcohol use; identification or debate over proposed action(s); and advocacy for specific actions. To

keep the number of policy documents manageable, active searching was limited to the post-devolution period (after 1999). However, a small number of pre-devolution documents were identified as particularly relevant from reference lists of included publications and from discussions with interviewees.

As published policy documents are not usually indexed within academic databases in a standardised and timely manner, a number of relevant sources of grey literature were searched:

- Scottish Government websites
- UK Government websites
- NHS websites (including NHS Health Scotland, Information Services Division Scotland and the Public Health Observatories)
- Known health interest groups (such as the medical royal colleges and Alcohol Focus Scotland)
- Known industry interest groups (such as the Scotch Whisky Association)
- Mass media websites
- Hansard transcripts and the Official Report (Scottish equivalent documenting Scottish Parliamentary and Committee debates)

Relevant documents were sought by using specific search terms (similar to those below) or by reviewing all previous available documents on the relevant website for the time period of interest. Interest groups were identified by reviewing Parliamentary Committee proceedings in both Scotland (Health and Sport Committee 2010a) and the UK (House of Commons Health Committee 2009a), with the websites of only the most prominent (within those documents or the mass media) interest groups searched.

A literature search for academic literature on Scottish and UK alcohol policy was also conducted. Medline, Embase and Social Science Citation Index databases were searched using terms including “alcohol*”, “binge*”, “policy*”, “strategy”, “UK”, “Scotland” and “Britain”. Citation lists within identified academic articles and policy documents, as well as within evidence submissions (see section 4.4), were scrutinized for additional relevant policy documents. In addition, participants in the qualitative interviews (see section 4.5)

signposted recent or upcoming publications during the course of the research. Therefore, while most key policy documents and reports were identified early on in the course of this research, the publication of new documents and identification of additional literature continued during the time period in which interviews were conducted.

Most policy documents and relevant reports were read prior to the conduct of fieldwork. This partly served to educate the interviewer but also allowed for interviewees to be questioned on specific aspects of the policy process that they were thought to have been involved in (or have knowledge of).

The policy documents and reports were not systematically coded but instead reviewed to establish the broad context of the policy environment and help map the range of stakeholder interests (see section 4.4.2).

4.4 Content analysis of evidence submissions

The Scottish Government's legislative process provides an opportunity for more detailed document analysis of a wide variety of stakeholder opinions. Documents submitted as part of the Scottish Parliamentary process were analysed using thematic content analysis (Mason 2002; Ritchie and Lewis 2003) and were also used to determine the relevant stakeholders involved in the policy process who might be appropriate to interview (Varvasovszky and Brugha 2000). Thematic analysis was deemed appropriate since the intention was to establish the dominant framings portrayed in the data rather than detailed semiotic aspects of language use (Hodges, Kuper et al. 2008). This allowed an approach drawn from political discourse analysis to be pursued (described later in section 4.4.3).

In comparison to the analysis of primary qualitative data, studying publicly available documents brings a number of additional considerations and requires an understanding of the purpose and context in which documents are produced (Prior 2003; Freeman and Maybin 2011). A brief summary of the relevant Scottish Parliamentary process which provides the source of the documents for analysis is provided below. Following this, the process of stakeholder mapping using these documents is described and then the methods used for in-depth analysis of evidence submissions detailed.

4.4.1 The source of documents for analysis

There is a standardised process of scrutiny that proposals for new primary legislation undergo within Scotland that aims to help ensure new laws are adequately scrutinised (Scottish Parliament 2007). This process differs from the UK Parliament where a second independent chamber (the House of Lords) scrutinises legislation and ultimately makes a political decision (through voting) as to whether legislation should be passed or not (Leach, Coxall et al. 2006a). In contrast, after a Bill is introduced in the Scottish Parliamentary process (by the Scottish Government, a private member or one of the Parliamentary Committees), it is allocated a Parliamentary Lead Committee (Cairney 2011b; Scottish Parliament 2012). Such Lead Committees are generally broadly representative of the electoral representation within the Scottish Parliament. During the first of three stages, the Lead Committee:

[...] will take evidence and produce a report, recommending whether or not the Parliament should agree to the bill's general principles when it is debated in the Chamber. (Scottish Parliament 2012)

This Stage 1 report is intended to brief MSPs about the issue and help inform the Stage 1 Parliamentary debate. In contrast to the House of Lords in the Westminster system, no formal vote occurs within the Parliamentary Committees. Instead, the Stage 1 process is concluded by a Scottish Parliamentary vote by MSPs. If the Bill passes such a vote, it moves forward to receive more detailed ‘line-by-line’ consideration by the Committee at Stage 2 (at which time amendments can be made). Following this, the Bill is voted on by MSPs in the Scottish Parliament again (potentially with further amendments), at which point the legislation is passed (subject to the further formality of approval by the UK Government as to the issue lying within the Scottish Parliament’s competence).

In the case of minimum unit pricing of alcohol in Scotland, the Health and Sport Committee was required to produce a report on the general principles of the Alcohol etc (Scotland) Bill and subsequently the Alcohol (Minimum Pricing) (Scotland) Bill. Given the importance of agenda-setting and policy framing in the policy process (for example, Baumgartner and Jones 1993; Kingdon 2010), documents relating to the earliest consideration of minimum unit pricing (therefore the Alcohol etc (Scotland) Bill) have been studied in this thesis. This Bill included proposals to tackle alcohol-related harms

other than minimum unit pricing (details of which are contained in the next chapter).

While it was not possible to observe the Parliamentary deliberations for the first consideration of minimum unit pricing (having commenced prior to the start of the research), the meetings of the Health and Sport Committee and the main Scottish Parliamentary debate in relation to the second Bill were observed (mostly in person but when this was not possible, on-line) at the Scottish Parliament. Written fieldwork notes were taken during these events.

4.4.2 Mapping of stakeholder perspectives

For the purposes of this thesis, a simple mapping of stakeholders involved in the policy process has been conducted (see Appendix 3). This mapping exercise was primarily conducted to facilitate the purposive selection of interviewees and inform the analysis process. The mapping process was achieved by first creating a list of all stakeholders seeking to influence the Scottish Parliament's Health and Sport Committee's deliberations (through written evidence submissions) (Health and Sport Committee 2010a). Actors were initially grouped into pre-defined categories of advocates, academics, policymakers and industry actors but these categories were quickly revised (to better account for the heterogeneity encountered) into the following groups: academic, health, civil service, public sector, trade representative, alcohol producer, off-trade sales, on-trade sales and supermarket. Given the diversity observed in the positions within alcohol-related industries, it was necessary to distinguish between types of alcohol industry actor – a point raised by other public health researchers during the conduct of this research (Holden, Hawkins et al. 2012). The second dimension investigated as part of the stakeholder mapping process was the position with respect to minimum unit pricing, categorised as: explicitly supportive, neutral (where both positive and negative comments were found but no explicit position was taken), unclear (where no reference to taking a position with respect to minimum unit pricing was found), explicitly against, and exempt (in the case of documents where the organisation would be unable to express an opinion on minimum unit pricing). Documents from all 185 stakeholders providing submissions to the Committee were briefly reviewed (with this information summarised in Appendix 3) while a subset of the documents was studied in greater detail (described in the next subsection).

More detailed methods for carrying out stakeholder analysis have been developed to serve a variety of purposes including assisting policy development, implementation, evaluation as well as analysis (Varvasovszky and McKee 1998; Varvasovszky and Brugha 2000). For the purposes of policy analysis, iterative analysis of the different stakeholders involved is particularly well suited to exploring the importance of different actors as agents in the policy process. However, it is arguably less well-suited as a method for understanding the development of a specific policy and the role of evidence within that process because it pays less attention to institutional and other structural factors. Perspectives focusing on the agency of specific policy actors may result in less generalisable lessons in relation to the policy process because the importance and interests of agents are likely to differ markedly over time and place in a context of ongoing devolution. For this reason, the mapping of stakeholder interests does not form a major part of the analysis but rather provides contextual information and has been used to inform the data gathering process.

4.4.3 Content analysis

4.4.3.1 Selection of documents for detailed analysis

Practical constraints precluded detailed analysis evidence submission documents from all 185 actors to the Scottish Parliament's Health and Sport Committee. To enable appropriate in-depth analysis, those documents submitted to the Committee by the 47 stakeholders who presented both verbal and written evidence were chosen because:

- Those providing oral evidence are chosen by the Committee to reflect the diverse range of interests represented overall in the written evidence submissions
- It is likely that those views represented in both the oral and written evidence submissions would have the greatest influence on the framing of the minimum unit pricing policy debate since these viewpoints would be guaranteed to be heard by Committee members (and are therefore more likely to be picked up in wider public debate)

4.4.3.2 Methods of analysis

To investigate the impact of competing framings on the minimum unit pricing policy debate (Chapter 5), a theoretical framework for analysing political argumentation was drawn upon (Fairclough and Fairclough 2012). This analytical approach originates from a Foucauldian perspective which sees ‘orders of discourse’ as instruments of power that structure society (Foucault 1979; Foucault 2002). Norman Fairclough’s previous work in developing a form of critical discourse analysis extends this way of understanding language as power made manifest. It can be distinguished from the forms of discourse analysis related to formal linguistic analysis where the minutiae of sentence construction, grammar and other linguistic features are analysed (Hodges, Kuper et al. 2008). Critical discourse analysis instead takes a social constructivist perspective to investigate the different competing potential discourses, understand why some discourses become dominant, and then critically evaluate dominant discourses for internal contradictions (from a standpoint that transformation of the world is a desired outcome of this process) (Fairclough 2010). The political discourse analysis approach that informs the analysis of the evidence submission documents in this thesis derives from this body of work. However, this thesis does not refer to the work presented as discourse analysis (while being aware that some, but not all, academics may do so) since the analyses presented do not primarily seek to relate broader orders of discourse (such as capitalism and postmodernity discourses) to the object of study (minimum unit pricing of alcohol). Similarly, while power imbalances are acknowledged, the purpose of the analyses is to better understand the relationship between evidence and the policy process rather than the structuring effects of discourse on power relationships across society. To distinguish between broader ‘discourses’ and competing constructions of social reality created by different uses of language, the more generic terms ‘framings’ and ‘presentations’ will be preferred.

The rationale and approach of political discourse analysis is described in detail elsewhere (Fairclough and Fairclough 2011; Fairclough and Fairclough 2012). As stated above, not all aspects of the method have been followed since the purpose was not to conduct discourse analysis *per se*. Rather, following Hammersley (2003), the study uses the framework derived by political discourse analysis to inform the methods rather than adopting it as a paradigm for research and knowledge. The most relevant aspect of

political discourse analysis that has been drawn upon is the process of reconstructing argumentation – viewed normatively as a dialectical process of exchange and counter-exchange between those holding competing positions (Fairclough and Fairclough 2012).

Initial paper coding of a small subset of documents was conducted using mainly inductive coding, supplemented by some theoretically informed codes (based on knowledge of existing literature). A list of all codes used is available in Appendix 6. Descriptive coding was then completed for all documents using NVivo 9. Following this, codes were refined and used to derive frameworks (matrices) summarising the descriptive coding (Ritchie and Lewis 2003). Two different sets of frameworks were created, one related to the arguments presented by different policy actors and the other describing the sources of evidence drawn upon by policy actors in their submissions (see Appendix 7). In keeping with standard practice, data were coded under multiple themes when appropriate. These frameworks allowed familiarity to be gained with the data, as well as allowing the range of framings that were presented in the documents to be investigated. Frameworks and particularly the consistency of coding was double-checked by an experienced qualitative researcher (Dr. Shona Hilton).

Following the descriptive analysis, Fairclough and Fairclough's analytical approach (2012) provided a helpful method for systematically describing and relating the components of competing framings presented by policy actors. The approach involved identifying a number of different components of different framings: descriptions of the 'goal' to be achieved; the 'values' underpinning that goal; description of the starting 'circumstances'; and the different means to achieving a goal ('means-goal'). Lastly, the alternatives and counter-claims articulated by actors for and against minimum unit pricing are identified.

Since Fairclough and Fairclough's analytical approach was first published after the descriptive analysis had commenced, an iterative process of relating the original data to descriptive codes and then to the higher order conceptual themes was required. This iterative process was performed using NVivo and to a lesser extent, paper-based analysis. This allowed identification of important emergent themes as well as the components of the political discourse analysis framework described above. Identification of different components of the argumentation frameworks was assisted by their relation to descriptive themes (see Appendix 8, model 2) but care was taken to ensure that data coded under other codes were studied. Furthermore, the original data were returned to

so that the exact language used could be studied and to check for the existence of relevant uncoded material.

The ways that the components of the argumentation frameworks related to each other were investigated by comparing the argumentation amongst those expressing support for and against minimum unit pricing. Diversity within the framings of these positions was explicitly focused upon. Explanations for differences between the framings presented in evidence submissions were sought through a constant comparative method with outlying cases particularly scrutinised.

4.5 Stakeholder interviews

4.5.1 *Rationale for interviews*

Publicly available documents inevitably provide an incomplete picture of the policy process for a number of reasons. First, evidence submission documents were not available from all actors who were important in the policy process – in particular, politicians and civil servants did not participate. Second, the documents reflect only one time point in the policy process in Scotland and hence are limited data sources for explaining policy development over time. Third, evidence submission documents to some extent represent the official positions of the actors at that time but only allow partial explanations to be inferred. Fourth, the evidence submission documents need to be understood as inevitably ‘political’ and hence the positions and the arguments underpinning these positions need to be appreciated as potential rationalisations (i.e. stated reasons that do not reflect the real reasons for an actor’s actions or position) (Fairclough and Fairclough 2012).

Interviews allow a two-way dialogue to occur between the researcher and those involved in public health policy and are therefore especially useful for this case study. In particular, they allow questioning of the motives for a position being taken and the processes by which a position was developed. The latter is important for developing an understanding of the influences (or lack thereof) of evidence on the policy process. Furthermore, interviews allow the ‘informal’ aspects of the policy process which are usually not documented in official publications to be investigated. Semi-structured interviews were

chosen to develop an in-depth understanding of the policy process as they help ensure key areas are explored within every interview while also allowing the collection of rich data (Mason 2002). The interviews allowed interviewees' views, understandings and perceptions of the policy process to be elicited, with the semi-structured nature of the interaction allowing additional unexpected topics to be easily explored. A combination of methods allows triangulation across data and therefore assists in ameliorating, although not entirely overcoming, the limitations of any single method pursued in isolation.

4.5.2 Ethics and confidentiality

The study received ethical approval from the University of Glasgow's College of Medicine and Veterinary Science research ethics committee (see Appendix 4). Ethical approval was initially obtained for a process requiring explicit permission from interviewees for the use of every quotation and an amendment was subsequently obtained to make use of anonymised transcripts (prior to the onset of data collection).

The limited number of potential participants for this study increases the risk of interviewee identification and can also make recruitment difficult. To improve the potential for recruitment and the quality of data obtained, a tiered process was arranged for obtaining informed consent (Smith 2008). Consent was obtained not just for participation but also for interview recording (obtained for nearly all cases), the use of quotations in publications and presentations (again available for most participants) and identification of the broad sector the participant was drawn from (i.e. politician, civil servant, researcher, advocate and industry) (see Appendix 5 for consent form). Following the interview, transcripts were annotated to indicate sections not for quotation to help minimise the risk of disclosure. Participants were then provided with a copy of their transcript to review and were asked for any modifications that were required to ensure their anonymity (for example, indicating extra sections of the transcript that should be made not for quotation).

Political science studies of the policy process (and others, including journalists) sometimes make use of attributable quotations rather than confidential interviews. For this research, the latter have been preferred to facilitate recruitment and to improve the potential for achieving depth during interviews, given the high-profile nature of this policy and the fact that data collection was being collected during periods of ongoing policy

change rather than retrospectively (see sections 4.5.3 and 4.8 for discussions of ethical issues arising as a result of this).

4.5.3 Data collection

One-to-one semi-structured confidential interviews (23 face-to-face and 13 by telephone) were conducted. The 36 interviews were conducted between March 2012 and January 2013 with participants purposively selected to include a diverse range of positions with respect to support for minimum unit pricing and a number of other dimensions (including political party for politicians, subsector within alcohol-related industries for industry actors, and department within the civil service for civil servants). Potential participants were initially identified from the two sets of document analysis mentioned above and supplemented by snowball sampling. In cases when a specific type of actor could not be interviewed, alternative participants were identified by asking for a suggested alternative person to interview (in the case of a refusal) or from the document analysis. Recruitment continued until adequate diversity was obtained in the sample and no major new themes emerged in the data (Glaser and Strauss 2009).

Table 4.2 provides a list of interviewees by sector. The categorisation of policy actors into defined sectors by job position can be problematic since movement between categories and dual-membership is common. This has been done here solely for the purpose of providing an overview of the interviewees. There is also considerable heterogeneity within each of the categories listed (for example, industry actors include alcohol producers, the licensed trade and supermarkets who all have different interests (Holden, Hawkins et al. 2012)). Again for reasons of confidentiality, it is not possible to provide further details of the breakdown of participants beyond broad sector. However, diversity within each sector was sought and obtained.

Table 4.2: Breakdown of participants by broad sector

Sector	Number of interviewees
Academic	8
Advocate	7
Civil Service	10
Industry	6
Politician	5

For the analysis and elsewhere in the thesis, the experiences and all relevant professional positions of individual interviewees were taken into account. Given the need to maintain confidentiality, only the most relevant position (rather than all relevant positions) is used for the attribution of quotations in the results. For example, if a respondent was currently working within an alcohol-related industry but was discussing their previous experience working within government as a civil servant, the quotation would be attributed to a civil servant. Furthermore, on some occasions, the sector is deliberately withheld to minimise risk of disclosure.

Interviews were guided by a topic schedule that included questions on the evidence-base around alcohol pricing policy, the role of the Sheffield model and views on the relationship between evidence and policy (see Appendix 5). The topic guides varied by each professional group but key areas covered are summarised in Table 4.3 below. These questions were not asked in order but rather the topic guide was used as a prompt for discussion and to ensure that no key areas were omitted. Interviews typically lasted between 45-60 minutes. Face-to-face interviews were conducted at a convenient location for the participant and were recorded using a Samsung digital audio recorder when the participant gave permission (see section 4.5.2). On most occasions, this was in a quiet location at the participant's place of work (typically, within a meeting room) but sometimes face-to-face interviews were conducted at the interviewer's place of work, either NHS Lothian or the MRC/CSO Social and Public Health Sciences Unit (SPHSU). Telephone interviews were carried out at the SPHSU and were recorded using the Unit's digital recording system.

Table 4.3: Summary of key issues discussed during interviews

Section of topic guide	Key issues covered
Alcohol	Professional background and experience in alcohol policy Drivers for alcohol use and/or harms Reasons for alcohol becoming or not becoming a policy priority Normative ideal roles for different actors in the policy process Actions needed to address alcohol
Alcohol Pricing	Principle of pricing as an intervention Views on minimum unit pricing Roles of different actors in the policy process in reality Impacts of minimum unit pricing expected Future scope for minimum unit pricing and similar policies elsewhere
Role of evidence	Interviewees' use of evidence Perceptions about the use of evidence in the minimum unit pricing policy process Role of researchers Limitations of the evidence base
Scotland compared to the UK	Differences between Scottish and UK policy and reasons for these differences Impact of policy divergence
Concluding questions	Any issues to discuss that have not yet been covered Suggestions for interviewees

Contemporaneous handwritten fieldwork notes were kept during the data collection and analysis process. These were usually written immediately after the interview had been conducted but in some cases, were completed shortly afterwards (when, for example, two interviews had been scheduled close to each other).

4.5.4 Analysis of interview data

Interviews were transcribed by either the interviewer or a professional transcription service (subject to strict confidentiality requirements). Following transcription, interviews were listened to again (at least once but often several times) to check the accuracy of the transcription and annotated to indicate non-verbal aspects of the interaction or emphasis through tone.

Interview transcript data were read repeatedly, coded thematically and re-coded to categorise emergent themes using NVivo 9. Thematic analysis was chosen since it is well suited to the analysis of a relatively large dataset and addressing several research aims,

while also allowing for closeness to the original data to be maintained (Mason 2002; Ritchie and Lewis 2003; Ziebland and McPherson 2006).

Coding was initially developed inductively using descriptive codes to assist in data management. Prior to using NVivo, three transcripts were coded using pen and paper to help establish the first coding frame (i.e. were indexed). These codes were refined during the coding process, with additional codes added, to ensure that all important aspects of the data were captured within at least one code. Links between codes were sought to identify tentative groups of codes (formerly referred to as tree nodes in NVivo 8) which appeared to be linked together and this allowed the formation of a first coding frame. As data were coded, the coding frame was amended on an ongoing basis, with previously coded transcripts reviewed a number of times to allow for the ongoing changes in the coding frame.

In addition to these largely inductive codes, a subsequent coding frame more explicitly drawing on political science theory was used to build upon the initial coding and more clearly organise the data for the purposes of testing political science theory (see Appendix 6 for a list of the categories of codes used).

The iterative coding process facilitated the identification of themes by allowing patterns to be sought across the data. Therefore to address each research aim, the relevant coded data were scrutinised to determine emergent themes. This stage of the analysis was conducted using annotated printed copies of relevant coded data, with themes revised in response to the ongoing analysis process. The principle of the constant-comparative method was used to help identify explanations for patterns within the data, while also paying appropriate attention to contradictory data (Glaser and Strauss 2009).

Fieldwork notes were re-read on several occasions during the analysis process to review the initial impressions about interview data and also checked to help identify explanations for specific emerging findings. During the analysis process, memos were used to note emerging findings for further consideration, using the ‘Memo’ function within NVivo and also by writing notes in the fieldwork journal.

Findings from the interview analysis were triangulated with those from the review of policy documents and the analysis of evidence submission documents.

4.6 Epistemological position

While this thesis is situated within the field of public health, the rigorous study of public health policy as a social practice requires transparency in my position in terms of both ontology (what constitutes the social world) and epistemology (how we gain knowledge about the social world) (Bryman 2008). Traditionally, public health has been underpinned by epidemiology – a science that seeks to create knowledge by testing falsifiable hypotheses. This viewpoint is consistent with a realist ontology which considers the social world as existing independently from our observations of it. Given my background in epidemiology, it is perhaps not surprising that I view the social world in these terms. If it is accepted that one's ontological position is fixed (i.e. a 'skin' rather than a 'jacket' (Marsh and Stoker 2010)) then this might appear to contradict the epistemological approach I adopted for this study, namely a critical realist epistemology.

In contrast to realism, constructivism posits that the social world does not exist independent of personal observations and it is only through observation that the social world is constructed (Bryman 2008). At its extreme, different constructions of the social world therefore exist which cannot be adjudicated between since each construction reflects an individual's observational perspective. If accepted that observations of the social world are theory laden (and therefore inevitably imperfect), how can this be reconciled with an epidemiological perspective that emphasises falsification? On the other hand, an outright rejection of the existence of different constructions of social reality suggests an acceptance of naive positivism – in other words, an acceptance of observations of the social world as being true and accurate representations of the social world. A purely positivist epistemology is particularly unhelpful when analysing public health policy since observations of the policy process (even given the combination of methods outlined above) are 'imperfect' (Marsh and Stoker 2010). For instance, interviewees (and documents) are not able to capture the policy process accurately and completely. Secondly, their representations of the policy process to the researcher are inevitably 'imperfectly' captured through the data collection process – either due to intentionally partial (or misleading) reporting or due to the limits of the communication process. Thirdly, the researcher's own position may colour interpretation of the data. As such, a problematic 'triple hermeneutic' exists.

In this thesis, the approach adopted is based on critical realist epistemology. While accepting that an independent social world exists (a realist ontology), I believe that our observations and knowledge of that world are inevitably imperfect. Furthermore, I consider the interview data to be jointly constructed between the researcher and interviewee, such that the data are situated in a specific context (a social constructivist epistemology). This position accepts that different researchers of the minimum unit pricing policy process may reach different but nevertheless valid findings. A critical realist position also highlights the contingent nature of (social) causation. The mechanisms (including the roles of evidence) that underpin the development of minimum unit pricing are therefore assumed to represent ‘real’ effects on the policy process. However, the extent that these mechanisms operate across different contexts is unknown as social causation is contingent and so lessons learnt from this case study cannot be seen as automatically generalisable but require an understanding of whether context is shared.

4.7 Reflexivity

As accepted by the above discussion of epistemological position, the perspective of the researcher may influence the collection and interpretation of the data. In particular, while the data can be considered to be jointly constructed between the researcher and participant, the interpretation of the data is constructed solely by the researcher. Reflexivity helps to better consider the impact that I may have had on the research and allows readers of this thesis to consider the implications of the researcher’s position for themselves (Mason 2002; Bryman 2008). My perspective and views on the world have arguably impacted upon all aspects of the research process, from the decision to study the topic, to data collection and the analysis process. I will therefore reflect upon each of these stages in turn.

Prior to commencing as a public health specialty registrar, I have had a longstanding (non-academic) interest in politics and have also appreciated its importance in relation to population health and health inequalities since medical school. In addition, I have been interested in the potential for population-based interventions for a number of years, having written for a newspaper in favour of the Scottish smoke-free legislation for public places as a pre-registration house officer (Katikireddi 2005). Starting out as a public health

registrar in Scotland, I was subsequently greatly interested in the development of minimum unit pricing of alcohol. I had been particularly impressed by the research that had been undertaken by Scottish academics to evaluate the impact of the smoke-free legislation and before starting my period of research at the SPHSU, I had explored the possibility of contributing to the planned evaluation of minimum unit pricing. Following the failure of the first attempt at legislation, I decided to focus on methodological research to develop a framework to establish the transferability of evidence but drawing upon alcohol interventions for the empirical work. However, following the election of a Scottish National Party (SNP) majority Government, it was immediately apparent that there would be a new attempt to introduce the policy and I felt that an opportunity existed for research to understand better the development of this public health policy innovation.

The documents that have been analysed in this thesis were produced prior to my commencing fieldwork and therefore these data could not be influenced by me. However, interview data are inevitably jointly constructed, arising from the interaction between interviewer and interviewee. The responses of interviewees were therefore likely to have been influenced by their knowledge about me. Given my professional background, interviewees would frequently assume a high level of familiarity with epidemiology. In addition, they were also aware that the study was sponsored by the UK Medical Research Council and combined with my professional role, would tend to presume an interest in health. Interviewees may therefore be likely to perceive me in quite a different manner to social science researchers who more commonly study the policy process. After the first few interviews, I became more aware of this positioning and endeavoured to ensure that I was explicit in drawing out from interviewees a more complete exploration of the alcohol issue.

I deliberately sought to interview a diverse range of professionals involved in the policy process. I was aware that my own professional background (including experience of treating patients with alcohol-related harms) would be likely to make me more sympathetic to the academic and advocacy viewpoints and the interview data may sometimes reflect this. For example, in early interviews I found I was less likely to explore to a similar level of detail the reasons for supporting minimum unit pricing in interviews

with those who were supportive of the intervention. Once I became aware of this, I tried to explore the reasons for supportiveness through specific questioning.

I found interviewees working within the alcohol-related industries to be very effective in their communication and often felt that they were more persuasive than other interviewees at the time of the interview. With reflection, I felt that a number of common strategies appeared to be used to put forward their arguments in a more persuasive manner, including the use of specific rhetorical tools such as 'yes ladders', where a series of positive responses are sought to allow a greater chance of agreement with the end assertion. A particularly common approach to establish a shared perspective with me was emphasising their own concerns regarding alcohol-related harms and highlighting their personal perspective (for example, discussing the need to help equip their own children with the skills to avoid experiencing harm from alcohol). While having to ensure that a good rapport was built during the interview, I therefore also consciously sought to ensure that detailed reasons for adopting a specific stance were ascertained.

Another observation I made was the diverse backgrounds of those working within the alcohol-related industries. Interviewees had frequently been previously employed within government and/or health-related policy areas and they therefore appeared to have brought their previous skills and knowledge with them. In particular, they were able to make arguments that built upon public health discourses. For example, on occasion they distinguished the alcohol sector from other areas of public health policy (such as tobacco or illicit drugs) or discussed the importance of the social determinants of health in tackling alcohol-related harms. During the analysis of interview data, I attempted to ensure that I considered the likely selective presentation of arguments by the interviewee in response to questioning by a public health researcher.

During the course of fieldwork, I started to explore the possibilities for planning future evaluation-based research (subsequently resulting in a NIHR-funded grant). Through my involvement in developing this grant application, I started to build working relationships with a number of interviewees (either before or after an interview had been conducted). In cases when interviewees were aware of my involvement in developing these evaluation plans, this may have influenced both their decision to participate and the data obtained. This could have resulted in a greater level of trust (and hence higher quality of data) than might otherwise have been obtained. However, there has also been

information that I have been given which has not been captured by my formal data collection processes but rather shared in confidence. In such circumstances, I have tried to ensure that results presented within the thesis are based solely on the data that have been collected. However, it is likely that the analysis and interpretation of data have been coloured by the additional information revealed to me during the course of my interaction with policy actors.

Many of the issues discussed so far have had marked impacts on the analysis process. While I have endeavoured to ensure that no findings in this thesis are based on information given to me outside the data collection process, informal discussions with participants (and relevant others) have undoubtedly indicated areas worthy of exploration. As I have moved from being an observer of the policy process to becoming an (admittedly peripheral) actor within the policy process, I have endeavoured to critically reflect on how my changing position may have impacted upon the analysis I have been conducting. This has been particularly difficult in some areas, such as where our evaluation plans have helped inform some of the details of the sunset clause that have been included in the legislation. By becoming, to a small extent, an actor in the late policy process, there is a risk that the personal relationships and ongoing information I received may have led to my privileging some perspectives in the analysis. I have sought to minimise this risk by ensuring that I pay sufficient attention to contradictory data and checking that I consider the full range of interview data within my analyses.

Lastly, as noted I have a longstanding interest in population-based interventions and have been explicitly interested in gaining a better understanding of how public health practitioners and researchers can become better at using evidence to influence policy development. I am therefore aware that the focus of the findings presented here could privilege the role of active agents and potentially downplay the role of institutional and broader contextual factors. In order to minimise this risk, I have attempted to study evidence alongside other elements of the policy process rather than focusing solely upon the role of evidence.

4.8 Chapter summary

This chapter has set out the methodological approach taken to investigate the case study of minimum unit pricing that underpins the remainder of the empirical work contained within this thesis. Three main approaches have been described: first, a review of policy documents; second, an analysis of evidence submissions to the Scottish Parliamentary Health and Sport Committee; and third, qualitative interviews with policy actors. As well as describing the methods adopted, the chapter has described the researcher's epistemological position and considered how this may have influenced the thesis. Chapter 5 will draw primarily on the review of policy documents (supplemented by information from the interviews) to provide a description of the minimum unit pricing policy process in Scotland. Chapter 6 will build on this narrative to investigate how competing framings have influenced policy development by analysing the evidence submission documents in conjunction with the interview data. Chapter 7 will then focus on the interview data to examine the influences of econometric modelling research conducted by the University of Sheffield on the policy process. Lastly, Chapter 8 will draw upon the analysis presented in the previous chapters, combined with further analysis of interview data, to explain the development of minimum unit pricing by applying different political science lenses to understand the policy process.

5 Results 1: The development of minimum unit pricing in Scotland

5.1 Overview

The chapter starts by providing an overview of relevant literature about the nature of alcohol as a public health problem. Following this, the chapter aims to draw upon the review of published policy documents, supplemented by interview data, to describe the process by which minimum unit pricing developed in Scotland. This *description* of the policy process provides a necessary precursor to more detailed analysis that seeks to *explain* the reasons for the policy's development that constitute the remainder of the empirical work within the thesis.

5.2 Chapter aims

Prior to study the development of minimum unit pricing, an understanding of relevant academic public health literature on alcohol is needed. In addition, a description of the policy process is necessary to facilitate the latter theoretically informed empirical work presented. By providing a description of the events which resulted in the passage of minimum unit pricing into legislation in Scotland, this chapter seeks to minimise repetition elsewhere. This chapter therefore aims to:

- Briefly summarise relevant literature about the nature of alcohol as a public health problem
- Provide a descriptive account of the process through which minimum unit pricing developed in Scotland based on a review of relevant policy documents supplemented by interview data

5.3 Alcohol and its public health consequences

[...] we have with concern, observed, for some years past, the fatal effects of the frequent use of several sorts of distilled Spirituous Liquors upon great numbers of both Sexes, rend(e)ring them diseased, not fit for business, poor, a burthen to themselves and neighbours and too often the cause of weak, feeble and distempered children, who must be, instead of an advantage and strength, a charge to their country [sic]. (Expert Report from the Royal College of Physicians of London submitted to the House of Commons in 1726, cited in The Royal College of Physicians 1987 pg 1)

This quotation illustrates that the adverse health and broader societal consequences arising from alcohol have long been known. Echoing this historical viewpoint, experts in substance misuse have more recently argued that alcohol is the most harmful substance within the UK, largely as a result of the broader societal harms alluded to above (Nutt, King et al. 2010). The Global Burden of Disease study estimated that it is now responsible for 3.8% of deaths across the world and accounts for 4.6% of lost disability-adjusted life years, making it an important modifiable risk factor (Rehm, Mathers et al. 2009). In order to understand the policy debates around minimum unit pricing, some understanding of the mechanisms by which health and societal harms arise as a result of alcohol consumption is necessary. One useful conceptual model considers harms as arising from different levels of scale – that is, occurring at the individual, community and societal levels (Holder 1998). This simple model is used to structure this overview as it facilitates a public health conceptualisation of alcohol.

5.3.1 Alcohol and the individual

Alcohol consumption (or more strictly speaking ethanol consumption) results in complex effects on the biology of the individual. Following oral ingestion, alcohol is predominantly metabolised in the liver via enzymatic oxidation (Brooks and Zakhari 2013). Three main pathways are responsible for this process of metabolism. The first, alcohol dehydrogenase, results in the production of acetaldehyde, a chemical that not only ultimately leads to hangovers but more importantly for public health is carcinogenic as it interferes with DNA repair processes. The second, the cytochrome P4502E1 pathway is less important at low rates of consumption but its induction results in highly carcinogenic

superoxide radicals (that impact on highly proliferative epithelium). This pathway is also chiefly responsible for the medication interactions associated with acute alcohol consumption, that can result in harmful levels of paracetamol or warfarin. The third pathway, catalase, provides one means of metabolism within the brain and hence may play a role in processes of addiction. These pathways are by no means the only mechanisms by which alcohol exerts biological effects, with toxic effects noted on commensal bacteria within the intestines and oral cavity, for example.

Alcohol consumption also results in a variety of positive and negative health effects on the cardiovascular system. Alcohol consumption is an important cause of hypertension which is a major risk factor for heart disease and stroke (Mukamal 2013). Similarly, its use predisposes to atrial fibrillation, an important cause of ischaemic stroke. In addition, as a highly dense form of energy (since ethanol is fermented from sugars), it potentially contributes to the increasing prevalence of obesity which in turn predisposes to both diabetes and cardiovascular disease. Alcohol consumption also results in specific heart disorders, most notably alcoholic cardiomyopathy (Frishman 2013). On the other hand, alcohol is a well known antithrombotic agent, hence providing a mechanism for reductions in heart disease, stroke and peripheral arterial disease.

This brief consideration of biological mechanisms related to alcohol provides a helpful starting point for considering the impacts of alcohol on disease. While alcohol consumption is widely understood by most public audiences to adversely impact the liver, these above mechanisms (and many others) mean that alcohol is implicated in a far broader array of disease processes (Boon and Davidson 2006). Sequelae of alcohol use within the liver itself are varied including reversible fatty change, liver cirrhosis (with its concomitant complications) and hepatocellular carcinoma. As noted above, a number of chemicals produced from the breakdown of alcohol are carcinogenic, thus resulting in areas of high epithelial cell turnover experiencing an increased cancer risk, including the oral cavity, stomach, pancreas, breast and bowel. Antithrombotic effects of alcohol are thought to result in lower cardiovascular mortality in ischaemic heart disease while increasing some specific harms, such as alcoholic cardiomyopathy or alcohol-induced gastric bleeding (Frishman 2013). Alcohol-related central nervous system conditions include alcohol-related seizures (delirium tremens in the case of withdrawal-related seizures but also alcoholic epilepsy), alcohol-related dementia, chronic impairments in

short-term memory (Korsakoff's syndrome), complications arising from thiamine deficiency (Wernicke's encephalopathy) and disorders of affect (including suicide) (Ramachandran 2013). A number of infectious diseases including pneumonia, tuberculosis and sexually transmitted infections exhibit a dose-dependent relationship with alcohol consumption due to a combination of immunosuppressive effects of alcohol as well as indirect effects via adverse socially related factors (Samokhvalov, Shuper et al. 2013).

One particular diagnosis requires some more detailed consideration. While the concept of alcohol dependence is nowadays widely accepted, this has not always been the case (Edwards and Gross 1976). According to DSM-IV, it is characterised by diminished effects of consumption on attaining intoxication, withdrawal symptoms, drinking larger amounts than intended, difficulties in cutting down consumption, adverse impacts on other areas of life, spending considerable time to obtain or recover from effects of consumption and continued drinking despite the knowledge that harms are being experienced related to alcohol use (American Psychiatric Association 2000). Twin studies and adoption studies show that alcohol dependence exhibits considerable heritability (Goldman 2013).

Goldman argues that this finding suggests claims that alcoholism is a 'lifestyle choice' are therefore questionable, since individual volition is curtailed. In addition to the defined diagnosis of dependence, a variety of drinking patterns and cultures has been identified. These are considered further in section 5.3.3.

Many of the diseases considered so far arise predominantly as a result of chronic overconsumption of alcohol. However, consuming excess alcohol on a single occasion (often referred to as binge drinking – see section 5.3.3) is associated with a distinct set of public health harms. As a result of the intoxicant effects of alcohol, increased rates of unintentional injuries, unprotected sexual intercourse and road traffic injuries have been found (Cherpitel 2007; Hughes, Anderson et al. 2008).

5.3.2 Alcohol consumption – From the individual to the family, community and society

So far consideration of harms has been limited to those that may be experienced by the individual who is consuming alcohol. However, alcohol consumption may result in broader adverse impacts on people other than the drinker (and indeed these broader

negative impacts have historically often been of greater concern than individual health harms) (Room 1996).

Broader harms can be categorised into family, community and societal (Holder 1998). At a family level, the intoxicant and addictive effects of alcohol can exacerbate power imbalances within the home and lead to domestic violence, child abuse or neglect and household poverty (as family income is spent on sustaining alcohol consumption) (Gerber 2013). One increasingly high-profile harm is complications of alcohol use affecting the offspring in utero, termed foetal alcohol spectrum disorders (Warren and Murray 2013). In the extreme, alcohol consumption during pregnancy can result in severe mental retardation accompanied by characteristic dysmorphic facies. At a community level, alcohol intoxication is an important contributor to deliberate injuries resulting from violence as well as social disorder and crime (Hughes, Anderson et al. 2008). As previously mentioned, alcohol use increases road traffic risks but many of those adversely impacted may not be the drinkers themselves (Cherpitel, Ye et al. 2005).

Alcohol can be considered to have broader adverse impacts on society. Adverse economic impacts include absenteeism from work, ‘presenteeism’ (i.e. sub-optimal performance at work following prior alcohol consumption) and job loss as a consequence of dependence (Room and Jernigan 2000; Varney and Guest 2002). Consequences of alcohol-related harms may put considerable pressure on public services, such as healthcare systems, long-term social care (as a result of ongoing care needs following injury or alcohol-related cognitive dysfunction, for example) and crime. This in turn may result in increased financial costs that are borne by wider society and suboptimal service provision. Indeed, it has been estimated that for the year 2004, the costs of alcohol-related harms totalled £3.6 billion in Scotland (York Health Economics Consortium 2010).

These harms to others have been referred to as ‘passive drinking’ by the former Chief Medical Officer of England – a term deliberately evoking the discourse of passive smoking (Donaldson 2009). These ‘externalities’ provide an argument for state intervention within a framework of classical economics, since the existence of externalities implies that individuals all operating in their own best interests may compromise attainment of the optimal outcome for society because each individual does not take into account these external impacts on others when making their own decisions (Begg, Fischer et al. 2000). However, it is also worth noting that other arguments can also be used to justify state

intervention. For example, the potential for addiction impedes individual autonomy, thereby suggesting that individuals may not be making choices based on their own best interests anyway (Williamson 2009).

Thus far, a framework based on the levels that alcohol-related harm operate at has helped summarise some (but by no means all) of the health-related harms that might be considered by those involved in policymaking. While a number of important associations have been summarised, it is worth noting that many of the negative causal effects of alcohol are contingent (Room 1996). For example, the extent that alcohol-related road traffic injuries occur is markedly determined by the nature of the transport system (and the availability of public transport) as well as the level and pattern of alcohol consumption (Cherpitel, Ye et al. 2005; Cherpitel 2007).

Prior to beginning the journey of unpicking the policy process, a number of other relevant dimensions of the policy problem are worthy of consideration; namely, the importance of cultures and patterns of drinking, and key population subgroups of relevance from a public health and policy perspective.

5.3.3 Drinking cultures and drinking patterns

Humans have been producing and consuming alcoholic beverages for at least 10 000 years (Hanson 2013). It is therefore unsurprising that it has held important and often positive roles in cultures around the world. Alcohol is associated with a broad range of positive economic impacts, far broader than those arising from production (Room and Jernigan 2000). Its consumption helps sustain a diverse range of jobs selling alcoholic beverages including people working in the licensed trade (when consumption occurs at the place of purchase – for example, pubs, bars, nightclubs and restaurants) and the off-trade (when consumption occurs elsewhere from the point of sale – for example, off-licenses, supermarkets and corner shops selling alcoholic drinks). It has been argued that many of these locations result in wider public benefits, with the local pub often being proffered as an example of an asset that serves as an important public area for the local community to take advantage of (Verso Economics 2010).

Alcohol use is often central to many cultural practices and it has been (and continues to be) important in acts both of celebration and commiseration, as well as often being considered important in facilitating social interactions. Cultures of drinking have

developed in different ways around the world and can help both produce and reinforce social groupings (Room 1996; Room 1997). For example, in many parts of the world, it is traditional for men who work together to consume alcohol (often to excess) to help establish masculine workmate groups (Wilsnack and Wilsnack 2013). Such social bonding rituals may not be entirely positive as these practices may further exclude females from the workforce and reinforce gender discrimination, although gender-based divides appear to exist across all contemporary societies. The potentially ambivalent nature of drinking cultures is reflected by the varied, but frequently focal, role alcohol has in religion – in some cases being endorsed or even encouraged (such as the use of red wine in communion within Catholicism), to being viewed with at least some concern (as in latter Protestantism) or even outright hostility (with abstinence being a requirement in, for example, Islam) (Room 1997; Room 2013).

Given the varied histories of consumption across the world, it is unsurprising that different countries tend to experience different cultures of alcohol consumption. In addition to the different cultural aspects surrounding drinking within populations (and population subgroups) that have been touched upon above, a number of different dimensions can be usefully identified as underpinning these varying drinking cultures (Room and Makela 2000). First, individuals may drink at different rates of frequency – usually considered on a continuum from being abstinent (never drinking) to daily drinking. As noted earlier, this latter frequency of consumption is often considered one feature of the alcohol dependence syndrome.

Second, individuals may consume different amounts when they do drink. It is therefore possible (indeed common within the UK setting) for infrequent drinkers to consume alcohol in an unhealthy manner by drinking too much alcohol on one occasion – often referred to as ‘binge drinking’ (Jefferis, Manor et al. 2007). It is worth noting that this term has no scientifically agreed definition, and has (largely in the past) had an alternative meaning – to indicate a period of prolonged drinking over several days (Herring, Berridge et al. 2008). Within this thesis, the term will be used to indicate the former definition, in keeping with its contemporary public health and policy usage. One influential guideline that has attempted to introduce cut-offs to categorise binge drinking has been the UK government’s recommended drinking limits (Prime Minister’s Strategy Unit 2004). This quantifies consumption based on the number of units of alcohol consumed (where one

unit equals 8g or 10ml of pure ethanol, although it should be noted that differing definitions of ‘units’ or ‘standard drinks’ are used internationally) (House of Commons Science and Technology Committee 2012). Typically in the UK binge drinking is defined as consumption of 8 or more units in men or 6 or more units in women on one occasion. One aspect of this dimension of drinking cultures that is noteworthy is the pattern of drinking by day of the week, with weekday drinking being typically differentiated from weekend drinking. As outlined in section 5.3.1, binge drinking is associated with acute harms that differ in their character from chronic overconsumption. Policy debates have tended to focus on binge consumption by specific groups (especially young people) (Measham and Brain 2005).

Third, the product actually consumed can be considered another important dimension of the drinking culture (albeit one which has important interactions with other dimensions). Traditionally, northern European countries were characterised as predominantly beer consuming while southern European countries more typically drank wine (Gmel, Labhart et al. 2013). While there has been debate regarding whether some drink types are relatively more damaging (Gill, Tsang et al. 2010), it is far from clear that any particular product is more harmful than any other, with the possible protective effects attributed to wine drinking potentially arising from confounding by socio-economic position differences (Nielsen, Schnohr et al. 2004).

Fourth, the place of consumption where individuals within a culture typically consume alcohol can be important when contemplating public health and policy. For example, one typology by Cziksentimihaly contrasts continental drinking in wine shops with German beer halls and the stand-up bar of the English pub (Room and Makela 2000). In the UK context, the importance of the drinking environment has become a key area of policy interest, with the proliferation of ‘vertical drinking establishments’, in response to deregulation to encourage the growth of a ‘night-time economy’, being seen as encouraging rapid (hence potentially problematic in health and social disorder terms) consumption by a predominantly young clientele (Hobbs, Lister et al. 2000).

Fifth, the nature of behaviour that accompanies drinking can constitute an important dimension of the drinking culture (Room and Makela 2000). While alcohol consumption can certainly influence executive decision-making capabilities within the brain, the nature of behaviour that becomes permissible or otherwise remains strongly socially influenced.

For example, the extent that consumption and particularly intoxication is normatively associated with sexuality and sexual practices varies between country cultures as well as within country subcultures. Similarly, the permissibility of drink-driving following intoxication varies (and indeed has been manipulated in a positive direction within the UK context) (Babor, Caetano et al. 2010d). In addition to the normative views about appropriate drunken behaviour, a distinct but related aspect is what becomes labelled as ‘intoxication’. These above dimensions are by no means an exhaustive list but help illustrate the importance of moving beyond simple notions of individual safe drinking and instead highlight the multi-faceted nature of alcohol consumption at a population level.

5.3.4 Alcohol and population subgroups

In the last subsection, the possibility of population subgroups having different drinking cultures was raised. This therefore suggests that different patterns of consumption with potentially different patterns of harm exist. Indeed, specific population subgroups have been of considerable policy importance within the UK. Key population subgroups of relevance to the latter empirical research are now delineated.

5.3.4.1 Alcohol and gender

As might be expected based on the above discussion of drinking cultures, gender relationships with alcohol are variable – with country context being an important factor (Wilsnack and Wilsnack 2013). Across most of the world, alcohol intoxication remains uncommon amongst females and in many countries, consumption by women remains stigmatised, often being seen as a sign of promiscuity or ‘loose morals’. In contrast, consumption amongst men, and particularly heavy consumption, has been associated with masculine prowess.

These traditional stereotypes have become less dominant within the UK over the past few decades. Episodes of intoxication are therefore now common amongst both young males and females (Measham and Brain 2005). However, in contrast to this equalisation of consumption patterns, media coverage frequently continues to stigmatise female (over)consumption in comparison to male drinking (Nicholls 2010). While the trend for females to drink alcohol problematically has been increasing at a greater rate than for males, men continue to consume higher levels and experience more overall and violence-

related harms overall (Hughes, Tocque et al. 2004; Information Services Division 2010). In contrast, women are at greater risk from a similar level and pattern of consumption – at least partly due to smaller body sizes and differences in liver first pass metabolism (Brooks and Zakhari 2013). They are also at increased risk of some specific harms, such as breast cancer (Boon and Davidson 2006) and being affected by gender-based violence. Lastly, as described earlier, consumption during pregnancy imposes specific risks to offspring, most notably from foetal alcohol spectrum disorders.

5.3.4.2 Alcohol and age

Given the harmful health effects of alcohol consumption and the potential for addiction, most societies across the world restrict the sale of alcohol to children (Hingson and White 2013). Indeed, consumption at a young age is associated with higher risks of harm and preventing underage sales has been a key focus for policy efforts. However, young people (typically defined as under 25 years) have more generally been of concern to policymakers (Crombie, Irvine et al. 2007). Within the UK, policy debates have emphasised the rise of binge drinking and related this rise to problems of ‘anti-social behaviour’ and ‘social disorder’ (Prime Minister’s Strategy Unit 2004). Academic work has also highlighted the importance of drinking to achieve intoxication as a goal in itself (attaining ‘determined drunkenness’) but individuals doing so often act in a manner where risks are to some extent appreciated and the potential for negative consequences deliberately controlled or at least curtailed (Measham and Brain 2005; Measham 2006). This research suggests that intoxication is the primary purpose for consumption and modern day drinking cultures (fostered by commercial forces) in the UK have developed to favour this goal.

Another age group that is worthy of specific mention are those of older age (Plebani, Oslin et al. 2013). Traditionally, policymakers have tended to pay less attention to consumption by older people but recent epidemiological data within the UK show that alcohol-related harms are increasing amongst the over-65s (Information Services Division 2010). While patterns of determined drunkenness may be less prevalent, older people are at greater risk from harms due to a combination of lower physiological reserve, comorbid conditions, medicine interactions and social isolation (Plebani, Oslin et al. 2013).

5.3.4.3 Alcohol and socioeconomic position

Alcohol is known to be a major contributor to socio-economic inequalities in health in the UK and elsewhere (Mäkelä, Valkonen et al. 1997; Herttua, Mäkelä et al. 2007; Leyland, Dundas et al. 2007; Mäkelä and Paljärvi 2008). From a public health perspective, alcohol therefore has considerable potential as a modifiable risk factor to be addressed to help reduce health inequalities (Bambra, Joyce et al. 2010).

It is worth noting that while alcohol-related harms appear to be socially patterned, consumption does not exhibit such clear social patterning. For example, in the Scottish Health Surveys overall levels of alcohol consumption are not differentially patterned by socio-economic position while harms remain strongly socially patterned, including when investigated using linked consumption-harms datasets (McDonald, Hutchinson et al. 2009; Lawder, Grant et al. 2011). It has been suggested that different drinking patterns (e.g. daily consumption, binge drinking) might exist in socio-economic subgroups, hence resulting in differing rates of harms. Some evidence exists to support this hypothesis (Casswell, Pledger et al. 2003; Caldwell, Rodgers et al. 2008) but it is worth noting that other research found that differential harm was not accounted for by adjustment for a dichotomous variable representing binge drinking status (McDonald, Hutchinson et al. 2009). At the time of writing, the cause(s) of the apparent different consumption-harm relationships by socio-economic position remain poorly understood.

5.3.5 Measuring consumption and harms of alcohol

So far this chapter has described the multi-faceted nature of alcohol as a public health and policy concern. As has been demonstrated, it is necessary to understand several aspects of alcohol use at an individual and population-level in order to appreciate the overall public health burden. At an individual-level, understanding drinking patterns (in terms of frequency and sessional consumption, for example) is necessary to describe the nature of risk faced by that individual and help deliver appropriate treatment. At a population-level, understanding typical cultures of drinking (including normative drinking patterns) is necessary to assist in the development of appropriate policy responses. In addition, different subgroups of the population experience specific risks, hence highlighting the need for information stratified by socio-demographic characteristics of interest. However, obtaining the required data poses several methodological challenges

and requires a combination of approaches. It is therefore worth briefly summarising the range of key data collection methods pertinent to alcohol epidemiology, including their strengths and limitations, so that their application in policy debates can be discussed later in the thesis.

5.3.5.1 Sales data

Data are often available on the total sales (or a representative proportion of sales) of alcohol within a country. Several sources of such information may exist within any one country and allow a calculation of the total annual per capita consumption (provided basic demographic information is available) (World Health Organization 2011). Sales data are often considered to be the gold-standard method for monitoring overall population consumption and allow inspection of both temporal trends as well as cross-national comparison (World Health Organization 2000). While sales data do not usually provide information on who is consuming alcohol within a population, the level of overall population consumption strongly correlates with the level of population harm and they are therefore an important indicator of population health (Babor, Caetano et al. 2010a).

In the case of the UK, the fact that legally sold alcohol is subject to taxation allows an estimate of the total amount of sales to be calculated from HMRC customs and excise data (Lifestyle Statistics 2013). These data are routinely collected (hence cheaply and readily available) but may not be amenable to breakdown in desirable ways, including being limited by geography, drink type and socio-demographics. Other methods to estimate total population consumption include the use of data derived from sales outlets. For example, the Nielsen marketing company collects information on alcohol sales in a sample of both off-license and licensed alcohol outlets across the UK to derive estimates of sales on an ongoing basis (Catto, Robinson et al. 2010). These commercially collected data have been helpful for Scottish policymakers (as described in greater detail later) because they have allowed disaggregation of sales at the Scotland rather than UK level.

One important source of bias is the potential for unrecorded alcohol consumption (Robinson, Thorpe et al. 2012; Lachenmeier, Gmel et al. 2013). This term includes a number of sources of consumption including smuggled (illegal) alcohol, illicitly manufactured alcohol, substitute alcohols (i.e. products ostensibly not designed for human consumption, such as perfumes or hand gels), home-brewed alcohol (which is

illegal in many countries but home-brewed beer is legal within the UK) and legally imported alcohol. The first three sources are of potentially greater concern as such products may contain additional toxins which can cause harms beyond that attributable to the ethanol content, or in some situations make deliberate use of industrial chemicals (such as methanol) instead of ethanol (Lachenmeier and Rehm 2009; Lachenmeier, Taylor et al. 2011; McKee, Adany et al. 2012; Lachenmeier, Gmel et al. 2013). In addition to the toxic effects of these products, their manufacture and distribution is often associated with organised crime which imposes additional negative public health impacts. However, while such toxic products do cause considerable harm, it is thought that even amongst illicit alcoholic products, the extent of harms attributable to non-ethanol toxins is relatively minor compared to the direct harms resulting from the actual ethanol content itself (Lachenmeier and Rehm 2009; Lachenmeier, Gmel et al. 2013).

5.3.5.2 Survey data

In order to obtain data on patterns of consumption (in contrast to overall levels of consumption) and information on which subgroups are actually consuming alcohol, surveys are frequently used. However, the conduct of surveys is far from straightforward. Surveys can be administered in a wide variety of ways (i.e. the mode of the survey), including face-to-face interview, telephone interview, postal questionnaire and on-line. They frequently use different combinations of questions (i.e. instruments) to obtain the required information from respondents, with both pattern of consumption as well as level of consumption increasingly sought. For example, both the Scottish Health Survey (SHeS) (Bromley, Corbett et al. 2011) and the Health Survey for England (HSE) (Boniface, Bridges et al. 2012) ask questions about overall consumption in the previous week (the level of consumption ascertained in units) as well as episodes of heavy single occasion drinking. While surveys capture detailed data on a sample of the population, the appropriate use of survey data requires careful thought. In terms of selection bias, surveys are susceptible to bias arising from incomplete sampling frames and non-response, while information biases include recall bias, social desirability bias and instrument bias. In general, surveys are prone to underestimate overall levels of consumption since they may not adequately capture those drinking the most alcohol and survey participants may underestimate their consumption (Gray, McCartney et al. 2013).

Surveys may go beyond asking about consumption to seek evidence of dependence or experience of other alcohol-related harms (for example, the SHeS asks the CAGE questionnaire – a tool designed to screen for alcohol dependence). They can therefore help provide more direct evidence of the relationship between consumption and harm than population consumption measures alone can.

5.3.5.3 Alcohol harms

Alcohol harms are frequently categorised in two main ways for the purposes of epidemiological analysis. Alcohol-related harms include a relatively narrow range of harms that are considered to have largely arisen as a result of alcohol consumption and where it is reasonable to assume that the relationship between consumption and the harm to be causal (ISD 2009). In contrast, the broader range of harms that are thought to be due to alcohol consumption constitute the total burden of alcohol harms, referred to as alcohol-attributable harms.

Analysing data on alcohol-related harms can be particularly informative for a number of reasons. First, addressing alcohol harms is the chief interest of public health professionals within alcohol policy and hence measurement is a necessary precursor for monitoring efforts towards this goal. Second, alcohol harms data are often collected through routine vital or administrative health statistics (such as deaths or hospital discharge data respectively) and are therefore often cheaply and readily available. In addition, validation systems (including diagnosis of the cause of death) mean that in many countries, including the UK, these data are considered reliable for monitoring trends in harm, as well as providing indirect evidence on trends in consumption. Third, detailed analysis of health harms data can provide clues as to changing patterns of consumption or other similar changes. Fourth, internationally consistent mechanisms exist for the collation and categorisation of some data, with the WHO's international classification of disease being particularly influential. However, as with other data sources, a number of limitations exist. Health data can be susceptible to changes in diagnostic or coding practice and changes in observed harms do not automatically equate to changes in consumption. As discussed earlier in relation to socio-economic position (see 5.3.4.3), it is possible that different consumption-harm relationships exist by population subgroups, which could therefore account for differences in observed harms, rather than differences in consumption.

Data are frequently available on a wide variety of non-health harms too. Crime data are frequently used and can in some situations distinguish alcohol-related events from other crime occurrences (Booth, Meier et al. 2010). Relevant indicators in the UK context include arrests for drink-driving, assaults, drunk-and-disorderly and domestic violence. Similarly, data may exist or be amenable to collection for other harms of interest, such as sick days from work. However, these data face similar (but arguably greater) limitations than equivalent health data as changes in policing practice and recording have occurred on several occasions within recent times in the UK.

5.3.6 Previous policy interventions to tackle alcohol harms

A multitude of policy approaches have been advocated and used for addressing alcohol problems (Babor, Caetano et al. 2010b). Policymakers have often emphasised the role of education-based measures to tackle alcohol-related harms (Crombie, Irvine et al. 2007). Indeed, knowledge about the potentially harmful impacts of alcohol is often considered necessary for informed decision-making and therefore information-giving about the risks associated with alcohol consumption fits well within a liberal ethical framework. Despite this, efforts to improve labelling on alcohol content (in units) for drinks within the UK market have been slow (House of Commons Health Committee 2009b). However, alcohol education interventions have had disappointing results from a public health perspective (Anderson and Baumberg 2006). Slightly more promising have been broad school-based programmes that have attempted to increase general confidence and self-esteem amongst schoolchildren rather than specifically modify alcohol-related behaviours (Foxcroft David and Tsertsvadze 2011). That said, the effects observed within such programmes have been modest and results of studies mixed. Education-based interventions that target the public are therefore probably a necessary component of public health strategy for addressing alcohol harms but in themselves appear insufficient to deliver significant public health benefits (Anderson and Baumberg 2006).

Historically, most societies have developed mechanisms to limit the availability of alcohol. The UK (and much of the rest of Europe) has long had licensing rules governing who is able to sell alcohol, the hours during which alcohol can be sold and whom alcohol can be sold to (Nicholls 2012a). In some countries and provinces, the sale of off-license alcohol is only permitted by the state (Babor, Caetano et al. 2010f). While this potentially has the effect of limiting availability to a greater degree than licensing mechanisms such as those

within the UK, it can result in paradoxical incentives for the state to raise revenue by maximising alcohol sales. As noted earlier, minimum age restrictions are commonplace globally but in addition, social norms in many countries may make purchase less acceptable for women (Room 2013; Wilsnack and Wilsnack 2013). Rules on who alcohol can be sold to are not limited to socio-demographic characteristics but also extend to prohibition of sales to those acutely intoxicated within licensed environments. Server training (to improve compliance with best practice on the sales of alcohol) has been attempted with variable success (Ker and Chinnock 2008). Restrictions on availability continue to be important mechanisms for addressing alcohol harms (Scottish Government 2009a). In addition to licensing legislation, the enforcement of availability measures remains of interest in contemporary UK alcohol policy, with proof of age schemes being introduced to help tackle underage consumption.

Rather than restricting the availability of alcohol, another strategy has been to encourage alternatives to the consumption of alcohol. One method of achieving this is to ensure the accessibility of non-alcoholic or low-alcohol products, through encouraging their production, availability or affordability (Babor, Caetano et al. 2010c). Another method that has been frequently advocated, particularly for young people, has been the promotion of diversionary activities which can be pursued instead of consuming alcohol (Spoth, Greenberg et al. 2008). While such approaches may have additional public health benefits (for example, encouraging physical activity in the case of sports events or helping to build social capital in local communities), they have tended to focus on underage consumption which does not reflect the largest burden of public health harms (Rehm, Mathers et al. 2009).

Alcohol marketing is prominent in many countries across the world and is associated with increased rates of consumption (Casswell and Maxwell 2005; Gordon, Hastings et al. 2010). The alcohol industry has often been successful in ensuring that marketing remains subject to relatively little independent regulation, with UK marketing being self-regulated by an industry body, the Portman Group (Harkins 2010). While there is currently a lack of empirical evidence demonstrating the effectiveness of restrictions on alcohol marketing, the presence of considerable observational evidence (Casswell and Maxwell 2005; Gordon, Hastings et al. 2010) suggests they are likely to be effective. Advocates for public

health interests have therefore repeatedly highlighted their importance (Babor, Caetano et al. 2010g; Alcohol Health Alliance UK 2013).

Interventions to influence the price of alcohol have been widely used internationally (Babor, Caetano et al. 2010c). Several systematic reviews have now demonstrated a consistent negative relationship between affordability and consumption, so that as alcohol becomes more affordable, its consumption increases (and vice versa) (Huang 2003; Booth, Meier et al. 2008; Wagenaar, Salois et al. 2009). Similarly, a number of natural experiments have demonstrated the expected changes in consumption (and associated harms) following price changes (Babor, Caetano et al. 2010c). For example, Finland lowered its alcohol taxes (by an average of 33%) in preparation for the accession of Estonia to the European Union to reduce the chance of cross-border purchase of alcohol in lower priced Estonia (Herttua, Mäkelä et al. 2008). Following this, alcohol-related deaths increased by 16% in men and 31% in women. The largest cause of these increases in mortality was chronic liver disease (hence illustrating the potential for even 'chronic' causes of mortality to rapidly change in response to changes in the macro-level environment). It would be misleading to suggest that all alcohol-related harms changed as a consequence of this price policy, with violence-related incidents (more closely linked to binge consumption by the broader population) remaining unchanged (Herttua, Makela et al. 2008).

The Finnish experience and considerable body of existing evidence synthesised in systematic reviews illustrate that while the negative relationship between price, consumption and harms is robust and important in public health terms, it is also 'inelastic' in economic terms. Elasticity is defined as the extent to which the sale of a product changes in response to price changes (Begg, Fischer et al. 2000). An elasticity that is lower than -1 is 'elastic' since price changes result in greater changes in consumer demand whereas 'inelastic' commodities have an elasticity of between -1 and 0. Typically, products that can be considered essentials for life are highly inelastic since consumers need to be able to purchase them to survive. One recent meta-analysis reported mean elasticities of -0.46 for beer, -0.69 for wine and -0.80 for spirits but noted that elasticities vary considerably by context (Wagenaar, Salois et al. 2009).

Across much of the world, the best established mechanism for influencing price has been taxation through alcohol duty although in many countries, including the UK, the primary

purpose is revenue-raising for central government rather than public health (Babor, Caetano et al. 2010c). As a result of this secondary consideration of public health, alcohol duty is often poorly designed for addressing alcohol-related harms since duty typically varies by product in a manner not consistent with the associated harms arising from the product's consumption. Another important mechanism for encouraging consumption has been the use of price discounts, with multi-pack discounts thought to particularly encourage an individual to consume greater amounts than they had planned (Booth, Meier et al. 2008; Chick 2012). Hence, interventions to prevent or limit discounting on the basis of price have been introduced within both off-trade and on-trade environments and have broad support within the public health academic literature.

Another important and complementary approach to reducing the affordability of alcohol has been to introduce a floor price below which alcohol should not be sold. The best known example of this has been in some Canadian provinces where a minimum price for selling specific beverages (also referred to as 'reference pricing') has been used within the context of government-operated monopolies (Stockwell, Leng et al. 2006). While some authors refer to these interventions as 'minimum pricing', the nature of this policy differs in some aspects from 'minimum unit pricing' as planned in Scotland. In contrast to minimum unit pricing which applies a uniform rate across all beverage types, reference pricing imposes differing minimum prices that are determined by both alcohol strength and drink type. In addition, minimum unit pricing as planned in Scotland will be introduced into a competitive alcohol market at a national-level, in contrast to the locally applied government-owned monopolies in which reference pricing has been introduced. It is also worth noting that reference pricing was originally primarily introduced for its revenue-raising potential and not its potential public health benefits. Hence, in this thesis the Canadian intervention will be referred to as 'reference pricing'. Other examples of broadly comparable pricing interventions exist, such as the abolition of cheap vodka within communist Russia by Gorbachev, which was associated with remarkable reductions in alcohol-related mortality (McKee 1999).

Addressing public health harms associated with alcohol consumption also requires effective and accessible treatment services to treat those with alcohol dependence (Babor, Caetano et al. 2010h). However, in addition to this relatively small minority of dependent drinkers, a far larger proportion of people exhibit problematic consumption

that places them at risk of increased harm. Health professionals are well placed to administer alcohol brief interventions to prompt these individuals to help change their behaviour (Kaner, Beyer et al. 2007; Latimer, Guillaume et al. 2010). This involves administering a screening tool to identify high-risk drinkers and then delivering advice to modify drinking behaviour for those consuming in a high-risk fashion. A number of high quality randomised-controlled trials support the effectiveness of brief interventions.

Lastly, a number of interventions to minimise the risk of experiencing harm (while not seeking to necessarily reduce consumption) have had success. These include policing and security interventions, measures to tackle drink-driving (including a combination of legislation, rigorous enforcement and mass media educational campaigns) and the creation of safer environments for intoxicated individuals (for example, through the use of plastic glasses and pedestrianised areas in city centres) (Babor, Caetano et al. 2010e; Babor, Caetano et al. 2010d; Wickens, Mann et al. 2013).

This brief summary of some of the most widely discussed alcohol policy options has not attempted to provide a comprehensive account of the evidence base nor indeed the full panoply of interventions that are available. Instead, it has sought to provide a necessary background to some of the key policy options available to policymakers in order to allow a better understanding of the policy debates that are explored throughout the remainder of this thesis. Having provided this introduction, the remainder of this chapter will describe the development of minimum unit pricing policy.

5.4 The story of minimum unit pricing in Scotland

This section synthesises information from several sources to provide a description of the development of minimum unit pricing. While primarily citing published publicly available documents, it is also informed by interview data which allowed policy actors to be specifically asked to clarify some parts of this narrative. The story is presented in a largely chronological sequence but the focus is on presenting clear themes to understand the policy's development, hence subsections contain some events that overlap chronologically. However, a timeline summarising the chronology of events is provided in

Table 5.1. Separate chapters will seek to explain different aspects of the minimum unit pricing policy process in greater detail subsequently.

Table 5.1: Timeline of milestones in the development of minimum unit pricing in Scotland

Date	Event
May 1999	First Scottish Parliamentary elections
Jan 2002	First Scottish alcohol strategy, the ‘Plan for Action on Alcohol Problems’ published
March 2004	‘Alcohol Harm Reduction Strategy for England’ published
March 2006	Scotland passes ban on smoking in public places
Feb 2007	Update on first Scottish alcohol strategy
May 2007	SNP elected as Scottish minority Government
July 2007	England passes ban on smoking in public places
Sep 2007	SHAAP Expert workshop results in first public report advocating minimum unit pricing
Oct 2007	Justice Minister, Kenny MacAskill, argues in Scottish Parliament that regulation to address low-cost alcohol is necessary
June 2008	Discussion paper ‘Changing Scotland’s Relationship with Alcohol’ published
Nov 2008	SHAAP-commissioned econometric modelling short report published
Dec 2008	First set of systematic reviews and econometric modelling studies commissioned by the UK Department of Health and published by Sheffield University
Mar 2009	Departmental responsibility for addressing alcohol-related harms transferred from Justice to Health
May 2009	Scottish Government’s post-consultation ‘Framework for Action’ published
Sep 2009	First Scottish version of the Sheffield econometric models published
Nov 2009	Alcohol etc (Scotland) Bill first introduced to the Scottish Parliament including provisions to introduce minimum unit pricing
Nov 2010	Alcohol etc (Scotland) Bill passed without minimum unit pricing
May 2011	SNP elected as a majority Scottish Government
Mar 2012	UK Government announces plans to introduce minimum unit pricing in England in the second ‘Government’s Alcohol Strategy’
May 2012	Alcohol (Minimum Pricing) (Scotland) Bill passed by the Scottish Parliament
July 2012	Legal challenges to the introduction of minimum unit pricing in Scotland made by the Scotch Whisky Association
Nov 2012	UK Government announces its intention to introduce minimum unit pricing at a 45 pence per unit level for England and Wales

The section first presents an account of the processes by which alcohol-related harms were first recognised as an issue for policy concern. This is not meant to endorse the perspective of a linear stages model of policymaking but rather represents an acknowledgement of the utility of this heuristic device and reflects the importance of this process as identified by interviewees. Next, key developments in alcohol policy prior to the first public debate of minimum unit pricing in Scotland are presented. The emergence of explicit debates about alcohol pricing is then illustrated, followed by the origins of minimum unit pricing as a policy idea within Scotland. The subsequent Scottish alcohol policy document ‘Changing Scotland’s Relationship with Alcohol’ became the first strategy to focus on a population-based approach to addressing alcohol-related harms. The significance of this policy is discussed and some of the other relevant policy initiatives highlighted. While some of the existing evidence base has been summarised above, refinements to the evidence base that occurred during the period of policy debate within Scotland are described. The parliamentary process by which the first legislation to introduce minimum unit pricing for alcohol was passed is then presented. Lastly, the legal considerations that are (at the time of writing) the subject of legal challenges are discussed.

5.4.1 Alcohol harms in Scotland: A widespread and growing problem

There have been longstanding concerns about population health and societal harms associated with alcohol consumption and harmful drinking patterns in Scotland and the UK (Berridge 2005). However, while many professionals working with those affected by alcohol-related harms perceived an increase in alcohol harms from the 1990s, a lack of epidemiological data existed to quantify the problem.

In 2002, the ‘Plan for Action on Alcohol Problems’ included data on the alcohol market, alcohol consumption, social harms and health harms within one report for the first time and demonstrated the considerable burden of alcohol harms experienced in Scotland (Scottish Executive 2002). Another influential quantification of epidemiological harms was the reporting by Leon and McCambridge of a more than doubling in liver cirrhosis death rates (considered a key indicator of alcohol-related harms) in Scottish men from 1987-

1991 to 1997-2001 (2006). Importantly, this increase greatly exceeded the level observed in England and ran counter to the trends across most of the rest of Western Europe.

This raises the question: why did alcohol-related harms increase at such an alarming rate during this time period? In 2004, the Academy of Medical Sciences published a report highlighting the relationship between the increasing affordability of alcohol, levels of consumption and ultimately, alcohol-related harms (Academy of Medical Sciences 2004). The Academy's report concluded: "The scientific evidence indicates that, for the health of the public, action is required to reduce the consumption of alcohol at a population level" and emphasised price as an important mechanism in doing this (Academy of Medical Sciences 2004, pg 8).

While alcohol prices have increased with inflation, increased living standards had made alcohol 66% more affordable in 2009 than 1987, with a growing price differential between off-sales and on-sales prices (Beeston, Robinson et al. 2011). This has been led by supermarkets engaging in aggressive cost-cutting of alcohol products (Bennetts 2008), sometimes selling alcohol as a loss leader and/or below the cost of duty alone, to increase footfall into their stores (Record and Day 2009; Black, Gill et al. 2011). Paralleling the increased affordability within the off-sales, there has been a shift in consumption from the licensed trade to off-licenses (and particularly supermarkets) (Holloway, Jayne et al. 2008; Robinson, Catto et al. 2010). It has been argued that the growing price disparity between the licensed and off-licensed trades is leading to increased consumption of alcohol at home and prior to leaving for a night out (referred to as pre-loading, pre-drinking or pre-gaming) (Wells, Graham et al. 2009).

5.4.2 Scottish alcohol policy prior to minimum unit pricing

Scotland introduced its first alcohol strategy following devolution in January 2002 (Scottish Executive 2002), two years before England. Its main purpose was to "reduce alcohol-related harm in Scotland" and set out a broad range of measures to achieve this including education, provision of services and licensing reform. The Alcohol Plan was introduced by a Labour-Liberal Democrat coalition following a commissioned review of effective and cost-effective measures to reduce alcohol harms (Ludbrook, Godfrey et al. 2001). However, while the Plan included a broad range of actions (including legislation), it maintained an emphasis on addressing 'problem drinkers' and noted the importance of

individual responsibility, stating: “We are responsible for our own drinking and the impact it has on others.” (Scottish Executive 2002) This framing of policy as a matter of addressing the minority of drinkers was reflected in two specific priority areas that were identified: addressing binge drinking and reducing drinking by children and young people (O'Donnell 2006).

A key component of the Plan from 2002 was the introduction of the Licensing (Scotland) Act 2005 which was fully enacted in September 2009 (Scottish Parliament 2005; Scottish Government 2007). As well as simplifying the licensing regime, this introduced five licensing objectives – namely: the prevention of crime and disorder, the promotion of public safety, the prevention of public nuisance, the protection of children from harms and the protection and improvement of public health. The last objective was seen as an important step forward in placing public health considerations central to alcohol policy (including local alcohol policy). In addition to these licensing objectives, the Act banned promotions encouraging excessive consumption in on-sales premises, such as ‘happy hours’. In order to curb underage consumption of alcohol, stricter enforcement of the minimum legal drinking age (through a ‘No Proof – No Sale’ approach) was also initiated. At the time of the Act’s drafting, there was recognition that further action may be required to tackle off-sales and indeed the opportunity to add to the legislation at a later date was noted (O'Donnell 2006).

5.4.3 The importance of price in policy debates

The first two Scottish Parliamentary elections resulted in coalition Governments between the Labour and Liberal Democrat Parties. Towards the end of this period (1999-2007), the importance of price as a key mechanism in tackling alcohol-related harms was highlighted by two Scottish organisations. The national agency for health improvement, NHS Health Scotland, was asked by the Labour-Liberal Democrat administration to review the alcohol evidence base in order to develop a logic model (later referred to as an outcomes framework) to inform the development of a Scottish Government strategy to address alcohol harms (NHS Health Scotland 2012a). The agency reviewed ‘highly-processed evidence’ derived from reviews carried out by organisations including NICE, SIGN, the WHO and other key sources. The approach pursued did not limit the outcomes framework to only research evidence but also considered plausible theory, existing policy, health inequalities and monitoring and evaluation (NHS Health Scotland 2012b). While

the original logic model submitted to Scottish Government prior to their consultation was not made public, a later version was published (NHS Health Scotland 2008). This logic model notes the central importance of the “Reduction in individual ***and population consumption*** [emphasis added]” and also highlights the need to tackle the affordability of alcohol.

The importance of price (again following an evidence review) was also highlighted in the run-up to the 2007 election campaign by a newly established Scottish public health advocacy group (SHAAP 2007). The Scottish Health Action on Alcohol Problems (SHAAP) was established by the Scottish Medical Royal Colleges and Faculties in response to concern about the increasing scale of alcohol-related harms in Scotland (SHAAP 2012). The organisation was funded by the Scottish Government, initially under the Labour-Liberal Democrat coalition, with a commitment that it could operate entirely independently. SHAAP’s stated remit is “to raise awareness about alcohol-related harm and to promote solutions based on the best available evidence” (Gillan and Macnaughton 2007, pg 3).

In May 2007, the incumbent Labour-led administration was replaced by a SNP minority Government – the first change of Scottish Government under devolution. It is important to note that until this time, the Labour Party was also in power in the UK Westminster Government. While both the Labour and SNP parties highlighted the importance of alcohol-related health harms in their election manifestos, the approach outlined markedly differed. For example, the Scottish Labour Party stated in its 2007 manifesto:

We have established ground-breaking partnerships and joint working between manufacturers, retailers, the licensed trade, health experts and governments to promote sensible drinking messages in innovative and varied ways. The results will be reviewed in two years time. Individuals have a responsibility to drink sensibly and to take responsibility for themselves, their friends and families. Drink driving and the sale of alcohol to children must be stamped out. (Scottish Labour 2007, pg 60)

While the SNP manifesto placed less emphasis on individual responsibility, they also advocated a broad partnership approach (including with alcohol industries). However, the manifesto differed from Scottish Labour, arguing that actions to address price were needed:

SNP justice policy will ensure a tough clampdown on irresponsible drinks promotions and underage drinking, including action to stop the deep discounting of alcohol in shops and supermarkets. It is not acceptable that a bottle of water can be more expensive than alcohol. This sends entirely the wrong health message to young Scots, as well as contributing to alcohol-fuelled anti-social behaviour.

(Scottish National Party 2007, pg 43)

5.4.4 From price to minimum unit pricing

Changing the price of alcohol, along with controls on promotion and availability, have been identified as key methods for addressing alcohol-related health harms by the World Health Organization (2010) and many governments have long used alcohol taxation as a mechanism to influence consumption levels, as well as to raise revenue (Griffith and Leicester 2010). Epidemiological studies have also found that drinkers at the greatest risk of harm tend to consume the cheapest alcohol (Black, Gill et al. 2011). Within Scotland, increasing price was identified as a necessary component of actions to address alcohol-related harms by NHS Health Scotland in early 2007, an intermediary organisation responsible for providing advice on health-related issues to Scottish Government (NHS Health Scotland 2008). It was not until after the election of the SNP minority Government later that year that action within this area was considered. As several civil servants noted, the change in government brought with it a ‘window of opportunity’ and appetite for a more radical approach to tackle alcohol-related harms.

Despite the consensus on addressing price within the public health community and favourable political context, increasing alcohol duties remained reserved and therefore not an option open to the devolved Scottish Government. Minimum unit pricing can therefore be seen to represent an alternative lever by which to influence alcohol pricing, which was within the Scottish Government’s control. In 2007, SHAAP held an expert workshop to identify potential actions to address alcohol harms. SHAAP subsequently published the first public report outlining a minimum unit pricing proposal (then referred to as ‘minimum pricing’) and calling for its adoption in Scotland. The impact of this report is reflected by interview data:

Civil Servant (Scotland): the Scottish Parliament doesn’t have control over taxation so duty, VAT wasn’t within our remit and to be honest,

it's not as currently set-up, it's not a good mechanism or an equitable mechanism for addressing public health issues. I think, you know, SHAAP held a pricing workshop in 2007 with an influential report on the back of that. I think we just saw the minimum unit pricing as a straightforward, fair way of addressing pricing.

An important aspect of SHAAP's report was the consideration it gave to the limited powers of Scottish institutions, to the extent that the authors obtained legal opinions about the potential for introducing minimum unit pricing given the wider UK and EU contexts:

Fixing minimum drinks prices can achieve health goals that raising alcohol taxes alone cannot by preventing below-cost selling and the deep discounting of alcohol that some retailers engage in. Fixing minimum drinks prices is possible under both UK and EU competition law, provided that minimum prices are imposed on licensees by law or at the sole instigation of a public authority. (Gillan and Macnaughton 2007, pg 15)

From an early stage, SHAAP worked to ensure that politicians and civil servants were closely engaged (as reflected by a civil servant representing the Scottish Government having attended the workshop as an observer).

Those in favour of minimum unit pricing proposals argue that it may be a better or complementary mechanism for addressing alcohol-related health harms than alcohol taxation (House of Commons Health Committee 2009b; Health and Sport Committee 2012). This is particularly true since current legislation allows retailers to opt not to pass alcohol tax increases onto consumers. Econometric modelling studies suggest that minimum unit pricing results in a greater reduction in health harms compared to an equivalent rise in taxation under the UK's current system of calculating alcohol duty (Purshouse, Meier et al. 2010). In addition, the setting of a floor price prevents drinkers from 'trading down' to cheaper drinks, given cheap alcoholic drinks would no longer be legally available. Advocates have also suggested minimum unit pricing will incentivise the creation of lower-strength alcoholic products (increasing the potential health benefits) and may reduce the costs of supermarket products other than alcohol (as alcohol is no longer cross-subsidised by other products) (Record and Day 2009).

In contrast, critics have expressed concern that lower income households could be adversely affected, that rather than increasing treasury revenues, price increases will instead enrich the alcohol industry, that minimum unit pricing constitutes an unnecessary intervention in the free market, and that it may be unlawful (Health and Sport Committee 2012). The evidence for both sides of the debate to draw on is limited by the intervention's novelty, given that minimum unit pricing has not been pursued in this exact form elsewhere.

A considerable diversity of opinion on minimum unit pricing (which has changed over time) has existed amongst the various policy stakeholders. Interview data suggests policy actors have perceived a broad coalition of actors to be in favour of minimum unit pricing, from the health and voluntary sectors (e.g. those working with young people, families and low-income communities) to the police. For example:

Politician (Scotland): It hasn't just been those at the sharp end of dealing with the medical effects of alcohol – they're collecting data to say things are getting worse – but at the same time we've got, if you like, the Scottish kind of Civic Scotland, the voluntary sector, stepping forward and saying 'we are seeing more people [affected by alcohol]'.

In contrast, there have been marked differences within industry positions (Holden, Hawkins et al. 2012). In general, many licensed trade representatives (who are expected to benefit as a result of a shift from home drinking to consumption within pubs and clubs) are supportive; various producers and off-trade retailers appear to have contrasting positions. For example, Tesco has been broadly supportive (potentially because, as the market leader in alcohol sales, it may benefit financially) while others such as Asda, which competes more strongly on price, have actively campaigned against minimum unit pricing (Health and Sport Committee 2012). The existence of a broad and unified coalition in favour of minimum unit pricing, and the division amongst private sector actors seems likely to have favoured the policy's adoption.

5.4.5 Changing Scotland's relationship with alcohol: The second Scottish alcohol strategy

The SNP emphasised the importance of addressing cheap alcohol within Scottish Parliamentary debates following their election victory in 2007 and initially planned to publish an alcohol strategy within the first few months of its administration. However, it instead published a discussion paper, 'Changing Scotland's Relationship with Alcohol', in June 2008 consulting on a number of radical proposals including minimum unit pricing (Scottish Government 2008a). The paper explicitly made links to broader overarching government aims to deliver a "Wealthier and Fairer, Safer and Stronger, Healthier and Smarter Scotland" (Scottish Government 2008a, pg 4). In addition, the approach moved from one that addressed problem drinkers as a separate group to one that would address population consumption:

Excessive alcohol consumption is closely linked to harm: the more we drink, the greater the risks. It is clear that alcohol misuse is no longer a marginal problem. Nor is it one that affects only binge drinkers or those who are dependent on alcohol.

(Scottish Government 2008a, pg 4)

This innovative 'whole population approach' is reflected by one of the four key areas for action being reducing overall alcohol consumption rather than solely focusing on problem drinking. Principles to be consulted on included:

- the introduction of minimum retail pricing of alcohol
- raising the minimum purchase age to 21 in off-sales
- the desirability of separate checkouts for alcohol sales
- the introduction of a 'social responsibility fee' applied to some alcohol retailers to offset the costs of dealing with the consequences of alcohol misuse
- further action to end irresponsible promotion and below-cost selling of alcoholic drinks in licensed premises
- information parents would find helpful in relation to alcohol
- further restrictions on promotional material in licensed premises

Following the discussion paper, considerable debate occurred within the media and Scottish Parliament over several of these measures, with the first four being especially controversial. As a result of the discussion paper, 259 responses were received from individuals and 207 responses from organisations (Hexagon Research and Consulting in association with Adrian Colwell Associates 2009). Given that minimum unit pricing was one of many proposals suggested, several of these responses focused on the other policy changes being consulted upon.

The subsequent second national alcohol strategy, the Framework for Action on Alcohol (Scottish Government 2009a), stated the Scottish Government's desire to pursue many of the above actions but proposals to introduce separate checkouts for alcohol sales and to raise the minimum purchase age were not pursued. The strategy was not limited to regulatory measures but was accompanied by a range of measures (citing supporting WHO evidence) and an increase in funding for services to tackle alcohol-related harms (Scottish Government 2009a). A major focus for the health service was the delivery of a target of about 150,000 alcohol brief interventions in primary care, antenatal care and hospital emergency departments (Scottish Government 2009a; Graham and Mackinnon 2010).

5.4.6 Key developments in the evidence base between alcohol price and harms

As described earlier (section 5.3.6), a considerable evidence base has long established an inverse relationship between alcohol price and alcohol harms (albeit a relatively inelastic one, in terms of economic theory) (Grossman, Chaloupka et al. 1994; Huaung 2003; Gruenewald, Ponicki et al. 2006; Wagenaar, Salois et al. 2009; Babor, Caetano et al. 2010b). However, around the time of consideration of minimum unit pricing, several additions to the evidence base influenced the development of policy (and at times arose in response to policy demands). A brief summary of some of the key sources of evidence that influenced the Scottish policy process follows.

In parallel to the advocacy being undertaken by SHAAP in relation to minimum unit pricing in Scotland, a team at the School for Health and Applied Related Research (SchARR) in Sheffield University had been asked to carry out a review of the evidence base on alcohol pricing and promotion on behalf of the UK Government (Booth, Meier et

al. 2008). In addition, the Sheffield team carried out an econometric modelling exercise to allow the comparison of a number of different pricing interventions including general price increases, minimum unit pricing (for a range of levels – 20 pence per unit at the lowest level, to 70 pence per unit at the highest) and restrictions on off-trade price promotions (Brennan, Purshouse et al. 2008). This body of work was revised between 2009 and 2010 (Purshouse, Brennan et al. 2009; Jackson, Johnson et al. 2010; Purshouse, Meier et al. 2010) to inform the development of public health guidelines for the National Institute for Health and Clinical Excellence (NICE) in England (NICE 2010a).

Similar efforts to make use of econometric modelling to estimate the impacts of minimum unit pricing were pursued within Scotland. The first Scottish report, commissioned by SHAAP, and produced in November 2008, provided estimates of changes in price and consumption and also examined the potential impact on household expenditure by differing levels of deprivation (given concerns about the impact of the policy on lower income subgroups). Following the formal adoption of minimum unit pricing in official Scottish Government policy in May 2009, the Sheffield team was asked to produce another version of their model using Scottish data, to help policymakers in Scotland in their considerations. This was published in September 2009 (Purshouse, Meng et al. 2009a) and has been updated twice subsequently. However, these peer-reviewed Sheffield models were not universally accepted by MSPs. In addition, a series of industry-funded critiques by the Centre for Economics and Business Research (CEBR) influenced policy debates within Scotland (McWilliams and Williamson 2010), the UK (Ata, Ohanessian et al. 2009) and Northern Ireland (Hogan 2011). It is noteworthy that this work was first commissioned by the brewer SABMiller in December 2008. This marked a relatively early stage in the policy debate – after the discussion paper which included minimum unit pricing but prior to the publication of the national alcohol strategy.

The major developments in the evidence base during the policymaking process were not limited to econometric models, however. Research conducted in clinical environments with dependent drinkers established the lower price paid by harmful drinkers of alcohol in Scotland (Black, Gill et al. 2011), hence bolstering the case for minimum unit pricing being a more targeted approach to addressing alcohol harms than overall price increases.

5.4.7 Scottish Parliamentary considerations of minimum unit pricing

The passage of minimum unit pricing into legislation in Scotland has not been straightforward. Following the Scottish Government's statement of its intention to introduce the intervention in its national strategy in May 2009, there has been a prolonged and heated political debate as to whether this legislative measure was the most 'appropriate' means of tackling alcohol-related harms in Scotland. This has resulted in the Scottish Parliament considering the case for minimum unit pricing under two separate Bills, the first ultimately unsuccessful but the second passed into legislation in May 2012. The passage of the two Bills through Scottish Parliament is now considered.

The Alcohol etc. (Scotland) Bill was first introduced by the Health Minister to the Scottish Parliament on 25th November 2009 (Robson 2010a). As indicated above, the Bill initially included a number of alcohol legislative interventions alongside minimum unit pricing. In Scotland, following its introduction to Parliament, the broad principles of a Bill are considered by a Parliamentary Select Committee, which is responsible for producing a report to comment on the general purposes of the Bill (Scottish Parliament 2007). The Health and Sport Committee oversaw the scrutiny process for minimum unit pricing on both the first and second occasions (Health and Sport Committee 2010b; Health and Sport Committee 2012). This included hearing written and oral evidence submissions from interested parties through a comprehensive consultation process. Academics (including international alcohol experts) provided both verbal and written statements on the evidence base underpinning minimum unit pricing and experience with similar interventions elsewhere (most notably Canada). The evidence related to the modelling studies was particularly scrutinised, with representatives from ScHARR and CEBR both attending Committee evidence sessions. Alongside considerations of the formal evidence, stakeholder opinions were sought from a broad range of industry (including the off-trade, licensed trade, supermarkets and producers), public health advocates, the voluntary and public sectors.

Following this, the Committee concluded that:

Some members of the Committee are wholly in favour of the general principles of the Bill. Others are not persuaded that the reforms proposed would achieve what

they set out to achieve and others are concerned that some of the measures could be disproportionate in their effect. The Committee draws to the Parliament's attention that, at this time, the fundamental reservations of some members remain unresolved but, in the interests of more detailed debate, recommends that the Bill proceed [...] (Pg 86) (Health and Sport Committee 2010b)

At this time, only the SNP (as a minority Government) were openly supportive of minimum unit pricing, with the other major political parties opposed. However, several of the measures included in the Bill (such as a ban on off-trade promotions) had broad political party support. The Bill was debated further within the Health and Sport Committee and by the Scottish Parliament, but despite repeated attempts by the minority SNP Government to keep the minimum unit pricing component of the Bill, this measure was ultimately withdrawn. For example, support from opposition parties was courted through the introduction of a 'sunset clause' which would have resulted in the intervention remaining in force only if it was shown to be successful. This Bill was therefore passed without the minimum unit pricing provision in November 2010 and introduced measures including a ban on quantity discounts and restrictions on promotions in off-sales, a social responsibility levy and a mandatory 'Challenge 25' scheme (to reduce underage consumption).

In May 2011, Scottish national elections resulted in the SNP (who had included minimum unit pricing in their manifesto (Scottish National Party 2011)) gaining an overall majority of seats in the Scottish Parliament (BBC News 2011). A second Bill was introduced and while the SNP majority government no longer required the support of opposition parties to pass legislation introducing the intervention, two of the three opposition parties ultimately supported the Bill with the inclusion of a 'sunset clause' (Burgess 2012b). On 24th May 2012, the Alcohol (Minimum Pricing) (Scotland) Bill was passed with 86 voting in favour of the measure, one vote against and 32 abstaining (Burgess 2012a).

5.4.8 From legislation to implementation – The case continues...

The Scottish Government had planned to implement minimum unit pricing in April 2013 but implementation has since been delayed by legal challenges instigated by the Scotch Whisky Association in July 2012 (Scotch Whisky Association 2012). There are at least two bases for questioning the legality of minimum unit pricing as introduced by the Scottish

Parliament. The first area of dispute revolves around the competence of the Scottish Parliament to make legislation in an area that can be construed as matters of trade law (and therefore a reserved issue). However, this challenge appears relatively weak as explained by one interviewee with expertise in this area:

The argument is [...] that by laying down minimum pricing that something can be sold to the consumer you are therefore doing something that is in a reserved area, reserved to Westminster [...] I don't actually think it's right because I think there's the consumer qua consumer and the consumer qua health subject if I can put it that way and I think they're quite different spheres.

In other words, since the focus of the legislation is on health matters, it can be considered a public health intervention that happens to have trade implications rather than vice versa.

The second area of contestation is more challenging to the enactment of minimum unit pricing and will therefore be considered in greater detail. The introduction of minimum unit pricing arguably has implications for the obligations of the United Kingdom as a member state of the European Union. ‘The Treaty on the Functioning of the European Union’ (like its predecessor treaties) includes the currently named Article 34 which states: “quantitative restrictions on imports between member states and all measures having equivalent effect shall be prohibited” (Foreign and Commonwealth Office 2008, pg 50). Depriving businesses of the opportunity to use their efficiency (as manufacturer or dealer) to charge lower prices than competitors can be considered to be an interference with market forces that might impede cross-border trade in Europe. That makes it a “measure having equivalent effect” to a quantitative restriction on imports and means it will be caught by the Article 34 prohibition, hence being contrary to European trade law. However, a different part of the Treaty can allow exceptions to be made in some situations. Article 36 sets out these exceptions (including the “protection of health”) as indicated below:

The provisions of Article [...] 34 [...] shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security; the protection of health and life of humans [...]. Such prohibitions or restrictions shall not, however, constitute a means of arbitrary

discrimination or a disguised restriction on trade between Member States. (Foreign and Commonwealth Office 2008, pg 50)

The declared purpose of minimum unit pricing is the protection of health but this exception cannot save a measure that falls under Article 34 from prohibition just because its proponents claim that it has a health purpose.

Minimum alcohol price measures have been condemned by the European Court of Justice in the past and so too has minimum tobacco pricing (Chalmers, Davies et al. 2010). The reason given was that Article 36 was not available unless no alternative measure, less restrictive of trade, could attain the health objective just as well. An increase in duty or a ban on below-cost sales (loss-leading), neither of which would fall under Article 34, would fulfil the apparent objective of increasing the price to consumers. Therefore, it was considered, the market interference resulting from minimum pricing would be disproportionate to the benefit sought. In the case of tobacco only, there was the further point that the excise duty regime applicable under EU law is incompatible with a minimum pricing regime.

To bring minimum unit pricing within Article 36 and so rescue it from the Article 34 prohibition, the Scottish Government are required to demonstrate two things: first, that minimum unit pricing can indeed meet its stated purpose to “reduce the consumption of alcohol by harmful drinkers [...] and reduce the impact that alcohol misuse and overconsumption has on public health” (Scottish Parliament 2011, pg 1); and second, that an alternative less trade-restrictive measure (such as an increase in duty or a ban on below-cost selling) could not do so just as well. It is irrelevant to the legal considerations that the Scottish Parliament has no powers over competition law (ruling out a ban on loss leading) nor over excise duty (likewise reserved to the UK Westminster Parliament). The question is whether such alternative measures would be sufficient to meet the declared purpose of the measure, not which organ of the EU member state has power to take them.

From a legal perspective, an important difficulty for advocates of minimum unit pricing has been the lack of experimental evidence demonstrating its effectiveness and consequent reliance on econometric modelling. What if all currently available evidence supports the case for minimum pricing but, after it has been in operation for a time, it

fails to deliver the expected benefits? There are extensive plans to monitor and evaluate the impact of the policy in Scotland and produce an evidential basis for review of the actual outcomes delivered by the legislation (Beeston, Robinson et al. 2011). The inclusion of a sunset clause means that whatever intervention the Scottish Government implements now can be reviewed in the future to ascertain what results minimum unit pricing has delivered and to consider whether it has been materially more effective than other less trade-restrictive approaches. This ‘safety valve’ enables a provisional conclusion on proportionality to be drawn based on existing econometric modelling evidence, as the best evidence currently available, and then to allow a further outcome-based review in the future. This feature might encourage the European Commission to allow the minimum unit pricing legislation to proceed, on the basis that it would be revoked if its proportionality should turn out not to have been demonstrated. At the time of writing, the legal challenges remain ongoing although the first legal judgements have concluded the measure is legal (BBC News 2013).

5.5 Chapter summary

This chapter started out by summarising important public health aspects related to alcohol use. It showed that consumption was associated with myriad harms – from the individual to the family, community and society. While noting the positive influences alcohol has had on the UK and other societies, it has also found that a multitude of areas of public and private life have been adversely impacted, with many of these consequences long understood by academics and policymakers. The chapter also found that gaining knowledge about alcohol consumption and its attendant harms can be difficult, with a number of dimensions associated with drinking patterns and cultures. The chapter summarised some (but by no means all) of the measures that have been advocated to reduce the burden of harms arising from alcohol use, finding that interventions focusing on price, availability and affordability hold the greatest promise for population health.

The remainder of this chapter was devoted to detailing the development of minimum unit pricing policy in Scotland. The story presented moved from the recognition of an important public health problem to the growing interest of addressing price within

alcohol policy and then resulted in the discussion of minimum unit pricing as a potential solution. The idea of minimum unit pricing very quickly became adopted into official policy but subsequent progress has been difficult. Passage into legislation has only been successful following the establishment of a SNP Scottish Government majority and implementation remains delayed by legal challenges instigated by industry actors.

Over the time period described above, international policy has highlighted the importance of addressing alcohol price in order to address alcohol-related harms. In May 2005, the 58th World Health Assembly noted the need to address alcohol harms using a population-wide approach. Following this, the WHO's draft strategy noted: "Increasing the price of alcoholic beverages is one of the most effective interventions to reduce harmful use of alcohol" and potentially in response to events in Scotland, highlighted minimum pricing policies in particular (World Health Organization 2010, pg 16). Learning from the Scottish experience in its attempts to introduce minimum unit pricing as a policy response may help other countries to tackle alcohol-related harms in their jurisdictions in the future. Indeed, during the process of passing the Alcohol (Minimum Pricing) Bill in Scotland, the UK Government unexpectedly announced its intention to pursue a minimum unit pricing measure in its Alcohol Strategy (HM Government 2012), although at the time of writing, the UK Government's commitment to the policy is unclear.

6 Results 2: Framing the minimum unit pricing debate

6.1 Overview

The previous chapter provided a *description* of the process by which minimum unit pricing of alcohol emerged into policy debate, resulting in the enactment of primary legislation. This chapter starts the work of trying to provide *explanations* for the policy's development.

As noted in Chapter 4, political discourse analysis can involve identifying how key components required for a 'reasonable' argument are represented by different stakeholders to facilitate both explanatory and normative critique. By drawing on principles derived from political discourse analysis, this chapter investigates competing framings presented by different policy stakeholders in the minimum unit pricing policy debate and determines if changes in the dominant framings presented help explain the emergence of the policy. To do so, the chapter draws primarily on evidence submission documents by stakeholders engaged in the Scottish Parliament's Health and Sport Committee Stage 1 scrutiny process. The documents analysed are therefore the earliest available public documents that detail the views of a diverse range of policy stakeholders.

The details for the analytical process were presented in Chapter 4 but in brief, the role of framings was investigated by first, determining the different representations for components of argumentation. Thus different representations of the following were sought: the current (starting) 'circumstances' in terms of the nature of the policy problem to be addressed, the desired 'goal' which policy ought to pursue, the best 'means' for attaining the goal, and the 'values' underpinning the argumentative framework. Second, the alternatives and counter-claims articulated by actors for and against minimum unit pricing were then determined. Third, the arguments expressed by actors in the policy debate for and against minimum unit pricing were identified from a thematic analysis. Fourth, the relationships between different framings of the policy debate and the arguments made for and against minimum unit pricing were explored. While the above

has been presented in a largely linear fashion, it should be noted that in reality, the analysis followed a more iterative process that resulted in earlier stages of analysis being revisited as a result of emerging findings. The analysis then triangulated findings with interview data and further sought to investigate the extent that actors were aware of, and deliberately tried to achieve, changes in the framing of the policy debate.

6.2 Chapter aims

This chapter starts the process of trying to explain the development of minimum unit pricing in Scotland. It aims to:

- Analyse documents submitted to the Health and Sport Committee's consultation to describe the different framings adopted by different policy stakeholders and relate these to supportiveness in relation to minimum unit pricing policy
- Describe key arguments for and against minimum unit pricing based on evidence submission documents
- Investigate the influence of changes in the framing of the policy debate on the policy process according to interview data with policy actors involved in the policy process

6.3 An overview of the evidence submissions

A total of 185 actors responded to the Committee's call for written evidence submissions as part of the Stage 1 scrutiny process for the first Alcohol (etc) Scotland Bill in November 2009. Of these, 47 actors (who had submitted 67 documents) were invited to provide verbal evidence. These actors were chosen by the Health and Sport Committee as providing a good coverage of stakeholder viewpoints and are likely to have had greater influence over the Committee. It is the documents submitted by these actors that are analysed in detail here. However, all documents were briefly reviewed to provide contextual information about the range of actors so that it could be checked if diversity

within the main sample had been achieved (see Appendix 3). The characteristics of the stakeholders' submissions that were analysed in detail are summarised in Table 6.1.

Table 6.1: Stakeholders submitting evidence documents analysed in detail

Stakeholder	Stakeholder Type	Position
SCHARR	Academic	Neutral
Peter Anderson	Academic	Supportive
Anne Ludbrook	Academic	Uncertain
CEBR	Academic	Against
Royal Society of Edinburgh	Academic	Supportive
Law Society of Scotland	Academic	Neutral
Centre for Addictions Research of British Columbia	Academic	Supportive
SHAAP	Health	Supportive
Faculty of Public Health	Health	Supportive
Scottish Association of Mental Health	Health	Supportive
Canadian Centre for Substance Abuse	Health	Neutral
Salvation Army	Voluntary	Supportive
Children in Scotland	Voluntary	Supportive
Aberlour Child Care Trust	Voluntary	Supportive
Youth Link Scotland	Voluntary	Supportive
Alcohol Focus Scotland	Voluntary	Supportive
Consumer Focus Scotland	Voluntary	Supportive
SPICe	Civil Service	Exempt
Scottish Government official submission	Civil Service	Exempt
Office of Fair Trading	Civil Service	Neutral
Scottish Government, Nicola Sturgeon	Government	Supportive
City of Edinburgh Council Licensing Standards	Public sector	Unclear
West Dunbartonshire Licensing Forum	Public sector	Supportive
Glasgow Licensing Board	Public sector	Unclear
Alcohol and Gaming Commission of Ontario	Public sector	Neutral
Liquor Control Board of Ontario	Public sector	Neutral
Alberta Gaming and Liquor Commission	Public sector	Neutral
NUS Scotland	Trade rep	Supportive
BMA Scotland	Trade rep	Supportive
Association of Chief Police Officers of Scotland	Trade rep	Supportive
Scotch Whisky Association	Trade rep	Against
Scottish Beer and Pub Association	Trade rep	Against
BAC Canada Brewers	Trade rep	Neutral
Whyte & Mackay	Producer	Against
Tennents Caledonian Breweries Ltd	Producer	Supportive
National Association of Cider Makers	Producer	Against
Portman Group	Producer	Against
Society of Independent Brewers	Producer	Against
Molson Coors UK	Producer	Supportive
Scottish Grocers' Federation	Off-trade	Against
Scottish Licensed Trade Association	Off-trade	Supportive
NOCTIS	On-trade	Supportive
Asda	Supermarket	Against
Sainsbury	Supermarket	Against
Cooperative supermarket	Supermarket	Against
Morrisons	Supermarket	Against
Tesco	Supermarket	Unclear

As can be seen above and in Appendix 3, more stakeholders responding to the consultation were supportive (n=109) than hostile to minimum unit pricing (n=27). Those hostile to minimum unit pricing were almost exclusively found within alcohol-related industries but not all alcohol-related industries were against the policy. As noted in the previous chapter, important divisions existed within the alcohol-related industries, with the off-trade expressing greater scepticism about minimum unit pricing than the on-trade. Those responsible for the production of alcohol were also split, with those making beer demonstrating a greater willingness to express public support than others.

6.4 Three competing framings for alcohol policy

Three different framings of the minimum unit pricing debate were identified from the analysis of evidence submission documents. Two distinct framings reflected policy actors' positions with respect to minimum unit pricing (either supportive or against) and a third hybrid framing was adopted by industry actors that were supportive of minimum unit pricing which incorporated elements of the first two framings.

Each of these framings is presented in turn with the different components of the argumentation framework being described and the components related to each other to illustrate how the framing helps advance a particular course of action with respect to minimum unit pricing. During this reconstruction of the argumentation schema, the divergent ways of presenting evidence will be demonstrated.

For each framing identified, the analysis initially considers the different presentations of the 'starting circumstances' and finds three main components related to the two overarching divergent framings. First, divergent constructions of the harms that should be the matter of policy concern were evident, with some actors emphasising the breadth of alcohol-related harms that exist while others tending to frame the policy issue in narrow, frequently 'alcohol abuse', terms. Second, actors located the problem in different ways – advocates tending to prefer representing alcohol as a challenge of population consumption while industry actors (even including those who were supportive) tending to

emphasise the consumption by a minority that were not being ‘responsible’. Third, different perspectives were evident on the trends exhibited by alcohol, which helped define the current situation as either a crisis or a problem that was in the process of resolution.

The analysis then goes on to present the different goals (or visions), means of achieving the goal (means-goals) and values that relate to the framing being considered. However, as Hager argues, it is not just actors who do things with language, but settings do things with people too (Hager 2005b). It is therefore necessary to remember that these submissions were presented in response to a consultation carried out under public health grounds and so it is unsurprising that these documents all, at least to some extent, engage with health discourses. Despite this, the fundamental goal for alcohol policy (even when considered in relation to health alone) was contested and the inter-relationships between the goal, means-goal and values are then presented in relation to each framing.

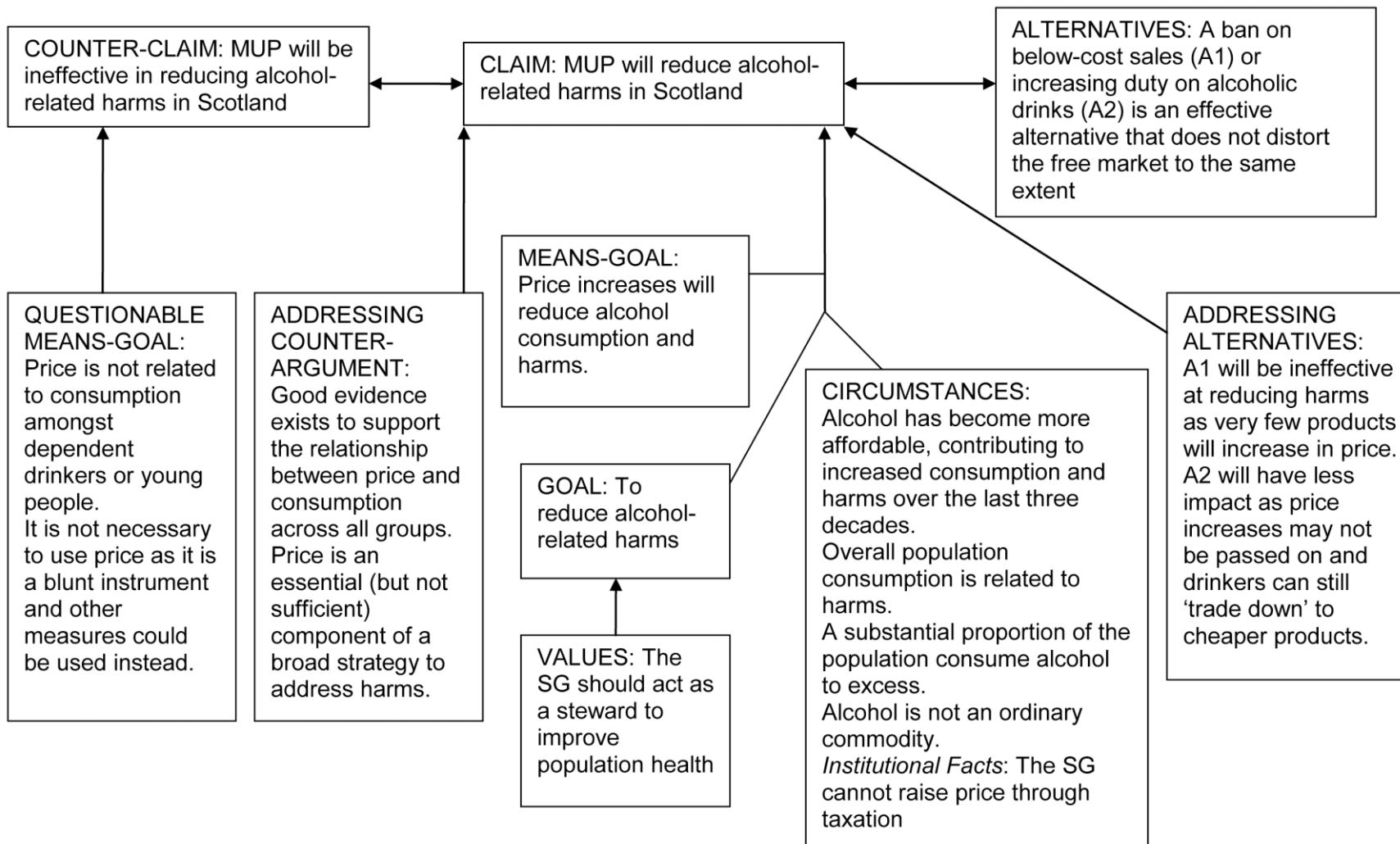
While this chapter illustrates the importance of analysing differences in the representations of a policy issue, it would be misleading to suggest that policy actors disagreed on all elements of the policy debate. One area where a relative consensus was apparent is especially worthy of mention. Irrespective of the sector an actor was located within or their position with respect to minimum unit pricing, there was a general consensus that the Scottish Government should pursue a multi-pronged approach to alcohol policy. While the details of what this constituted differed (with such differences explored below), it is not the case that actors constructed all aspects of the policy debate in different ways. That said, the differences in the ways actors frame the policy debate presented are particularly informative for understanding the relationship between competing framings and policy development.

6.5 Presenting a favourable case for minimum unit pricing – A public health framing

Actors not associated with alcohol-related industries (defined widely to include retailers such as supermarkets) presented a persuasive framing for minimum unit pricing in a

number of complementary ways (see Figure 6.1). Each element of this framing is described in turn, and then the interrelationships between each component considered, to demonstrate how the framing presented in evidence submission documents supports the case for minimum unit pricing.

Figure 6.1: A public health framing to support the claim that minimum unit pricing is an effective policy



6.5.1 Where are we starting from? Defining the starting circumstances for alcohol policy

Three major ways in which the ‘starting circumstances’ were defined contributed to a persuasive framing for minimum unit pricing.

6.5.1.1 A Breadth of harms

First, advocates typically tended to emphasise the breadth of harms – both in terms of their multi-sectoral nature and the large proportion of the population affected. For example:

The Salvation Army has historically strongly supported the introduction of a minimum price per unit of alcohol. The social costs of increased health problems requiring NHS resources, increased violence in our towns and cities and damage to family relationships are borne by us all. If an increase in the minimum price of alcohol will reduce consumption of alcohol and reduce the resulting problems for individuals and our society then it is not a case of penalising the majority in order to discourage the minority [...] The advantages in terms of the health of the nation include fewer violent crimes and hospital admissions, improved community safety and increased productivity with less days lost to alcohol related illness or incident.

(Dixon 2010, pg 1) [Salvation Army]

This quotation illustrates more than just the breadth of harms that constitute the object of policy. By alluding to ‘our society’ and damage ‘borne by us all’, the document emphasises that it is Scottish society – that is all of us – who are the subject of this damage. In addition, many who were supportive of minimum unit pricing repeatedly highlighted financial costs – a point also indicated below:

The benefits of minimum price are wide ranging across society [...]. Savings will occur because of a reduction in policing, health and social care costs. (Law 2010, pg 1-2) [Alcohol Focus Scotland]

Such figures allude to the potential financial savings to the public sector that can accrue. Beyond this, such statements also allude to gains ‘across society’, thereby helping with

the overarching aspiration of the SNP Scottish Government – to achieve “sustainable economic growth” (Scottish Government 2011).

It is worth noting that many in favour of minimum unit pricing emphasised the health implications of alcohol consumption but the nature of health problems focused upon varied widely. Some representations of the health problem clearly reflected the specific interests of a particular actor, for example, mental health in the case of the Scottish Association for Mental Health (Collins 2010). However, the type of health problems that were highlighted was not simply determined by an organisation’s purpose. One notable difference was those advocating most strongly also pointed to the diverse range of health harms linked to alcohol – noting the importance of chronic and not just acute consumption (Grant 2009a; Sher 2009; Davison, Murie et al. 2010; Dixon 2010; Law 2010; Maryon-Davis 2010; Nowak 2010; Stockwell 2010; Thornton 2010). For example, the submission from British Medical Association (BMA) Scotland states:

Alcohol is related to more than 60 types of disease, disability and injury. In 2007/08 there were 42,430 alcohol related discharges from general hospitals in Scotland [...] Regular heavy alcohol consumption and binge drinking are associated with physical problems, antisocial behaviour, violence, accidents, suicide, injuries and road traffic crashes. Among adolescents, they can also affect school performance and crime. Alcohol misuse is associated with a range of mental disorders and can exacerbate existing mental health problems. Adolescents report having more risky sex when they are under the influence of alcohol; they may be less likely to use contraception and more likely to have sex early or have sex they later regret [...] Drinking too much on a regular basis increases the risk of damaging one’s health, including liver damage, mouth and throat cancers and raised blood pressure. Unhealthy patterns of drinking by adolescents may lead to an increased level of addiction and dependence on alcohol in adulthood. (Grant 2009a, pg 4) [BMA]

BMA Scotland here seemed to place relatively less emphasis on the issues of youth drinking and alcohol dependence, two areas that are portrayed as being of key importance by industry actors (as demonstrated later in section 6.6).

6.5.1.2 Locating responsibility

When describing the starting circumstances for the policy debate advocates for minimum unit pricing located responsibility for the problem in a manner that helped portray minimum unit pricing as a reasonable policy response. For example, Children in Scotland, a voluntary sector organisation in favour of the introduction of minimum unit pricing, stated:

We support the Scottish Government's goal of significantly reducing overall alcohol consumption, binge drinking and the extraordinary social, economic and health costs of alcohol use/misuse throughout our nation. The Scottish Government is correct in identifying the magnitude of alcohol-fuelled problems and the unhealthy relationship with alcohol across Scottish society. (Sher 2009, pg 1) [Children in Scotland]

This above quotation suggests that responsibility for the ‘problem’ of alcohol lies with ‘society’ and not merely some specific parts of the population (such as ‘problem drinkers’ or ‘young people’ within the industry framings). The reference to both ‘alcohol use’ and ‘misuse’ rather than the alternative formulation ‘alcohol misuse’ (often used by industry actors as shown later) suggests that there is no sharp demarcation between these two categories and helps draw attention to the fact that alcohol-related harms do not arise solely amongst those who ‘misuse’ alcohol. This point is made more explicitly by others:

It is not simply problem drinkers who place a burden on the economy, indeed studies have shown that a much higher number of drinkers who drink to excess on occasions, place a strain through traffic accidents, falls and various unintentional injuries. (Law 2010, pg 1) [Alcohol Focus Scotland]

Such a formulation, locating the problem at a population-level, can be seen to relate to Geoffrey Rose’s theory of the population distribution of risk (Rose 1985). Considering a broad range of alcohol-related harms (as described earlier) assists in locating the problem at a societal level.

6.5.1.3 Trends in alcohol-related harms

Those committed to a population health framing drew predominantly upon epidemiological evidence (especially (Leon and McCambridge 2006)) and tended to favour ‘hard outcomes’. For example, the British Medical Association, the doctors’ trade association within the UK, cited the Leon and McCambridge study to construct alcohol as a public health ‘crisis’, with increasing alcohol-related harms that compared unfavourably internationally:

Over the last 30 years, UK liver cirrhosis mortality has risen over 450% across the population, with a 52% increase in alcoholic liver disease between 1998 and 2002. Scotland now has one of the highest cirrhosis mortality rates in Western Europe.
(Grant 2009a, pg 2) [BMA]

Epidemiological data naturally describes health at a population level. However, the benchmarking against ‘Western Europe’ is noteworthy as is the timescale used (i.e. over several decades) – both serving to emphasise the scale of health harms the population of Scotland experiences. These data help construct a ‘crisis’ scenario, one that requires action.

Similarly, the language used in evidence submitted from public health advocates such as SHAAP strengthened the perception of a ‘crisis’, with the use of ‘exponentially’ facilitating this construction:

Alcohol-related harm in Scotland has increased exponentially during the past few decades. In the ten years between 1992 and 2002, alcohol-related mortality went up by more than 100%. (SHAAP 2009, pg 4) [SHAAP]

Presentation of these data cannot therefore be considered value-free and indeed, there would arguably be no entirely ‘neutral’ way to articulate the observed trends in alcohol harms. The importance of considering the way data are presented will be highlighted by comparing this ‘crisis’ construction to an alternative prominent construction which was presented by hostile industry actors (see section 6.6 later). These alternative framings highlight the limitations of the ‘rational’ linear model of policymaking where a problem is

noticed based on a purely dispassionate assessment of data, options identified and the best available action chosen.

6.5.2 A favourable goal and means-goal for minimum unit pricing

Just as the way the current situation is defined can help present a favourable case for minimum unit pricing, the presentation of the goal for alcohol policy can influence assessments about the actions to pursue (Fairclough and Fairclough 2012). While at first glance it may seem intuitive to many epidemiologists and others working in public health that there would be wide agreement on the need to reduce the health harms arising from alcohol, more subtle differences in the use of language can privilege some actions over others. In this section, the goal, method advocated for achieving that goal (referred to as a ‘means-goal’) and the values underpinning such a formulation by those advocating for minimum unit pricing are presented.

Many advocates of minimum unit pricing tended to present the purpose of the Scottish Government’s alcohol policy as being ‘to reduce alcohol-related harms in Scotland’.

Reducing overall alcohol consumption in the population is a necessary pre-requisite to reducing alcohol-related harm in Scotland and an effective alcohol policy requires whole population measures including controls on price and availability.

(SHAAP 2010, pg 1) [SHAAP]

The language appears carefully chosen here. It is a ‘necessary pre-requisite’ (with the tautology providing emphasis) to take ‘whole population measures’ to be ‘effective’. Thus the means-goal requires a reduction in population consumption; reducing the consumption of specific groups will not achieve the articulated goal. Many other advocates repeatedly made the case for minimum unit pricing by clearly stating the importance of price as a determinant for consumption, and in turn harms. For example:

It is widely accepted that consumption of alcohol increases as price declines and vice versa, and that reducing consumption will save lives. (Scottish Executive Committee 2010, pg 3) [National Union of Students Scotland]

Over 40 years of research has established that there is a clear association between cost of beverage alcohol and consumption. Consumption increases when the price of beverage alcohol decreases. (Kruzel 2010, pg 2) [Liquor Control Board of Ontario]

In general, there was relatively little explicit discussion of the values underpinning the goals advocated and positions taken in evidence submission documents. Some of those in favour did, however, argue that there was a need for the Scottish Government to support the health of its population, drawing on the concept of 'stewardship'. For example:

If as well as such individualistic arguments there is some public ethos (caring externalities) that the state does have a stewardship role in individual behaviour there could be gains even if the impact of the policy was only on improving the quality and quantity of life of the hazardous and harmful drinker [...]. The first question that the Scottish Parliament has to decide is, does it take on a role of stewardship or not. The concept of stewardship implies that liberal states have a duty to look after the important needs of people both individually and collectively. The stewardship-guided state recognizes that a primary asset of a nation is its health: higher levels of health are associated with greater overall well-being and productivity. (Anderson 2010, pg 3-4) [Peter Anderson, Alcohol epidemiologist]

This concept of stewardship replicates, most likely intentionally, the Nuffield Council on Bioethics framework for public health ethics. Drawing on this articulation, while not explicitly cited, helps lend authority to such an argument.

A broader and more implicit set of values underpin the arguments provided by other actors in favour of minimum unit pricing. As noted in section 6.5.1.1 earlier, many advocates drew attention to the financial burden of alcohol consumption on society. Similarly, in the submission by Peter Anderson above, the relationship between 'health' and (presumably economic) 'productivity' is noted. In so doing, advocates were able to argue that minimum unit pricing would help ameliorate the economic costs of alcohol-related harms, therefore drawing upon wider discourses of the benefits of economic growth, reflected within wider Scottish Government policy (Scottish Government 2011). Such goals are themselves located within a logic that holds 'consumption' as a positive value (Jackson 2011). In other words, the values underpinning advocates' arguments draw attention to the need for the state to act as a steward to its citizens, but not in such

a way that challenges the underlying ideology (defined here as the logic by which actors make sense of the world) that the Scottish Government is operating in. Public health interests do not have to be weighed against economic interests in such a formulation. Alternative framings that conflicted more overtly, such as arguing that health interests are more important than economic performance (Sen 1998), which could also present minimum unit pricing in a positive light, were absent.

6.5.3 A favourable framing for minimum unit pricing

A favourable framing for minimum pricing was presented by advocates in a number of ways. The starting circumstances for alcohol policy emphasised the broad nature of alcohol-related harms – Scotland’s population experienced harms across multiple sectors, acute and chronic harms, and across the life course. These harms were not only experienced by those consuming alcohol but resulted in externalities – harms to families, the wider public and adverse economic impacts that cost employers, government and the public. The broad nature of these harms helped construct the policy problem as one affecting the Scottish population, not one merely affecting specific subsections of society. Epidemiological data were presented to demonstrate that Scotland was experiencing historically high alcohol-related harms, which compared unfavourably to many other countries. This could be portrayed as a ‘crisis’ requiring action.

Advocates presented the goal for policy as being ‘to address alcohol-related harms’. Amongst non-industry advocates for minimum unit pricing, increasing price is related to reduced population consumption in order to ultimately reduce population harms. This framing is shown in the quotation from SHAAP earlier but also by:

It has been observed that when the price of alcohol goes up, population consumption falls and when population consumption falls, so do rates of chronic alcohol related disease such as liver cirrhosis. This indicates that changes in population consumption reflect changes in drinking habits of harmful drinkers, not just moderate drinkers. If price changes only influenced the consumption of moderate drinkers, then trend changes in rates of chronic alcohol related diseases would not be expected. (Grant 2009a, pg 4) [British Medical Association]

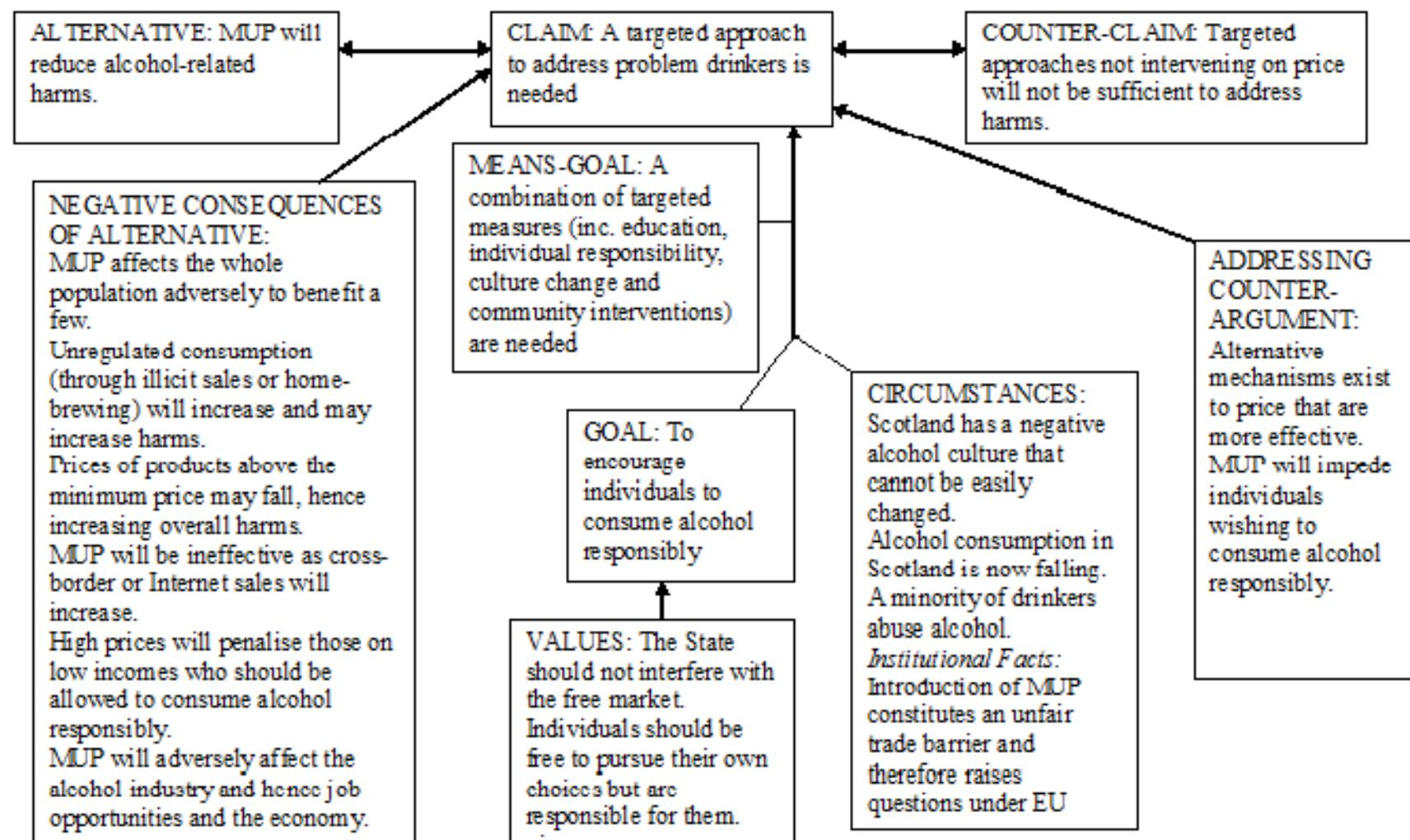
This statement illustrates the relationship between the way the goal of policy is defined and the means required to achieving this goal (the means-goal). The importance of the starting circumstances being defined by widespread alcohol-related population harm is also alluded to.

The values that underpin this framing include the need for government to act as a steward for the interests of its population. The framing presented did not conflict to any major extent with the need to achieve broader governmental aims and may have therefore been more positively viewed by other political actors. In other words, minimum unit pricing can be seen as a second-order change rather than third-order change within Hall's framework of policy change (see section 2.3.4) (Hall 1993).

6.6 A critical framing for the minimum unit pricing debate

In the evidence submission documents to the Health and Sport Committee, actors that were critical of minimum unit pricing nearly all represented or had close links with alcohol or other industry interests. These industry actors that were critical of minimum unit pricing constructed the minimum unit pricing debate in a manner that facilitated a negative appraisal of the policy (see Figure 6.2).

Figure 6.2: A critical framing used by industry actors to support the counter-claim that targeted approaches should be pursued



6.6.1 The starting circumstances: A minority who abuse

As noted above, advocates of minimum unit pricing tended to emphasise the breadth of alcohol-related harms, the large proportion of the population affected and the ‘crisis’ that was developing. In contrast, the dominant framing adopted by industry actors critical of minimum unit pricing tended to portray the starting circumstances for the policy debate in a different light.

6.6.1.1 A narrow range of harms

Alcohol-related harms tended to be conceptualised more narrowly – often as an issue of alcohol dependence or social disorder arising from binge-drinking (Beard 2010; Browne 2010; Clark 2010b; Ford 2010; Klas 2010; Mackie 2010; McNeill 2010; Meikle 2010; Paterson 2010; Price 2010; Taylor 2010; Verlik 2010). For example:

It is misplaced to focus on the availability and affordability of alcohol as the sole and root cause of misuse. Real drivers behind harmful drinking, binge drinking behaviour and under 18's alcohol misuse tend to get overlooked as a consequence.
(Price 2010, pg 3) [National Association of Cider Makers]

We strongly believe that there needs to be a greater place for educational policies designed to tackle the culture of excessive drinking. We strongly support schools, local charities and voluntary groups in encouraging displacement activity for teenagers. We are active members of The Drinkaware Trust, the Community Alcohol Partnership. We take alcohol unit messaging and cracking down on underage sales very seriously. (Clark 2010b, pg 1) [Sainsbury's]

Similarly, economic costs related to externalities, although sometimes acknowledged, did not feature as prominently in submissions from those hostile to minimum unit pricing.

6.6.1.2 Locating the (ir)responsible

While advocates of minimum unit pricing tended to portray alcohol-related harms as affecting the whole population (or society), critics of minimum unit pricing emphasised

consumption by subgroups of the population – helped by focusing on specific harms such as alcohol dependence or binge drinking (as alluded to above).

Effectively, minimum pricing would penalise the majority of consumers who drink alcohol responsibly, and will have little or no impact on the minority who have alcohol dependency issues. (Beard 2010, pg 1) [Whyte and Mackay] [pg 1]

More fundamentally, we believe that this blanket approach on pricing will prove detrimental to the majority of Scots who consume alcohol sensibly and responsibly, in attempting to tackle a problem relating to a minority. (Browne 2010, pg 3)
[Scottish Beer and Pub Association]

Here, documents position a ‘responsible’ majority against a (presumably irresponsible) ‘minority’. Minimum unit pricing is portrayed as a ‘blanket’, conjuring the image that the approach ‘penalises’ all Scots.

It is worth highlighting the distinction between the widespread societal harms caused by alcohol and locating responsibility at a societal level. Industry actors did not necessarily deny the former (although unsurprisingly place less emphasis on this than advocates), but did tend to challenge the latter:

Whyte and Mackay shares the concern of Government about the unacceptably high levels of alcohol abuse in Scotland and the impact this has on the nation’s health and society in general. (Beard 2010, pg 1) [Whyte and Mackay]

Here it is conceded that society is negatively impacted, but it is ‘alcohol abuse’ that negatively impacts on the rest of society, not alcohol-related harms. The latter broader concept of harms arising from alcohol use more easily includes harms arising from chronic levels of excess consumption rather than leading to a focus on binge drinking and alcohol dependence.

Industry actors critical of minimum unit pricing drew upon epidemiological evidence to challenge the population framing of the health issues by advocates. In contrast to the use of ‘hard outcomes’ of health harms used by advocates, critics frequently drew upon survey data to reinforce a construction of the policy problem as an issue affecting a minority.

We note, however, that the Scottish Government continues to justify population-wide control measures, such as pricing restrictions, by claiming that “up to 1 in 2 men”ⁱ [sic] are estimated to be regularly drinking over sensible drinking guidelines. The 2008 Scottish Health Survey includes updated estimates of the proportions of men and women exceeding the weekly sensible drinking guidelines. In comparison with 2003, these show a fall from 34% to 30% for men and from 23% to 20% for women.ⁱⁱ[sic] This makes the suggestion that 50% of men might be exceeding the guidelines seem unlikely. (Poley 2010, pg 2) [Portman Group]

Alcohol consumption has remained flat in Scotland over the past five years. Not only that, the Alcohol Bill is being introduced against the back drop of implementation of the new Licensing Act and roll out of the national brief intervention programme the impact of which have still to be assessed. (Meikle 2010, pg 1) [Scotch Whisky Association]

We also note that while there has been a shift in consumption from on trade to off trade, overall consumption has not increased since 2004. (Paterson 2010, pg 2)
[Asda]

As noted earlier, advocates favoured presenting alcohol-related harms as a ‘crisis’ that required addressing, and used indicators showing a marked increase over time to support this assertion. The alternative construction above suggests that the public health harms arising from alcohol use are either resolving or stable, hence implying that the area no longer represents a policy priority. The words ‘still to be assessed’ in the text above hint that further declines in health harms may occur and some actors specifically suggested that existing policy changes (such as reforms to the licensing laws or alcohol brief interventions) would address the problem.

6.6.1.3 Contested epidemiological data

As seen above, critical constructions of the epidemiological data for the minimum unit pricing debate not only questioned the framing of population overconsumption but also the ‘crisis’ discursive construction. However, the use and limitations of epidemiological survey data were particularly highlighted by those advocating for the policy, drawing

upon alternative data sources (especially sales) and analysing the same data in different ways. For example:

Alcohol sales data from the Nielsen Company shows that enough alcohol was sold in Scotland in every year since 2005 to enable every man and woman over the age of 16 to exceed the sensible weekly drinking limits for men every week of the year. Average weekly sales of alcohol units per adult over the age of 16 in Scotland in 2009 were estimated to be 22.7 units. This is the equivalent of around 540 pints of beer or 45 bottles of vodka per person per year. (Scottish Government 2010, pg 2)

[Submitted by Nicola Sturgeon, Cabinet Secretary for Health]

Therefore describing the epidemiological trends was an active area of contestation within the policy process.

6.6.2 An alternative goal for alcohol policy: Addressing alcohol abuse

Consistent with a public health conceptualisation of alcohol, advocates of minimum unit pricing framed the purpose of alcohol policy as being ‘to reduce alcohol-related harms’. In contrast, those critical of minimum unit pricing suggested that the goal of public policy should be to help individuals ‘consume alcohol responsibly’. As noted in the previous chapter, this reflects the dominant framing in previous UK and Scottish Government alcohol strategies. For example, the Scotch Whisky Association stated:

Our aim is to ensure that moderate consumption continues to be part of normal healthy life in Scotland, and that misuse is regarded as unacceptable behaviour.

(Meikle 2010, pg 1) [Scotch Whisky Association]

While there was less clear consensus about the means to achieve moderate consumption, critics tended to argue that any approach must be suitably targeted. This targeted means was reflected and justified by the location of the problem within a minority of the population:

The sledgehammer is not the best tool for nut cracking! It is time to search out the correct policies for changing the habits of a minority whilst coercing the majority to

understand the dangers of excess. (Clark 2010a, pg 2) [Society of Independent Brewers]

Our priority is to ensure that our customers have the information they need to drink responsibly and that sales are only made to those over the age of 18. (Taylor 2010, pg 1) [Morrisons]

The Society of Independent Brewers here suggest that it is the ‘habits’ of a minority that need to be changed. The majority instead need to ‘understand’ the dangers, not change their ‘habits’. Similarly, it is ‘information’ that is required according to Morrisons, not even ‘understanding’.

These above documents imply a different vision for alcohol strategy than that articulated by the Scottish Government. It is ‘responsible consumption’ being sought rather than ‘to reduce harms’. In this framing, since a minority is not behaving ‘responsibly’, population measures appear unwarranted.

This articulation of the goal of policy therefore focuses on addressing misuse and encouraging ‘responsible’ consumption. As noted earlier, such a discourse locates problems arising from alcohol use at the individual rather than population level. The sentence constructs consumption as being either ‘normal’ and ‘healthy’ or ‘unacceptable’. Thus by dividing the population into a minority that is irresponsible against a majority behaving responsibly, population-based measures appear less favourable.

Advocates for minimum unit pricing tended to present a consistent message for the means of achieving their stated goal of ‘reducing alcohol-related harms’, namely that increasing alcohol price results in reduced population consumption and hence reduced population harms. In contrast, critics argued that a combination of targeted measures (especially education, individual responsibility, culture change and community interventions) are required to address ‘alcohol abuse’.

By emphasising the combination of measures needed, critics reinforced the suggestion that addressing alcohol abuse is difficult, hence implying that no single measure (including minimum unit pricing) could be effective. The most consistently suggested

means for achieving the critics' stated goal for alcohol policy was culture change and this is considered in greater detail in section 6.6.3.

Unsurprisingly, different values underpinned the arguments presented by critics of minimum unit pricing. Rather than suggesting a 'stewardship' approach for government, a strong discourse of 'responsibility' was coupled with 'freedom' to argue against the need for state interference:

We do not support the introduction of minimum pricing for alcohol products as this goes against the whole ethos of open competition and would limit consumer choice. [...] Clearly the change in culture being sought in Scotland, can only be achieved with a holistic approach involving a broad spectrum of stakeholders, bearing in mind that key to a change in culture does require some individual responsibility. (McNeill 2010, pg 2 and 7) [Co-operative Supermarket]

Here, minimum unit pricing is being presented as clashing with discourses of 'freedom' and especially 'free trade'. In contrast to the alignment portrayed by advocates between 'economic growth' and alcohol pricing intervention, 'open competition' and 'choice' are presented as being in conflict with minimum unit pricing. This tension is further illustrated elsewhere:

Minimum pricing challenges the concept of a "free market place" of which competitive pricing is the keystone. (Mackie 2010, pg 2) [Scottish Grocers' Federation]

Consumer Focus Scotland takes the position that it is only justifiable to interfere in otherwise functional markets when there is clear evidence of the benefit of doing so in terms of the public good. At the same time, there must be no significant consumer dis-benefits. (Macdonald 2010, pg 1) [Consumer Focus Scotland]

However, a potential contradiction exists here if one accepts that the underlying rationale for a 'free market' is to foster 'economic growth'. Given that advocates suggest economic growth itself is being threatened by alcohol-related harms, it is unclear why privileging the 'free market' in this case is beneficial. The alternative rationale could be that 'free trade' should be valued for reasons of liberty alone rather than for implied economic

reasons. Such an argument is largely lacking in submissions from critical stakeholders, however. If proffered, it would be susceptible to challenge since the liberty of industry actors and consumers of cheap alcohol must be set against the liberty of those adversely impacted by others' consumption.

6.6.3 An alternative means-goal: *Changing culture*

A prominent method for challenging the means-goal of increasing price used by those critical of minimum unit pricing was to emphasise the importance of the influence of culture, either by itself or as part of a package of measures to address alcohol 'abuse'. For example:

We strongly believe that there needs to be a greater place for educational policies designed to tackle the culture of excessive drinking. (Clark 2010b, pg 1) [Sainsburys]

A long term education programme is required in order to effect a true cultural change in attitudes towards alcohol. (Mackie 2010, pg 3) [Scottish Grocers' Federation]

We believe that there is a requirement for a fundamental cultural change in society's relationship with alcohol. Therefore while we welcome the high priority given by the Scottish Government and Parliament to tackling alcohol misuse, we believe that the debate has been too focussed on pricing mechanisms. (Paterson 2010, pg 1) [Asda]

In these examples, changing 'culture' in Scotland appears difficult – requiring a 'holistic' and 'long-term' approach. Frequently, these ideas were contrasted with price or legislative interventions, which were portrayed as falsely promising to be a 'silver bullet', something that could not be true if changing 'culture' requires long-term sustained efforts. The last quotation above illustrates this particularly well. While the first statement emphasises the importance of 'fundamental cultural change', the second sentence's use of 'therefore' presents 'culture' as a reason for not focusing on pricing mechanisms.

Instead of such one-off legislative price interventions, changing ‘culture’ necessitates education-based approaches to engender a sense of ‘individual responsibility’ in the above constructions. However, this lays critics of minimum unit pricing open to attack on at least two fronts. First, it can be argued that a reliance on education-based interventions is ineffective (see section 5.3.6). Second, if the importance of achieving a change in culture is accepted (which many critics appear to do as shown above), then alternative methods to achieve culture change can be adopted. Advocates of minimum unit pricing can therefore argue such legislative measures can help foster the necessary cultural changes:

Alcohol is “no ordinary commodity” and should not be subject to market forces.

The negative consequences to the health of the nation directly associated with excessive alcohol consumption have been recorded and reported on. The opportunity to change Scotland’s Alcohol culture should not be missed. (Dixon 2010, pg 2) [Salvation Army]

[...] redefining the cultural norm in Scotland will require a population approach which supports and encourages more responsible drinking, as well as increasing awareness and understanding, in order to empower and enable individuals to make more positive choices. (Collins 2010, pg 3) [Scottish Association for Mental Health]

These actors also appear to draw upon the discursive construction that alcohol is ‘no ordinary commodity’ (in keeping with the alcohol epidemiology book of the same name (Babor, Caetano et al. 2010b)). This discursive device appeared repeatedly within submissions from those that were supportive of minimum unit pricing:

Alcohol is no ordinary commodity and should not be retailed in the same fashion as eggs, milk or tins of beans. (Wilkinson 2009, pg 2) [Scottish Licensed Trade Association]

In addition to these two measures [minimum unit pricing and quantity discounting] all other approaches that may impact positively on responsible drinking, removing alcohol as a 'normal' commodity should be considered. (Ewing 2010, pg 3) [Association of the Chief Police Officers of Scotland]

As can be seen above, the presence of this discursive device appears across submissions from a wide variety of stakeholders, including many who would be unlikely to have encountered the original work directly. Its presence within Scottish Government submissions too suggests that this idea has been particularly influential (Scottish Government 2010; Sturgeon 2010).

Hence, minimum unit pricing can be seen as more acceptable – an interference in the ‘free market’ requires less justification if alcohol is not like other commodities that are the subject of a free market. In addition, the move to present alcohol as ‘no ordinary commodity’ can be argued to further the process of achieving a change in culture.

6.6.4 The critical industry framing: Putting it together

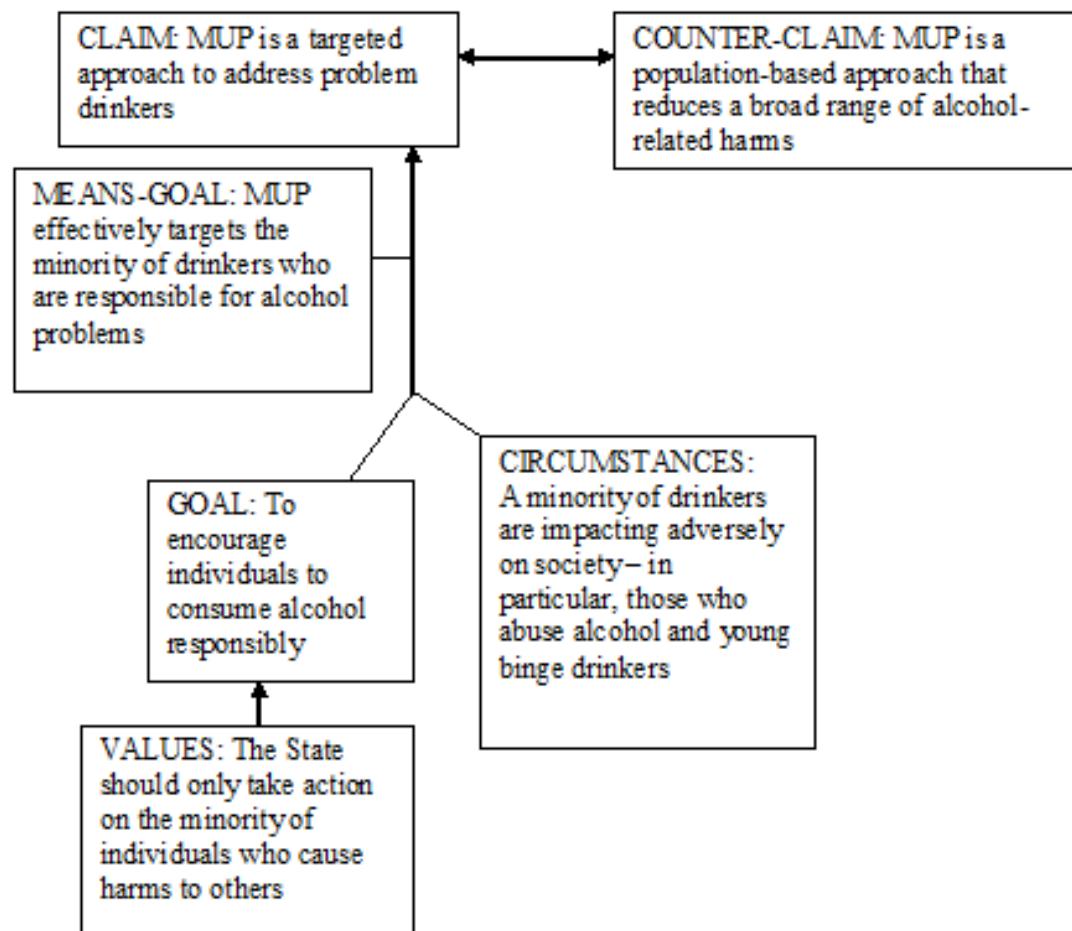
Industry critics of minimum unit pricing constructed the policy debate in a manner that facilitated arguments against the policy (see Figure 6.2). They portrayed the policy problem as one of a minority of irresponsible drinkers which requires a targeted approach to challenge behaviour. Alcohol consumption was presented as either stable or falling, hence disputing the ‘crisis’ representation which advocates communicated. While consumption was presented as problematic in only a minority, no straightforward means to tackle ‘alcohol abuse’ was suggested. Instead, tackling ‘alcohol abuse’ required a combination of approaches with culture change being the means-goal most alluded to. Such a framing implied that minimum unit pricing would be ineffective since no single intervention was capable of bringing about the culture change that underpinned the means-goal. Rather than the state having a stewardship responsibility, the free market was portrayed as being interfered with.

6.7 A hybrid framing: Industry actors favouring minimum unit pricing

Thus far, this chapter has focused on how industry actors that were critical of minimum unit pricing presented the minimum unit pricing debate. But what of industry actors who were supportive? These actors did not wholly adopt the same framing as advocates nor

did they adopt the critical framing. Rather, they drew upon elements of both the advocates' and the critics' framings, to develop a distinctive argument in favour of minimum unit pricing but which did not endorse many of the broader arguments put forward by non-industry advocates of minimum unit pricing (see Figure 6.3).

Figure 6.3: A framing used by industry actors to support the claim that minimum unit pricing is a targeted policy



6.7.1 Starting circumstances: A society being harmed by a minority

Industry actors that advocated for minimum unit pricing tended to describe the starting circumstances in a similar manner to critical industry actors. For example, the discursive devices of ‘alcohol abuse’, ‘underage drinking’ and ‘binge-drinking’ were adopted even by industry actors (Faris 2010) who were openly sympathetic of minimum unit pricing:

We recognise that there is an issue of overconsumption of alcohol among a minority of consumers, and acknowledge that the Scottish Government is working to try to combat this problem. In particular, there is an issue with a small group of consumers who purchase cheap alcohol in bulk, drink excessively at home and then go out into pubs and clubs and get into difficulties. We believe that, if implemented appropriately, minimum pricing could be part of the solution by increasing the price of alcohol, particularly of high strength products and is one way of addressing the alcohol abuse issues that we face in Scotland. (Lees 2010, pg 1) [Tennent Caledonian Breweries]

We believe that reducing alcohol abuse is a desirable and achievable goal. (Wilson 2010, pg 1) [Molson Coors]

Hence, industry actors, including those supportive of minimum unit pricing, seemed to frame the nature of health harms that are the subject of policy in a different way to public health advocates. Like other industry actors, they placed emphasis on particular population subgroups (who often experienced specific types of alcohol-related harms).

6.7.2 The goal: A responsible society

Similarly, industry actors presented the goal of alcohol policy as being to bring about a ‘responsible society’, irrespective of their area of operation (for example, producers, supermarkets or licensed trade) and their position with respect to minimum unit pricing. For example, the trade organisation representing the night-time economy within Scotland, Noctis state:

Noctis has been a long-time supporter of minimum pricing (based upon alcohol unit) – although not all of our producer members are in favour [...]. We would argue that some of the pressure to bring in minimum pricing is from those groups which are very anti-alcohol (sometimes referred to as “neoprohibitionists”) and therefore have a vested interest in making alcohol as expensive as it can be [...] We do not believe that this [the factors encouraging a switch to off-trade consumption] is helpful in terms of encouraging drinkers in the wider populace to consume alcohol sensibly. (Smith 2010b, pg 1-2) [Trade association for the night-time economy]

Again, the word ‘sensibly’ relates to the discourse of ‘individual responsibility’ evident elsewhere. Therefore, there appears to be a fundamental division between the vision articulated by alcohol-related industry actors and other actors. This division has implications for the possibilities of partnership working, since different goals are being pursued.

Industry actors therefore generally articulated a similar framing and vision of the starting circumstances and the goal of alcohol policy. However, some industry actors did present a favourable case for minimum unit pricing:

Keeping in mind that there is no one quick fix for addressing alcohol harm, Molson Coors remains committed to keep working together with the Scottish government and others to make sure that the irresponsible alcohol consumption is addressed. We believe that reducing alcohol abuse is a desirable and achievable goal. We need efficient policies to target alcohol harm without punishing the responsible consumer. (Wilson 2010, pg 1) [Molson Coors]

Here it is ‘irresponsible consumption’ that needs to be addressed to achieve the goal of ‘reducing alcohol abuse’. Action must be ‘targeted’ and importantly should not ‘punish’ those who are ‘responsible’. This lays the ground for the actions that are admissible within this frame.

In contrast to critical industry actors, alcohol price increases (especially minimum unit pricing) are presented as potentially targeted, rather than blunt, interventions for addressing ‘alcohol abuse’. The purpose of increasing alcohol prices is not to reduce

population consumption, as many non-industry advocates contend, but rather to reduce alcohol overconsumption within a minority of the population by increasing the price of only the cheapest alcohol products.

6.8 Minimum unit pricing: From a population approach to a targeted population approach?

Following on from the above, minimum unit pricing can be seen to be constructed in three different ways. First, minimum unit pricing has been portrayed as a population-level intervention, intending to reduce population consumption but having greater impacts on certain population subgroups. Second, the policy was presented as not being targeted because it has an impact on the overall population (the ‘responsible majority’). What is defined as being ‘targeted’ is therefore narrow, it is implied that if an intervention has an impact on those who lie within the ‘responsible majority’, it cannot be considered ‘targeted’. Finally, minimum unit pricing was seen as a targeted intervention which affected specific population subgroups without impacting on ‘responsible drinkers’. In the last construction, it is not population consumption that is the target but individuals who are not ‘responsible’. The first framing was dominant in submissions from public health advocates, particularly within Scotland; the second amongst industry actors who were hostile; while the third were seen in industry actors in favour of minimum unit pricing but also some England-based non-industry actors.

Minimum unit pricing was presented as a targeted population-based mechanism as the evidence (particularly econometric modelling conducted by the University of Sheffield on the likely impact of the introduction of minimum unit pricing) suggested those most at risk of alcohol-related harms were most impacted by the intervention. For example:

Minimum pricing strategies target hazardous patterns of drinking. A recent analysis of national US drinking and purchasing patterns (Kerr and Greenfield, 2007) found the heaviest 10% of drinkers by volume reported spending \$0.79 per drink compared to \$4.75 per drink spent by the bottom 50% of drinkers). [emphasis in

original] (Stockwell 2010, pg 2) [Center for Addictions Research in British Columbia, Canada]

Minimum pricing should be one component of a broader strategy for reducing alcohol consumption and related harm, including targeted approaches as well as population-based interventions. (Hardie 2009, pg 1) [Royal Society of Edinburgh]

The rationale for a population-based approach was justified by the argument that the majority of the population (and not just dependent drinkers) are adversely impacted by current alcohol-related harms, hence drawing on notions of the public good. Therefore, as one alcohol epidemiologist notes in his submission, all groups within a population (and not just those who experience direct reductions in their health risks) may benefit from population-based interventions such as minimum unit pricing:

The ethical and economic arguments for public health policies like alcohol revolve around the public good and the compensation moderate drinkers may enjoy from the drop in third party alcohol related harm such a pricing policy may bring. So if public drunkenness, alcohol related violence and accidents reduce there are gains to moderate drinkers as there are if alcohol related public expenditure on health care, criminal justice costs etc reduce. (Anderson 2010, pg 3) [Peter Anderson, Alcohol epidemiologist]

This argument acknowledges that dependent drinkers do not only impact on their own lives but on wider society – an argument that has greater weight if a population-based definition of the policy issue is accepted.

In contrast, critics of minimum unit pricing, predominantly representing off-license trade and producers, tended to define ‘a targeted approach’ as one that does not impact on anyone except those consuming alcohol in a problematic manner (which in turn was often defined narrowly, as seen above) rather than one that has greatest impact on those consuming alcohol in a high-risk pattern. In other words, ‘population’ interventions and ‘targeted’ interventions were constructed as opposites; by definition it was impossible for a population intervention to be targeted. Many of the above industry quotations that were critical of minimum unit pricing reflect this orientation, but the following provides a further illustration:

Penalising the general population does not seem to be the appropriate way forward in either seeking to bring about cultural change in Scotland's relationship with alcohol or dealing with alcohol misuse (the problem drinkers). (Price 2010, pg 3) [National Association of Cider Makers]

SBPA believes that Government interventions on tax and price are blunt and poorly targeted. Policy should target problem drinkers, not penalise the whole population. (Browne 2010, pg 2) [Scottish Beer and Pub Association]

Minimum unit pricing is therefore constructed as a ‘blanket’ policy that is ‘blunt’ and ‘penalises’ the whole population. In contrast, it is ‘problem drinkers’ (hence individuals) who need to be targeted. However, not all industry actors defined targeted interventions in this way. Supportive industry actors agreed that minimum unit pricing was a ‘targeted intervention’ but downplayed its potential construction as a population-level intervention. As earlier, Tennent brewers stated the ‘need’ for policies to target ‘alcohol harm’ and notably did not refer to population consumption.

We believe that, if implemented appropriately, minimum pricing could be part of the solution by increasing the price of alcohol, particularly of high strength products and is one way of addressing the alcohol abuse issues that we face in Scotland. Consequently, Tennent’s supports the proposals to introduce minimum pricing so long as the measures proposed are fair, proportionate and part of an overall programme to reduce the abuse of alcohol. (Lees 2010, pg 1) [Tennent Caledonian Breweries]

Again, it is ‘alcohol abuse’ that is the target of intervention here, not the broader alcohol-related harms.

6.9 Changing the policy framing – A role for agency?

The conduct of qualitative interviews with a diverse range of policy stakeholders allows the above document analysis to be extended in two useful ways. First, interview data has allowed triangulation of the findings from document analysis to be conducted – thus allowing greater confidence in the validity of the above findings. Second, and perhaps more importantly, it allows more fluid, temporal changes to be investigated. In particular,

the chapter will go on to assess the extent that changes in the constructions of the policy debate have occurred, the extent that actors are aware of these changing constructions and whether interviewees have attempted to influence which framings are dominant in an effort to influence policy.

6.9.1 An industry frame

Considerable support was found for the above constructions identified in the document analysis. In addition, actors showed an awareness of the importance framing the policy debate in different ways has on policy spaces – facilitating and constraining the possibilities for policy development (Majone 1989). In other words, they were reflexive actors intentionally seeking to remake the institutional spaces in which future policy was to evolve.

As argued above, many industry actors (whether supportive or hostile to minimum unit pricing) framed alcohol as an issue of ‘alcohol misuse’ and ‘binge drinking’, attributable to the actions of a minority, hence requiring a targeted approach, as illustrated in these two interviews:

Industry: We still think that, I mean overall I guess our sense is that there are, there are, we would never deny that there are problems in the UK and particularly in Scotland, also in Northern Ireland, with alcohol misuse. The issue is whether a targeted approach or a blanket approach has the most effect.

Int: Ok. And how would you describe the role of alcohol in the UK at the moment?

Industry: How would I describe the role of alcohol? I'd think it, well I think it plays a role in terms of, it's something that people like to do with their leisure time. And so obviously it has an important social role. But then there are also the associated hazards with binge drinking and dangerous drinking. So yeah good, good and bad.

Those who had been actively advocating for minimum unit pricing appeared clearly aware of this frame and repeatedly described this ‘industry frame’ as having previously been dominant – a situation they often regarded as problematic:

Advocate: I think for a while, probably in, up until about 2007/8, the frame of the alcohol problem was still very much, and if you actually look at the strategies, if you look at the alcohol strategies that have been developed – you may be doing this as part of your research – you will see that the frame of the problem is a crime and disorder frame – aimed at youth binge drinking and dependent alcoholics. Very much an industry frame of the problem, because that’s exactly how the alcohol industry like the alcohol issue to be talked about. They like to say, “we all, you and I, you know, the majority of people have no problems, it’s these youth binge drinkers or these alcoholics in this corner that we should be concerned about, so the policy measures we need to introduce are education etc etc.” So the frame was definitely an industry-friendly frame, and one that presented alcohol problems as a minority problem.

As suggested by the above quotation, there was a general consensus that binge drinking and dependence were the dominant areas of concern for policymakers under the pre-SNP Scottish Executive. Interviewees within alcohol-related industries or associated with them tended to continue to adopt this framing when discussing alcohol policy throughout the period of fieldwork.

6.9.2 Moving to a population framing

In general, there appeared to be agreement that a change in the framing of the policy debate had occurred in Scotland, with a move from targeting narrowly defined disorder and dependence issues to taking a population approach. For example, in the words of one industry representative and one advocate:

Industry: I guess ultimately that is where the debate has changed. It has become, as the debate’s moved more to almost this kind of

population health approach, population impact approach, there is a bit where it has moved away from personal responsibility. We don't make any comment on whether that's the right thing or wrong thing but I think it's kind of self-evident that that's where, that's where things have gone.

Advocate: I think the big shift that's happened in the last five years is that there's a much clearer public health frame to the alcohol problem, and also that the real significant change - and we don't have this in the rest of the UK at the moment, only in Scotland – is that the Scottish ministers accept and acknowledge the evidence base that says the way you reduce harm is to reduce overall alcohol consumption in the population. And the way you reduce overall consumption is to do controls on price and availability.

This change in the dominant framing demonstrated above is in itself a potentially important finding. However, it poses two related questions. First, do policy stakeholders believe that a change in minimum unit pricing framing helps explain the development of minimum unit pricing? And second, what brought about this change in framing – in particular, did it represent a deliberate strategy by those advocating for policy change? In answer to the first question, a number of interviewees commented that a shift in the framing of the debate seemed to be important (and potentially even ‘the key’) to allow the adoption of minimum unit pricing in Scottish policy:

Civil Servant (Scotland): I think in terms of Scottish Government policy the crucial change was to sort of shift to the whole population approach and away from the sort of notion that it's people kind of causing a rumpus on a Saturday night. That's one manifestation of the problem, but actually the impact's much more widespread and profound, you know, and it's impacting on our children, which is an area of work that the children's charities and the AFS are kind of trying to get more and more into I think, yeah.

Advocate: [...] it does feel like you have to create a crisis to get further action. They probably felt it was a bit of a crisis back then, but it's certainly... the amount of drinking has obviously increased quite a lot. So I think it's been... over the last ten years it's been an issue – the problem was they didn't want to take a public health approach. The Labour administration did not take a public health approach. And this has been the, sort of, the major, major step forward has been... persuading the SNP that this was, you know... "everyone's drinking too much." Just simply saying that, which is something that Labour would never say. They were very much, you know, still wanting to talk about responsible drinkers, you know, it's... it's... don't want to penalise the majority, you know, working class pleasures, all this kind of discourse. And I think that's been the key so, although it's been a major policy issue for ten years, the key has been this... this switch, just, almost one sentence, you know, and taking a population approach.

But does this shift in framing originate from the actions of specific actors? Interview data suggested that this was the case, with the framing of alcohol as a population issue reflecting a deliberate strategy of advocates for minimum unit pricing. For example, in the words of two different interviewees:

Advocate: [...] what was clear to me in assessing it was the first thing we have to do in order to create a conducive climate that, a climate that would be conducive to discussions about minimum unit pricing, was to change the frame of the alcohol problem. Because the frame of the alcohol problem, which was the industry frame, if you accept that frame of the problem then, you know, you will not support population measures, cos you think the problem is youth binge drinkers or whatever.

Advocate: We were advocating at that point... framing alcohol in the public health paradigm which involves a whole population approach, and by that meaning you reduce – you don't just target individuals

who are drinking to excess – you aim to reduce the whole population, the average population alcohol consumption and mechanisms like price and availability will be doing that sort of thing, and using epidemiological thinking – you shift the curve to the left, therefore, those at the tail end, you know, a disproportionate reduction and they're very heavy drinkers and so on.

In addition to the shift to taking a population perspective, interviewees commented on the importance of 'broadening out' the debate. This meant a reduced emphasis on social disorder but also that health considerations did not merely displace existing considerations. Instead, a broader construction that simultaneously considered health, crime and emphasised the multi-sectoral nature of harms – taking a public health perspective – was presented.

Int: So you... you've mentioned that there might have been this switch from alcohol being thought of as kind of a justice type issue or a social issue, to it being a health issue to an extent... is that a...?

Advocate: Particularly public health. Between a population issue rather than an individual treatment issue, or a young people issue purely, you know, it's, or an antisocial behaviour issue. It was kind of atomised... not atomised... but, you know, it was individualised or... in a sense into those particular strands. There was a big, you know, antisocial behaviour and community safety partnerships were a big theme five or six years ago; they're still around but they were very big then – in the early 2000s they were the sort of new thing. So it was all... it was antisocial behaviour, underage drinking, individual treatment issues rather than... "oh actually - the population consumption". You know, it's... if we shift that Gaussian distribution the right way, we'll take the heavy drinkers with us, and they'll drink less – or that's what we thi..., you know, that's... there is good evidence to suggest that would happen, you know. And that's a good... it's a much more simpler rallying call as well.

The importance of changing the framing of the policy debate is likely to have been particularly appreciated by some actors who were aware of the political science literature on the importance of policy framing, as illustrated by one individual who was often identified as instrumental having studied this as part of her PhD (Gillan 2008). However, the process of achieving this change in framing was not unproblematic. As alluded to previously, a shift to a population consumption approach could only be achieved in the context of a conducive environment – an environment which did not appear to exist under the previous Labour-Liberal Democrat coalition in the Scottish Executive. Barriers were not simply limited to the party political environment but were also related to communicating a new discourse to a diverse range of communities. This included a requirement to change the framing to a public health paradigm amongst medical practitioners too – something which required effort to overcome some initial resistance.

In the words of one advocate:

Advocate: Anyway, price – it was necessary to kind of argue the corner really, because some of the medical profession ‘oh you know that’s not really our bag is it?’ and I said well “it is you know, and certainly from a public health point of view it’s really really...”. If you frame alcohol problems in a public health paradigm it makes absolute sense, and by that I mean, the kind of the ecological model – the individual, family, community, society. You know if you can see that there are problems on all of those levels then you’ve got to put in solutions in all of those levels. And it... also you know to quote Donne, John Donne: ‘no man is an island’, so you can’t, this kind of perception that there’d been, it’s all about individual choice really, sort of throughout the 70s, 80s and so on, you know that’s, that’s not right. You know it’s all in the context of the environment you’re surrounded in. And you know if you’re surrounded by cheap available alcohol, big surprise that people are drinking more and more, well, so there we are.

Similarly, since the dominant framing focused on achieving targeted behaviour change for a population subgroup, practical barriers existed in communicating an alternative framing to audiences even less familiar with population health perspectives. In contrast to an

earlier quotation which suggested communicating the population framing was relatively easy (an isolated viewpoint within the data), most of those actively involved in communicating the new population framing suggested the message was a tricky one to communicate.

Int: And how did that idea of population consumption... kind of, how was that communicated?

Civil Servant (Scotland): Well, yeah, it was quite challenging actually because, you know, you've got a sort of public health theory, and I think it's quite difficult for people to kind of connect to that in a sort of simple way. I remember, you know, as a team we were sort of talking about it, you know, that if you've got that curve of consumption that you're trying to move everybody down, and one of my team saying, "but I only drink, you know, two glasses of wine a week, does that mean you're trying to reduce my consumption?" And yeah, I mean, according to the letter of the public health model, yes, you know, we're trying to move everybody, but that's not a sort of really kind of a terribly easy message to communicate. You know, people would say, "well, that's just ridiculous, you know, I'm drinking so little, why should I reduce or...?" So, our application of it was that we're trying to move everybody who's drinking above sensible drinking guidelines, you know, to within them.

And that was an easier thing to sort of say to the industry, "well, you surely wouldn't disagree with that, you know, you run campaigns with us about drinking within sensible drinking guidelines". Of course the reality is if everybody did that then, you know, sales would crash, but, you know, that as a stated, you know, intermediate outcome in order to get us to, you know, the reduced consumption, population consumption, that was acceptable. Obviously young people you would say, "well, you know, we should... we agree that, you know, there should be minimal consumption of anybody under 18, similarly

pregnant woman or women looking to conceive". So, once you kind of break it down to, "well, if you agree with all of those, you know, that takes us quite a long way towards whole population consumption". So that's kind of how...

Within Scottish Government, it therefore appeared that considerable thought was put into how to communicate messages about reducing population consumption. This included anticipating industry responses and to an extent creating a hybrid discourse that contained aspects of Rose's population approach while also being amenable to sense-making within the framing of targeting problem drinkers.

6.9.3 The battle to achieve a dominant framing

While the previous section has suggested that attempts were made to create a new dominant discourse, moves towards a population framing were fiercely contested. Those involved in trying to achieve policy change often spontaneously commented on the difficulty of having the population perspective accepted. In the words of one advocate:

Advocate: And I think some of the civil servants you know began to see that actually the logic wouldn't work unless you had this reduction in average population consumption, there was a bit of sort of pennies dropping. And that, all those sort of ideas had come together and that is a paradigm shift actually in the way of thinking, because Scotland's alcohol strategy now is you know, one of the few, if not the only one in the world that explicitly says a reduction in population consumption, although trying to get the words in was really really hard. In fact trying to explain it in a non-scientific way was actually quite hard, and that was an interesting journey watching you know the experienced civil servants take the science and translate it into a sort of politically and understandable concept for the population, and if you go on about that...

Importantly, the reframing of the policy debate alluded to in the above quotation seems to set considerable store by the fact that Scottish Government policy 'explicitly' refers to

'a reduction in population consumption'. In particular, this change in language required expending considerable effort to achieve, but the performative function of this new language was recognised as an important end in itself. In other words, it was understood that embedding this change in the language used within a policy document would help reiterate a population framing and ultimately, advance the cause of public health. Beyond this, the interviewee also suggests that civil servants had an active role in helping to establish a population perspective to addressing alcohol-related harms.

Opponents of this new framing (who were all industry-related) actively challenged taking a population perspective and in turn, many of the assumptions underpinning it. The assumptions being challenged can be considered under three categories: existential assumptions which relate to "what exists"; propositional assumptions about "what is or can be or will be the case"; and value assumptions about "what is good or desirable" (Fairclough and Fairclough 2012). For example, existential assumptions could include the assumption that there are such things as 'culture' (including Scottish norms about alcohol consumption) or 'scientific evidence' (for example, the assumption that the discipline of epidemiology provides evidence that can inform policy). Propositional assumptions have been alluded to in some of the above findings, such as that a minority of people experience alcohol-related harms or that minimum unit pricing will have a greater effect on those at greatest risk of harms. Value assumptions, which may be explicit but often are left implicit, include perceiving that 'health', 'economic growth' or 'freedom from the state' as in themselves good things that are to be pursued. Next, the chapter will examine some of the arguments used to counter the population health framing, and in particular focus on describing the manner in which underpinning assumptions have been attacked.

A prominent theme in industry interviews was alluding to epidemiological data to question the population framing. For example, one industry representative argued that the population perspective, which they stated meant 'we're all drinking too much', cannot be true. Thus the propositional assumptions underlying a population approach were challenged, as exemplified by these two interviewees:

Industry: I think there's a minority who misuse. We understand that alcohol when it's over consumed or misused can be dangerous to health and society. I think it's often over played unfortunately, you

know, so for example Department of Health's own figures say that seventy eight percent of people drink within the Government's recommended weekly guidelines, which means that twenty two percent of people are drinking over.

Industry: And I think that the other point to make is that the vast majority of people drink responsibly. Seventy-eight per cent of people, that is to say nearly eighty per cent of people in England within government guidelines. And again that's a figure that's been increasing steadily for the, the last few years. So consumption-wise I think there are some positive patterns that are emerging.

The above extracts show how the propositional assumptions defining the current situation are challenged – it is ‘the minority who are misusing’ who need to be targeted, not ‘the majority’. In addition, the propositional assumptions underlying a population-based approach are challenged – in other words, reducing population consumption will not address alcohol-related harms.

One industry representative suggested that taking a population health perspective would potentially conflict with the discourse of ‘evidence-based policy’. It is worth noting that interviewees would be aware of my interest in this area but often spontaneously framed their responses in this way.

Industry: So our contention would be evidence based policy, but let's focus on tackling alcohol misuse. It's easy to put in measures that reduce consumption. Very easy to do because you can limit availability, you can shut places down, you can raise prices through the roof, and you might end up with a reduction in consumption. But most of these measures will affect people who are not actually causing the harm, so they don't affect harmful drinkers. They rarely affect people who are misusing at the very far end. So we would say lets tackle... and again I use that word minority carefully; let's tackle the minority who are misusing, not the majority because it's easy to do. It's much easier to

make policies that touch everyone than actually tackle the actual issues.

Within this extract, the interviewee acknowledges the value of addressing alcohol misuse but it is alcohol misuse, not broad alcohol-related harms that require addressing.

6.9.4 The Scottish and UK Governments' framings of alcohol policy

During the time period studied in this chapter, changes in the framing of the policy problem are reflected in broader Scottish Government policy documents. Under the Labour/Liberal Democrat coalition Scottish Government, the predominant industry framing can be identified in policy documents:

Although the majority of people in Scotland enjoy alcohol without causing harm to themselves or to others [...]It's time for us to take responsibility for our own drinking habits, setting an example for our young people. We need to make sure that they are well educated about responsible, moderate consumption, and that they are empowered to make the right decisions. (Scottish Executive 2007, pg 2)

In contrast to this focus on individual responsibility, the most recent Scottish Government policy, 'Changing Scotland's Relationship with Alcohol' (Scottish Government 2009a, pg 10), states:

Alcohol misuse is no longer a marginal problem, with up to 50% of men and up to 30% of women across Scotland exceeding recommended weekly guidelines. That's why we are aiming, consciously, to adopt a whole population approach. This isn't about only targeting those with chronic alcohol dependencies [...]. Our approach is targeted at everyone, including the 'ordinary people' who may never get drunk but are nevertheless harming themselves by regularly drinking more than the recommended guidelines. If we can reduce the overall amount that we all drink in Scotland, and if we can change the way we drink, then we will all reap the benefits.

Here, the public health framing appears to be drawn upon to argue that a 'whole population' approach is required. The nature of harms to be addressed including chronic

harms and not specific population subgroups are no longer highlighted as the target of policy.

In contrast to the Scottish Government's public health framing, the hybrid framing of supportive industry stakeholders appears closely related to the UK Government's presentation of the policy issue. By framing minimum unit pricing in this way, broad support for the specific measure of minimum unit pricing is facilitated, while simultaneously reinforcing a framing that disputes the need for reductions in overall population consumption. This hybrid framing therefore allows for the emergence of minimum unit pricing in scenarios where an industry framing is dominant. Given that the dominant framing may vary over time, it is possible that arguments for minimum unit pricing within Scotland may be established within this hybrid framing in the future. The adoption of minimum unit pricing into stated policy within England (albeit temporarily) focuses on violence-related harms related to binge drinking, with less consideration of harms arising from chronic consumption:

Binge drinking isn't some fringe issue, it accounts for half of all alcohol consumed in this country. The crime and violence it causes drains resources in our hospitals, generates mayhem on our streets and spreads fear in our communities. (HM Government 2012, pg 2)

Importantly, there is no mention of the importance of taking a 'whole population' approach. While this hybrid framing helps facilitate a greater coalition of support (including industry actors), the hybrid framing may allow many elements of the preferred industry framing to remain dominant. Thus the subtle change in industry framing by those within industry who are supportive of minimum unit pricing may serve simultaneously to curtail potential future interventions that seek to reduce overall population consumption (such as restricting alcohol availability) while at the same time facilitating the passage of the specific intervention of minimum unit pricing.

6.10 Arguments for and against minimum unit pricing

So far, this chapter has considered the different ways alcohol as a topic for policy debate has been constructed. In particular, it has been suggested that there has been a shift in the dominant framing. Advocates for minimum unit pricing appear to have been successful in reframing the policy debate in broad population health terms, thus making the case for the policy more favourable.

This next section will go on to summarise the common arguments made for and against minimum unit pricing, based on a thematic analysis. Table 6.2 provides an overview of the main arguments identified in the evidence submissions to the Health and Sport Committee.

Table 6.2: Summary of potential impacts outlined by advocates and critics of minimum unit pricing

Themes	Arguments for MUP	Arguments against MUP
Drinking patterns: Changes in strength of alcoholic drinks Licensed premises being harmed by cheap off-trade alcohol Licensed premises are safer regulated environments than home consumption	Alcoholic drinks may reduce in strength to allow low prices to be charged, hence encouraging the availability of low-strength drinks. People moving from licensed premises to off-licenses are driven by price and this is harming premises. Licensed premises are safer regulated drinking environments and therefore safer than home drinking.	Alcoholic drinks may increase in strength (or be marketed more heavily) as become more profitable. Changes in drink environment reflects culture changes, not price differential. Licensed premises are not necessarily safer than home drinking.
Inequalities: Regressive Household impacts	Lower-income groups are less likely to buy alcohol so not regressive. Alcohol is a contributor to health inequalities. Non-alcohol products (which are healthier) may reduce in price as supermarkets no longer loss-lead with alcohol.	Lower-income groups may no longer be able to afford alcohol. Households of those with dependent drinkers may experience greater poverty if dependent drinker continues to consume the same amount of alcohol.
Economic implications: Job changes Economic impact Government revenue	MUP is unlikely to result in long-term job losses. MUP may reduce work absence and result in economic gains. Increased economic growth will help govt revenue.	MUP may cause job losses, negative impact on broad range of alcohol-related industries and loss of government revenue. In addition, does not result in tax revenue with profits going to private sector.
Legal issues	MUP is allowed under EU law and is within the Scottish Government's competence	The legality of MUP is unclear.
Alternatives: Price interventions Non-price interventions	MUP has a greater effect for health than other price interventions. Many non-price interventions (especially education) are ineffective. Others should be used alongside MUP.	Ban on below-cost sales or tax increases are less trade-restrictive and result in govt revenue. Non-price interventions, especially education, are necessary.
Alcohol market changes: Black market Cross-border Internet Home brew	MUP is unlikely to result in large changes to black-market, cross-border or Internet sales. Illegal alcohol should be tackled by improved policing.	A black market, increased cross-border sales and Internet sales will emerge.

Key: MUP = Minimum unit pricing

6.10.1 *Drinking patterns*

Advocates of minimum unit pricing often raised the possibility that the policy may result in beneficial wider impacts on the alcohol market. First, alcoholic drinks that were above the minimum unit price may increase their price so that the costs of products to the consumer would continue to vary, thereby allowing the position of 'premium' products to be maintained. This would result in the health impacts of minimum unit pricing to be potentially underestimated by econometric modelling. Second, linking the price paid to alcohol content may create market incentives for low-alcohol products. Third, since supermarkets had been previously observed to engage in below-cost sales, it was suggested that healthier alternatives might be discounted by supermarkets to drive footfall into their shops.

However, a directly opposing perspective was offered by some critical industry actors. Rather than the cost increases of alcohol being magnified by market responses to minimum unit pricing, it was suggested that the price of products above the minimum unit price level may be reduced, potentially undermining the expected price changes associated with the intervention:

[...] retailers like Morrisons will only be able to compete by driving prices down towards the minimum. Potentially this could have the perverse effect of making many existing products more affordable. Moreover, patterns of consumption may change with unintended consequences that could lead to consumers increasing their risk for alcohol harm. (Taylor 2010, pg 3) [Morrisons]

In addition, the potential for an increase in home brewing or a paradoxical incentive on producers to increase the production (and marketing) of more profitable high-strength alcohol was noted:

Over the last couple of decades it is apparent that there has been an increase in the strength of some alcoholic drinks. The Committee should be aware that the natural profit-making response from producers of alcoholic beverages to the introduction of a minimum price for alcohol would be to maintain the alcohol content of their products in order to maximise profitability. (Hardie 2009, pg 6) [Royal Society of Edinburgh]

Therefore, on the basis of that view, there might inadvertently be an increase in alcohol sales because the effect of increased marketing outweighs the effect of the price increase. In markets where, as acknowledged by the Scottish Government,⁶ demand is relatively inelastic (i.e. has a weak response to price increases), this potential consequence cannot be discounted. (Brand 2010, pg 2) [Office of Fair Trading]

Another major area of discussion was the location of alcohol consumption. For example, a trade association representing the licensed trade (Noctis), drew upon market research data to help justify their contention that the price differential between licensed trade and off-trade was helping drive changes in where alcohol is consumed:

According to the CGA Strategy figures published in early 2009, 71% of consumers are now pre-loading alcohol before they leave the house. This means in effect that customers are generally arriving at venues later than they were a few years ago. When questioned, a large percentage of those asked say they are not visiting pubs and feeder bars before going to late night venue, instead they prefer to drink at home. The most common reason why people chose to drink at home is that the price differential between on-trade alcohol and that bought at the supermarket is very large. (Smith 2010b, pg 1) [Noctis, Trade association for the night-time economy]

Hence this growing price differential between the licensed and off-license trade was presented as a factor encouraging a shift to off-license consumption. By many in favour of minimum unit pricing (including Scottish Government, licensed trade and some non-industry actors), the home was portrayed as a less well regulated, hence riskier, environment for consumption. For example, the same trade association noted:

We believe that a proper accommodation has to be reached where it is deemed to be an attractive option to consume alcohol within the tightly regulated confines of an on-trade premise. At present, all the pressure (through aggressive off-trade promotions) is to encourage customers to purchase alcohol for consumption away from licensed premises. (Smith 2010b, pg 2) [Noctis, Trade association for the night-time economy]

However, the premise that the licensed trade was safer and that the shift in place of consumption reflected a growing price differential was countered by off-license actors. The supermarket Asda, who tend to compete aggressively on price and are critical of minimum unit pricing, stated:

Increasingly we hear from our customers of their desire to socialise with friends and family in what they see as a safer, more controlled home environment. Fear of antisocial behaviour, greater awareness and enforcement of drink driving laws, the growth of dinner party culture and an explosion in digital broadcasting and compelling TV scheduling are just some of the factors driving the growth in consumption of alcohol in the home. (Paterson 2010, pg 2) [Asda]

Off-license actors therefore suggest that it is not merely price that is responsible for the shift from the on-trade to the off-trade but consumer preference. However, it is noteworthy that some of the alternative factors mentioned above could be contested since they are perhaps not entirely independent of price. For example, perceptions about the home environment being safer are arguably in part related to changing patterns of consumption that are related to the price differential between the off-trade and on-trade (Holloway, Jayne et al. 2008).

6.10.2 *Inequalities*

An important theme in the consideration of the policy's impact by stakeholders was the debate around inequalities – an area of particular relevance for public health. On the one hand, advocates highlighted the importance of alcohol-related harms as a contributor to health inequalities, with those living in more deprived subgroups being at greatest risk of experiencing alcohol-related harms:

Often the most damaging effects of alcohol are concentrated amongst our most deprived individuals and communities, where alcohol and drugs may be used to temporarily escape personal and social problems. It is also amongst these individuals and communities where mental health problems are to be found in the greatest severity and abundance. (Collins 2010, pg 2) [Scottish Association for Mental Health]

On the other hand, the measure was argued by some to be regressive and unfairly penalising those on a low income who may no longer be able to afford to consume alcohol. For example, an industry-funded critique by the Centre for Economics and Business Research (CEBR) stated:

Minimum pricing would disproportionately impact upon the poorest members of society, and have a significant impact on their household budgets. (Read 2010, pg 1) [CEBR]

Some actors who were generally in favour of minimum unit pricing did raise the potentially adverse impact on inequalities as a matter of concern. However, the argument about impacts on household budgets was generally presented as something that required monitoring but would not necessarily be a reason for not introducing minimum unit pricing. For example:

The impact of minimum pricing on the families and children of adults who suffer chronic alcohol dependency must be monitored. Whilst we do not fundamentally oppose the introduction of minimum pricing in Scotland we are concerned that some of those who are chronically dependent on alcohol may put the needs of their now more costly dependency ahead of the needs of their family. (Cole-Hamilton 2010, pg 1) [The Aberlour Child Care Trust]

6.10.3 *Economic impacts*

Unsurprisingly, the economic implications of the intervention were disputed. Many industry submissions emphasised their contribution to both the economy and the job market, with some suggesting that minimum unit pricing would adversely affect both:

We are one of the world's leading suppliers of own label whisky and branded Scotch whisky [...]. Own label products account for almost a third of whisky sold in this country. We employ 480 people, of which 90% of which are based in Scotland [...]. From our company perspective, we have no doubt that minimum pricing will decimate the own label market [...]. We anticipate that our bottling plant in Grangemouth, which employs 200 people, would close. Our production levels would also be affected so there would be a knock-on effect at our distilleries. Our best estimate is that another 100 jobs would be at risk. Whyte & Mackay, a

company established in 1844, would essentially cease to exist in anything but name only. (Beard 2010, pg 1-2) [Whyte and Mackay]

Some advocates of minimum unit pricing challenged these assertions directly. For example, one epidemiologist drew a parallel to the experience of the tobacco industry suggesting that longer-term job loss was unlikely, but they did accept that a period of short-term readjustment may be encountered:

[...] whilst any change in consumption might bring about changes in employment and spending shifts, the overall impact in any country on employment is hard to predict as it depends on the labour intensity and import mix of the different consumer goods. Studies of falls in tobacco consumption suggest that overall the number of jobs in the economy rise in all countries other than a small number of tobacco growing countries. While alcohol production is more spread across the world it has become very capital rather than labour intensive, and analyses have suggested that policy changes in Europe would have no impact in the long run on jobs, although there might be some short term readjustments. (Anderson 2010, pg 3) [Peter Anderson, Alcohol epidemiologist]

Furthermore, the potential beneficial impacts of the policy to the economy were also emphasised by a number of actors, with economic costs frequently quantified. For example:

The economic cost of alcohol consumption is crippling. York University estimated that the damage to the Scottish economy in 2007 from alcohol misuse in terms of healthcare services resource use and costs, social care expenditure, cost of crime, reduced productivity of the Scottish workforce and other wider costs, was between £2.48 billion and £4.64 billion. (Maryon-Davis 2010, pg 1) [Faculty of Public Health]

6.10.4 *Legality*

The legality of minimum unit pricing was regularly discussed in the submitted evidence. The pro-minimum unit pricing advocacy group, SHAAP sought legal advice and noted in its submission that the “European Commission has stated in two recent written responses that setting minimum prices is legal” (SHAAP 2010, pg 10). In contrast, the Scotch Whisky

Association (who are currently engaged in legally challenging minimum unit pricing) openly disputed the legality of the measure. However, more commonly, critics tended to merely question the measure's legality, rather than explicitly stating that it was illegal. For example, in the words of the alcohol industry trade group, the Portman Group:

We are experts in alcohol policies, not legal matters, but we understand that there are doubts over the legality of minimum pricing under European competition law.
(Poley 2010, pg 2) [The Portman Group]

6.10.5 Alternative price measures

A number of documents compared minimum unit pricing with potential alternative price measures. Those in favour of minimum unit pricing consistently reported the greater health impacts achieved for a given level of minimum unit pricing when compared to a similar increase in VAT or alcohol duty, frequently referring to ScHARR's econometric modelling to support this assertion. For example:

This measure would affect, fairly and transparently, drinkers who drink the most alcohol, and no other measure would achieve that. (Maryon-Davis 2010, pg 2)
[Faculty of Public Health]

In general, most actors that were critical of minimum unit pricing expressed explicit support for a ban on 'below cost' sales as an alternative. However, this measure appears to calculate 'cost' based on a narrow view of costs, as per the below cost intervention introduced by the UK Coalition Government. For example:

SGF is not aware of any convenience stores that sell alcohol products below cost and believe this practice is irresponsible. SGF would support measures that prevent the sale of alcohol below the cost price. (Mackie 2010, pg 3) [Scottish Grocers' Federation]

The other key price alternative considered was an increase in alcohol taxation. The Office of Fair Trading summarised the issues thus:

Taxation, if well designed, should be less distortive of competition than a minimum price because it would apply to all sales and in equal relative measure (for example,

on a percentage basis) rather than setting a minimum floor, which would affect only some products (that is, those below the minimum price) and by differing amounts (depending on how far each product is away from the minimum price). Tax revenues also get passed to the government, and in principle could be spent on tackling alcohol misuse in other ways. This is in contrast to a minimum price which may increase revenues for the industry whereas a tax could avoid any adverse incentives to increase sales of alcohol noted in paragraphs 4 and 5 above. We recognise of course that the Scottish Government does not have direct control over rates of duty. (Brand 2010, pg 3) [Office of Fair Trading]

Therefore raising tax revenue is considered more consistent within a discourse of ‘free trade’ and has the added benefit of raising revenue (during a time of recession). However, the institutional constraints facing the Scottish Government that prevent them from raising alcohol taxation are acknowledged. Given the Office of Fair Trading’s remit (which they note in their submission is “to support the development of competitive, efficient and innovative markets” (Brand 2010)), it is unsurprising that the organisation does not engage with the potential health benefits of minimum unit pricing over taxation mechanisms and instead remains focused on ensuring there is no undue market interference. However, other organisations (including within alcohol-related industries) sometimes explicitly suggested that taxation measures would be ineffective, given the lack of success from previous tax increases:

Those who advocate taxation, do not understand how the industry works. The last three UK budgets illustrate this. The large alcohol retailers do not necessarily pass on any duty increase and in a number of cases simply force their suppliers to absorb the cost. The 10 leading supermarkets have admitted to using alcohol as a loss leader and said they would continue to do so. Taxation has never resolved the problems associated with alcohol abuse and never will. (Wilkinson 2009, pg 2)

[Scottish Licensed Trade Association]

6.10.6 Alternative non-price interventions

Submissions considered a number of alternatives to price interventions. Critics of minimum unit pricing frequently referred to non-price measures that could be implemented, particularly in relation to underage drinking. For example:

We strongly believe that there needs to be a greater place for educational policies designed to tackle the culture of excessive drinking. We strongly support schools, local charities and voluntary groups in encouraging displacement activity for teenagers. We are active members of The Drinkaware Trust, the Community Alcohol Partnership. We take alcohol unit messaging and cracking down on underage sales very seriously. (Clark 2010b, pg 1) [Sainsbury's]

The above also illustrates the focus on educational approaches, partnership working with industry and displacement activities for young people that were recurrently outlined by industry actors. It is noteworthy that many of the alternative non-price interventions suggested by industry actors do not appear compatible with the policy problem and goal as defined by public health advocates. Hence, displacement activities and ensuring measures to prevent underage drinking cannot be considered as reasonable alternatives to minimum unit pricing if the goal of addressing the alcohol-related harms more broadly (including chronic liver disease, for example) is accepted.

Education could be considered a genuine alternative to minimum unit pricing as it could in theory result in all types of alcohol-related harms being reduced. Some advocates of minimum unit pricing deliberately challenged proposed alternatives, drawing upon evidence showing the lack of effectiveness of many of these measures – especially education:

FPH suggests that there is no effective proven alternative to minimum pricing. Previous measures, such as health information or alcohol education programmes, have proved ineffectual. (Maryon-Davis 2010, pg 2) [Faculty of Public Health]

However, it was not only industry actors who focused on education-based interventions, with some non-industry advocates also highlighting their importance:

Pricing schemes less important in solving issues than education, counselling and health interventions. (Nowak 2010, pg 1) [YouthLink Scotland]

In itself, minimum pricing is unlikely to have a significant impact but must be supported by education, enforcement, public debate, improved access to treatment resources, a focus on families affected and young people and, most significantly, a long term cross party commitment well beyond the life of a parliamentary cycle to tackling Alcohol abuse in Scotland. (Cole-Hamilton 2010, pg 1) [Aberlour ChildCare Trust]

Actors with a more specific focus on public health were more circumspect in relation to education. However, they too agreed that there was a role for education but argued that its role was supportive to more effective action:

The effect of alcohol educational programmes on raising awareness, increasing knowledge and modifying attitudes provides justification for their use; however given their ineffectiveness at changing drinking behaviour, it is essential that the disproportionate focus on and funding of, such measures is redressed. Educational strategies are not effective as key stand-alone alcohol control policy, but can be used to supplement other policies that are effective at altering drinking behaviour and to promote public support for comprehensive alcohol control measures. (Grant 2009a, pg 8) [British Medical Association]

In other words, public health actors tended to view educational measures as supplementary to other approaches. In contrast, other actors (including those from the third sector organisations that did not focus specifically on health) often viewed education as of greater importance.

6.11 Considerations for implementation

A number of key issues related to the implementation were discussed by submissions. These can be broadly divided into two sets of considerations: details about the level a minimum unit price would be set at and the ease of implementation.

6.11.1 *The level of a minimum unit price*

In response to a specific consultation question about the level of minimum unit pricing to be used, most consultees agreed with a minimum unit price of 40 to 50 pence per unit, with health stakeholders generally advocating for higher rates than non-health stakeholders. Industry stakeholders often cautioned against setting a minimum unit price at too high a level, raising concerns about ways the policy would be circumvented if too high a level was set.

Another issue raised by advocates of minimum unit pricing was the need to ensure that the level of minimum unit pricing was maintained so that public health benefits would be maintained:

Failure to link rates to the cost of living (e.g. via CPI) will ensure whatever legislation is introduced becomes increasingly irrelevant in future years as the affordability of cheap alcohol increases. The political momentum to take on public opinion and commercial vested interest groups to make such a change on a regular basis is not likely to be forthcoming [...] There is a growing consensus in the alcohol and public health community, however, that a *tiered* approach to ethanol pricing based both on absolute volume of pure ethanol in a drink and its actual strength is optimal. (Stockwell 2010, pg 3-4) [Centre for Addictions Research, British Columbia]
[emphasis in original]

In contrast, industry interests expressed concerns that regularly changing the level of minimum unit pricing may impose additional costs, particularly if adequate notice was not provided for planning purposes. This was countered by public health advocates drawing upon Canadian experience to demonstrate that similar mechanisms were in place elsewhere and did not adversely impact on industry when price increases were predictable (Stockwell 2010).

6.11.2 *Ease of implementation*

Many organisations that were broadly supportive of minimum unit pricing noted that the policy could be reasonably easily implemented and generally felt there were relatively few resource implications. For example:

**It is also evident that the implementation and enforcement of a minimum price for alcohol would be straightforward as the calculations can be made on the spot.
(Grant 2009b, pg 5) [British Medical Association Scotland]**

[...] we would expect a targeted approach based on intelligence and public complaints to be adopted which would seem a rational use of resources and one that is consistent with way Licensing Standards Officers already operate. COSLA was consulted on this issue and they confirmed that they considered additional work would be small in relation to the overall work of LSOs and, as such, costs would be likely marginal. (Sturgeon 2010, pg 7) [Nicola Sturgeon]

However, views on the ease of implementation were slightly more sceptical amongst those who would be most directly responsible for assuring implementation, often raising resource implications of the measure. For example:

Primarily Bill introduces new mandatory conditions or amends existing ones. This will increase involvement of LSO substantially and therefore may be that commensurate increase in funding necessary to ensure role is fulfilled. (Walker 2010, pg 4) [City of Edinburgh Council]

However, a number of concerns were raised about the potential for minimum unit pricing to be undermined by people changing their behaviour to circumvent the policy. These concerns were expressed not just by those critical of minimum unit pricing, but by a broad range of industry and non-industry actors. Specific concerns related to the potential for black market trade, cross-border trade with England, home brewing and internet sales – all of which it was claimed could result in the measure being ineffective.

For example:

Minimum pricing is likely to encourage cross border shopping to the North of England which would have damaging and lasting consequences for off-sales retailers particularly those located in the south and central regions of Scotland.

Minimum pricing would lead to a growth of “white van man”, as consumers turn to illegal channels to purchase alcohol to avoid higher prices. However, the experience of the organised illegal trade is that it is unregulated, unlicensed and

quickly dominated by illegal gangs, with international connections. This is very much the case in tobacco where the supply networks are extensive.

If only introduced in Scotland, minimum pricing will boost the sale of alcohol by the internet and mail order. If based outwith Scotland, these traders can offer multi-buy discounts. This would inflict further harm on small shops. (Mackie 2010, pg 2)
[Scottish Grocers' Federation]

Similarly, it was suggested that supermarkets could circumvent minimum unit pricing through the use of loyalty systems (Taylor 2010). Police representatives disputed the suggestion that illegal trading would become a particular problem. They also suggested that an increase in the unregulated market would not necessarily constitute an important barrier to minimum unit pricing as it could be addressed through improved policing:

A consequence of any increase in price may be an increase in illegal alcohol trading. In 2010 ACPOS stated that across the whole of Scotland there was no evidence that illegal sales were an issue nor that they considered that it was likely to become one. ACPOS indicated that if it did become an attractive option for criminal activity they would, along with HMRC, focus upon it. Equally it could be argued that the additional cost of transporting alcohol coupled with the actual availability of alcohol will have no significant impact on the overall sales. (Ewing 2010, pg 2) [Association of the Chief Police Officers of Scotland]

6.12 Chapter summary

This chapter has demonstrated that a change in the framing of the policy debate appears to have been an important component in allowing policymakers to seriously consider population-based measures, including minimum unit pricing, as feasible policy interventions. Competing framings of the policy issue have been identified through a detailed qualitative analysis of policy documents and in-depth interviews with policy stakeholders.

The favoured industry framing presented the goal of alcohol policy as being to bring about ‘a society where individuals consume alcohol responsibly’, by addressing a narrow range of harms – particularly, ‘alcohol abuse’, ‘social disorder’ or ‘binge drinking’ which are attributed to the behaviours of relatively few population subgroups (including young people and problem drinkers). Construction of the problem in this way helped locate the issue for policy debate within a minority of the population. The means for addressing this goal is therefore to use targeted approaches that exert influence on these ‘problem drinkers’. Interview data (supported by analysis of policy documents) suggests that this framing has been dominant within policy circles prior to the SNP administration.

In contrast, an alternative public health framing was presented by advocates of minimum unit pricing, aspiring to ‘reduce alcohol-related harms’, emphasising the broad scope of alcohol-related harms and the proportion of the population affected. Rather than the emphasis on ‘responsibility’ (which necessarily implies an individualistic perspective), it is the population (of Scotland) that has a problem with alcohol. This helps justify the means-goal of ‘reducing population consumption’ since it is the population that experiences the harms.

Combining qualitative interview data with document analysis has allowed moving beyond just demonstrating the existence of competing framings of the policy debate. Of particular importance has been establishing that in this case, the emergence of minimum unit pricing appears to have been facilitated by a change in framings occurring as a result of efforts by public health advocates. Interviewees claimed that considerable effort was necessary to challenge the previous dominant construction and help realise a more explicit public health orientation. Changes in the framings of alcohol policy are reflected by changing language use in Scottish Government documents which are not so clearly evident in the most recent UK alcohol strategy.

While this chapter has identified a change in framing as an important component of the development of minimum unit pricing, this does not imply that the described reframing is the only reason for the policy’s emergence. Political science theories suggest that the policy process is complex, with several theories highlighting the importance of several factors coming together to facilitate a policy’s development (Kingdon 1984; Hill 2013). As argued earlier in this thesis (Chapter 4), it is necessary to consider the broader policy

development process when investigating the role of evidence on public health policy. This thesis will therefore return to consider the wider political, institutional and policy-specific factors that help explain the development of minimum unit pricing in Chapter 8.

Evidence appeared to have contributed to a change in framing from an industry-preferred frame towards a public health frame in a number of ways. First, Geoffrey Rose's hypothesis – that the most effective way of addressing harms in a population may be to move the population distribution rather than target those at highest risk – was explicitly alluded to by several individuals involved in the policy's genesis. Second, an understanding of political science theories may have assisted advocates to appreciate the importance of achieving a shift in framing as an end in itself. Third, a number of actors alluded to alcohol being 'no ordinary commodity' – importantly, not just epidemiologists who were likely to have read the seminal text but rather the broader policy community that were in favour of the policy. The idea that minimum unit pricing could serve as a vehicle for changing Scotland's 'culture' with respect to alcohol helped counter arguments provided for alternative approaches. By examining the framing of arguments, this chapter has examined the indirect *enlightenment* influences of evidence on the policy process. In the next chapter, policy actors' perceptions about a specific aspect of the evidence base, the Sheffield econometric model, will be investigated.

7 Results 3: Perspectives on modelling the effects of public health policy interventions

7.1 Overview

So far, this thesis has investigated the role of evidence in the development of minimum unit pricing in two principal ways. First, Chapter 5 provided a narrative review of the development of minimum unit pricing and highlighted the roles of different forms of evidence (namely epidemiological studies, epidemiology-related theory such as the Rose hypothesis, logic modelling, alcohol price distributions data, natural experiment evaluations and econometric modelling). Second, Chapter 6 investigated the competing framings that policy actors presented when debating minimum unit pricing and highlighted the inter-relationships between different aspects of the framing and the position adopted with respect to the policy. In particular, it emphasised how different forms of evidence (or even the same pieces of evidence) could be presented to further the political interests of an actor.

This chapter considers the impact of econometric modelling on the minimum unit pricing debate. As noted in Chapter 5, econometric modelling by the University of Sheffield (hereafter referred to as the Sheffield model) which aimed to predict the impacts of different alcohol policy options can be considered to have been central in the minimum unit pricing policy debate. For completeness, it is useful to examine this core piece of evidence in more detail. Further, the Sheffield model can be considered a potentially underused approach for overcoming the tension between pursuing evidence-informed policy and the difficulty in acquiring evidence prior to the implementation of a novel population-based intervention (as discussed previously in Chapters 2 and 3). For these reasons, this chapter investigates policy actors' perspectives of the Sheffield model in the case of minimum unit pricing, and the role of econometric modelling in public health more generally.

The chapter starts by providing a more detailed description of the Sheffield model. Drawing upon interview data, policy actors' understandings of the modelling are then

described, including their reflections on the extent to which the Sheffield model can be considered knowledge. Perceptions about the way the model has been communicated, followed by key critiques from interviewees are then outlined. Interviewees' views on the utilisation of modelling to inform future public health policy are discussed. Following this, the data are examined to establish if the Sheffield model has been influential in the policy process and then, drawing upon political science theory (and in particular, a rhetorical perspective) to understand the ways that the Sheffield model has influenced the policy process and reasons for these influences.

7.2 Chapter aims

As described in Chapter 2 and illustrated by the findings of Chapter 3, obtaining *a priori* evidence for population-based interventions can be difficult and is often lacking in many areas of public health policy. In response, there has been increasing interest in the use of mathematical modelling to inform population-based public health interventions (Garnett, Cousens et al. 2011; Kansagra and Farley 2011). The deliberations of the Scottish and UK Governments have been informed by the Sheffield model and therefore provide an opportunity to investigate the potential role of econometric modelling in such situations.

This chapter aims to:

- Provide an overview of the methods used in the Sheffield model and key results of relevance to the policy debate
- Describe policy actors' understandings of econometric modelling and their views on the potential for its future use
- Investigate the different influences of the Sheffield model on the minimum unit pricing policy process and how it has achieved these influences

The empirical findings are based on thematic analysis of the interview data. The second of the above aims, achieved through a more descriptive analysis of the dominant themes emerging from the interviews, helps establish the perceived utility of econometric models to predict a public health policy's effects and ascertains the scope for their future use.

The third aim is more theoretically informed. It draws upon a diverse set of literature which is briefly revisited and finds that an analysis informed by a rhetorical perspective provides a useful approach to understanding the Sheffield model's influence on the policy process.

7.3 The Sheffield model

As noted previously, ScHARR was initially commissioned by the UK Government's Department of Health to carry out, first, a systematic review of the relationship between the price and promotion of alcohol on consumption and harms (Booth, Meier et al. 2008) and second, a model of the impacts of potential policy options on health, crime and employment (Brennan, Purshouse et al. 2008). Following this, the team was tasked with developing revised versions of the initial econometric model for a variety of audiences. These models have informed both Scottish Government policy deliberations (Robson 2010b; Health and Sport Committee 2012) and the development of public health guidelines by the National Institute of Health and Clinical Excellence (Purshouse, Brennan et al. 2009). While there are differences in the exact data used, the commissioning specifications and minor modifications to methods in response to critiques, the fundamental principles of the modelling exercise have remained the same. Given the more advanced stage of Scottish considerations of minimum unit pricing during the fieldwork period, the description below focuses on the Scottish adaptations of the Sheffield model but is broadly relevant to all versions of the model.

From a Scottish perspective, the first model was published in September 2009 (Purshouse, Meng et al. 2009b) and subsequently updated in April 2010 (Meng, Purshouse et al. 2010) and January 2012 (Meng, Hill-McManus et al. 2012). The methods for the latter two reports were the same but more recently available data were used.

The Sheffield model is essentially a causal epidemiological model with two main components. First, an econometric component (referred to as the 'price-to-consumption' model) relates policy interventions (such as minimum unit pricing, increases in alcohol duty, bans on below-cost sales and discounts bans) to price changes and hence

consumption changes. Second, an epidemiological component relates consumption changes to outcomes of interest (the ‘consumption-to-harm’ model) in a deterministic manner. These two constituent models are now described individually, with the econometric component described in greater detail (since econometric methods are less likely to be familiar to public health audiences), followed by a summary of key results from the Sheffield models.

7.3.1 Relating price to consumption: The econometric component

In order to relate the likely impacts of a policy intervention to changes in consumption, ideally a dataset that records prices paid, purchasing behaviour, and consumption would be used. Unfortunately, no dataset with these three key components exists within the UK and so the Sheffield team combined data from three key sources.

The main source of consumption data used by the Sheffield model was the Scottish Health Survey in the case of Scotland-based models and the General Household Survey for England-based models (Purshouse, Brennan et al. 2009; Purshouse, Meng et al. 2009b). Both datasets contain similar information on the number of units of alcohol consumed in the previous week and the number of units consumed on the heaviest drinking occasion in the last week. This allowed categorisation of type of drinker based on weekly consumption using the UK’s Office for National Statistics cut-offs (i.e. hazardous drinkers consuming ≤ 50 units for males or ≤ 35 units for females; harmful drinkers more than these limits; and moderate drinkers ≤ 21 units for males and ≤ 14 units for females) and number of units consumed during the heaviest drinking occasion (with binge drinking defined by consumption of over six units in females or eight units in males). Since these above surveys focus on the adult population, alternative datasets are used to obtain information on weekly consumption (the Scottish Adolescent and Lifestyle Substance Use Survey for Scotland and the Survey for Smoking, Drinking and Drug Use among Young People in England) for children. Regression models were used to derive estimates of binge drinking as heaviest drinking occasion information is not collected within these surveys.

A major difficulty of the above four consumption datasets was that none collected information on the price paid for products consumed nor place of purchase (off-trade

versus on-trade) (Meier, Purshouse et al. 2010). In order to overcome this, a dataset with this information was needed. The Sheffield team made use of the Living Costs and Food Survey (LCFS) (previously known as the Expenditure and Food Survey (EFS)), an annual general household survey that uses diaries to record an individual's purchasing over a 14 day period (Meier, Purshouse et al. 2010). It includes detailed information on location of purchase, beverage type, price paid, volume purchased and beverage type. The latter three variables allowed calculation of a price paid per unit of alcohol. Several years of data were used to attain a sufficient sample size, with prices adjusted for inflation to the most recent year's data (Brennan, Purshouse et al. 2008). In addition, the EFS/LCF price distributions differed from the gold standard Nielsen marketing data and were thus re-scaled to account for these differences (Meng, Purshouse et al. 2010). In particular, the Nielsen data showed a lower proportion of very cheap alcohol and thus the re-scaling was likely to avoid overestimation of the benefits of minimum unit pricing. The Nielsen data were also used as a source of information on the extent of promotions in the off-trade (i.e. to establish the prevalence of promotions for a given product type at a given price per unit) for building the baseline scenario.

A key aspect of the price-to-consumption model was that it allowed for heterogeneity in responses by product type and between population subgroups (Purshouse, Brennan et al. 2009; Meier, Purshouse et al. 2010). Therefore the Sheffield group allowed for the relationship between price and product to differ by creating 16 different price per alcohol unit distributions across three different dimensions: by product categories (beers, wines, spirits, alcopops), price of product (low/high prices using cut-offs of <30p per unit in the off-trade and <80p per unit in the on-trade) and location (off-trade versus on-trade). In addition, different population subgroups may exhibit different price preferences. In order to allow for this, different population subgroups were defined – nine age groups, stratified by gender and stratified by drinker type (moderate/hazardous/harmful). This created 54 subgroups, with each subgroup having a potentially different price-purchase relationship for the above 16 product categories. The Sheffield team therefore derived 864 price distributions (i.e. 54 subgroups x 16 product categories) from the LCFS and used these to apportion consumption into distributions of price paid for each subgroup. This therefore created a consumption dataset with modelled values for price paid, product types consumed and location added at the subgroup-level. An important assumption

underlying the apportioning of purchasing patterns to consumption in this way was that the proportions of off/on trade consumption and low/high price were similar in both surveys (i.e. these data can be considered ‘missing at random’ given the age group, gender and drinker type) (Meier, Purshouse et al. 2010). There are good reasons why this might not be the case – for example, women who are buying household goods may purchase more alcohol than they themselves consume. The Sheffield team added a sensitivity analysis to test this assumption after the version 1 model. Thus far, the above process can be seen to have allowed the Sheffield team to have ‘created’ the dataset required that captures consumption, price paid for consumption and purchasing preferences (but note that the data have been aggregated from the individual-level to subgroup-level).

In order to model the impact of potential policies, the econometric concept of elasticity was used. As previously noted, the elasticity of a product can be defined as the percentage change in the consumption of a product in response to a one percent change in price given that all else remains the same (i.e. *ceteris paribus*) (Dougherty 2011). The Sheffield team used elasticities as a means of relating potential changes in price to changes in consumption in the consumption-to-harm model. Since price elasticities may differ by product type, separate elasticities were calculated for each of the 16 above categories of alcohol product. In addition, price changes to one product may result not just in purchasing changes to that product but also switching from that product to another product (or even a decline in another product). The Sheffield team therefore calculated ‘own-price’ elasticities for the former (i.e. the extent that purchase of one product would change in response to a price change) and ‘cross-price’ elasticities (i.e. the extent that purchase of other products would change in response to a price change). For example, an increase in the off-trade price of spirits may result in a reduction in the sales of spirits but an increase in the sales of beer. This was achieved by calculating 16 x 16 matrices using iterative three-stages least squares regression (i.e. a form of simultaneous equations modelling (Zellner and Theil 1962)). However, as noted earlier, different types of drinkers may respond in different ways to price changes (i.e. have different elasticities). While ideally separate 16 x 16 matrices would be produced for each of the 56 subgroups outlined above, the Sheffield team found data limitations prevented this (Brennan,

Purshouse et al. 2008). They therefore estimated separate matrices for moderate drinkers, hazardous/harmful drinkers and by gender (Meier, Purshouse et al. 2010).

Based on the definition of elasticities above, it can be seen that the ideal method for calculating elasticities would be to analyse the relationship between price paid and alcohol consumed using individual-level longitudinal data. Unfortunately, such data were unavailable for the UK context so the Sheffield team calculated elasticities from the cross-sectional LCFS (Brennan, Purshouse et al. 2008). One important limitation to note is cross-sectional data can be considered more prone to confounding since elasticities are derived not from observed changes in an individual's behaviour in response to price changes (which would only be subject to intra-individual time varying confounders) but rather using statistical adjustment to allow comparisons between different individuals (thus susceptible to confounding as a result of between individual unobserved variation) (Dougherty 2011).

To recap, the modelling process as described thus far has allowed the creation of a baseline dataset that describes the price distributions paid for 16 product categories by 54 population subgroups. In addition, price elasticities for how purchasing will change as a result of price changes have been estimated using the LCFS/EFS dataset. Combining the baseline dataset with the price elasticities allows changes in consumption as a result of policy interventions to be modelled by using the calculated price elasticities to predict how baseline consumption patterns would change.

One important issue was that the LCFS/EFS dataset only collects data on weekly consumption and not binge drinking. Given that a number of specific harms relate to acute consumption (see section 5.3.1), the Sheffield team identified two aspects of binge drinking that should ideally be modelled – first, the extent that binge *drinkers* respond to policy interventions and second, how binge *drinking* episodes (and especially the number of units per occasion) change (Brennan, Purshouse et al. 2008). Weekly consumption levels (as categorised by the drinker types of moderate/hazardous/harmful) are correlated with being a binge drinker. The Sheffield team thus argued that this meant that separate elasticities for each of these groups would to some extent capture the possibility of elasticities differing between binge drinkers and non-binge drinkers. However, they further contended that this did not necessarily reflect changes in the scale

of a binge drinking episode. In the absence of being able to directly calculate elasticities for the number of units consumed per occasion, the Sheffield team estimated the scale of consumption during a binge as predicted by weekly consumption by performing linear regression using the consumption dataset (stratified by drinker type, age and sex). Since the elasticities calculated from the LCFS/EFS dataset allowed the change in number of units to be estimated, the change in number of units during a binge could be inferred. Thus the elasticities can be used to predict changes in the maximum number of units consumed on one occasion as well as weekly consumption from the baseline scenario.

To conclude the discussion of the price-to-consumption model, three different datasets were used by the Sheffield team to build a model that allows prediction of changes in consumption as a result of various policy interventions. In Scotland, consumption data were derived from the Scottish Health Survey for adults and the SALSUS for children. Since these datasets did not include information on price paid per unit or on location of consumption, this information was inferred from matching data for comparable population subgroups from the LCFS/EFS. Further information about the prevalence of promotions was derived from Nielsen marketing data. Own-price elasticities and cross-price elasticities were estimated from the LCFS/EFS for 16 product categories. These elasticities were used to predict how consumption changes from the baseline scenario under different policy options, with change in weekly consumption directly estimated and change in units consumed during the heaviest drinking occasion indirectly estimated. Thus, the model predicts changes in weekly levels of consumption (chronic drinking) and peak consumption (acute drinking) while allowing for different population subgroups to respond to policy interventions in different ways.

7.3.2 Relating consumption to harms: The epidemiological component

The second component underpinning the Sheffield model used the estimated changes in consumption (both in terms of acute and chronic consumption) to predict changes in three main types of harms – health, crime and workforce. Many of the principles underpinning this second model were derived from standard epidemiological approaches

and hence may be more familiar to most public health audiences. This component will therefore be described in less detail.

Underpinning the epidemiological model is the concept of attributable fractions (Rothman, Greenland et al. 2008). In essence, the alcohol attributable fraction is the proportion of a given outcome (traditionally a disease) that would not occur if the exposure was removed from that population (i.e. the proportion of a given outcome that would no longer occur under the counterfactual scenario of no alcohol). The calculation is in principle straightforward:

$$\text{Attributable fraction} = \frac{\text{(risk in total population} - \text{risk in unexposed population)}}{\text{risk in total population}}$$

Note that underpinning this formula is the assumption that the observed difference in risk is *causally* related to the exposure of interest (in this case alcohol) and not some other confounding factor. It can therefore be problematic to determine the best source of the counterfactual estimate.

Since none of the policy options would reduce population alcohol exposure to zero, the Sheffield team made use of an extension to the attributable fraction – the population impact fraction (PIF) (Purshouse, Meng et al. 2009b). Rather than calculating the fraction of cases that would no longer occur if an exposure was eliminated, the PIF estimates the proportion of cases that would no longer occur given a defined change in exposure. In order to calculate the PIF, risk functions that predict how an outcome changes given a certain change in consumption are needed. Importantly, such risk functions should ideally be continuous so that changes in relatively small amounts of consumption that occur as a result of a policy can be modelled. The Sheffield team obtained risk functions from four sources: relative risk functions published in the academic literature, directly modelling continuous risk functions using polynomial curves (for chronic health harms) (Royston and Altman 1994), derived relative risk functions from published attributable fractions assuming a linear functional form between high and low thresholds (used for crime and

acute health harms); and absolute risk functions for wholly attributable harms (since by definition no appropriate reference group exists).

The exact details of the derivation of these risk functions is available within the various Sheffield reports (Brennan, Purshouse et al. 2008; Purshouse, Brennan et al. 2009; Purshouse, Meng et al. 2009b) but a number of key points are worth highlighting for this thesis. First, the authors were able to derive risk estimates as identified from their recent systematic review (Booth, Meier et al. 2008) for a number of chronic health conditions but in many cases, these did not allow separate risk functions for age-sex groups to be derived. Second, the authors were also able to make use of locally applicable alcohol attributable fraction estimates published by Information Services Division (ISD) for Scotland (Grant, Springbett et al. 2009) and the North West Public Health Observatory for England (Jones, Bellis et al. 2008). Third, a number of assumptions were required in the derivation of risk functions (such as functional form, threshold for effect and time lag to full effect) to model the relationship between changes in consumption and changes in harms.

Having derived the risk functions, the Sheffield team then modelled how changes in consumption would impact on the different harms of interest. To achieve this, the Sheffield team first predicted how consumption (by the various subgroups previously described) would change from the baseline scenario based on the econometric model. They then used the risk functions to predict how current alcohol-related harms (in terms of both direct and indirect health, crime and workforce) would change. For example, mortality changes were estimated by calculating the number of life years lost using relevant life tables under the baseline scenario and the revised policy intervention case, thus allowing years of life lost to be calculated. Morbidity was estimated in a similar way using utility estimates in the form of quality-adjusted life-years (QALYs) based on standard cost-effectiveness methods and costs of healthcare avoided also quantified. The policy impact was thus determined by establishing the difference in harms under different policy interventions from the baseline scenario. Importantly, the Sheffield team related acute consumption (as operationalised by maximum intake consumed within one week) and chronic consumption (weekly number of units) to different types of harms. For example, the risk function for chronic liver disease was related to weekly intake while the

risk function for alcohol intoxication was related to maximal weekly intake. Given that a time lag will occur between the policy's introduction and changes in some harms (e.g. cancers), a ten year time horizon was assumed for the full effect of the intervention to be attained for chronic harms while acute harms were assumed to change in year one.

While the above discussion has largely focused on health harms, similar approaches were adopted for estimating the impact of policy interventions on crime outcomes (including valuing the negative impacts on victims of crime) and work-related outcomes (including absence from work, unemployment related to alcohol and economic loss as a result of early death). In general, non-health outcomes tended to have less robust prevalence estimates and risk functions available and are therefore less likely to accurately reflect reality. Lastly, given the uncertainty in the data underpinning the model, a number of sensitivity analyses were conducted to assess the model's robustness to changing the input parameters. The key findings described below were robust to changes in these parameters.

7.3.3 A summary of the Sheffield model results

Given the huge variety of outcomes and population subgroups investigated by the Sheffield team (with each report typically running to over 200 pages), it is not appropriate to reproduce the findings of the Sheffield models in detail here. However, a few key results are highlighted to facilitate discussion of policy actors' perceptions of the Sheffield model. The second update of the Scottish Sheffield Alcohol Policy Model (v2) that was published in January 2012 is mainly used here (since this would have been the most relevant report for most of the interviews) but the main patterns of predicted effects are similar across all versions of the Sheffield model, although exact effect sizes differ slightly.

The Sheffield model made a number of important predictions. First, it suggested that the effect size of the intervention would increase considerably as the level of the minimum unit price increased. Table 7.1 illustrates that very low levels of minimum unit price would have relatively small effects on consumption, with levels of over 40p per unit showing far greater effects. The Table also shows how the additional benefit of minimum unit pricing over a comprehensive off-trade discount ban is relatively small at low levels. However, it should be noted that the off-trade discount ban as modelled was more comprehensive

than that actually enacted by the Scottish Government in 2012 and therefore the Sheffield model is likely to overestimate the effect of the Scottish off-trade discount ban.

Table 7.1: Predicted changes in overall consumption following minimum unit pricing set at different levels

Minimum unit price level	Percentage change in consumption	
	Minimum unit price only	Minimum unit pricing plus off-trade discount ban
25 p	- 0.1 %	- 3.2 %
30 p	- 0.4 %	- 3.4 %
35 p	- 0.8 %	- 3.7 %
40 p	- 1.9 %	- 4.6 %
45 p	- 3.5 %	- 6.0 %
50 p	- 5.7 %	- 7.8 %
55 p	- 8.3 %	- 10.0 %
60 p	- 11.1 %	- 12.5 %

Adapted from (Meng, Hill-McManus et al. 2012)

As stated earlier, consideration of population heterogeneity is a key feature of the Sheffield model. By doing this, the Sheffield team were able to demonstrate that change in consumption is expected to be more price sensitive for those drinking hazardously and harmfully as shown in Table 7.2 below. Predicted changes in key indicators of alcohol-related harms are summarised below and demonstrate that the benefits in absolute terms are greater amongst hazardous and harmful population subgroups, even though these groups represent a smaller proportion of the population than moderate drinkers. The model also provides a financial valuation of £942 million for the harms avoided (quantified from a societal perspective over a ten year period) for a minimum unit price at 50 pence. It should also be acknowledged that higher minimum unit price levels can be considered less targeted as a larger proportion of drinks and therefore a larger proportion of the population would be affected by the measure.

Table 7.2: Estimated impacts of the introduction of a minimum unit price set at the 50p level by drinker type

Population subgroup	Change in consumption	Change in deaths per year	Change in hospital admissions ('000s)	Change in crime ('000s)	Cumulative value of harm reduction (£ m)
Overall	-5.7%	-318	-6.5	-3.5	-942
Moderate	-2.8%	-15	-0.7	-0.8	-147
Hazardous	-4.8%	-135	-2.1	-0.9	-235
Harmful	-10.7%	-169	-3.6	-1.7	-558

Note: The Sheffield model assumes the impact of the intervention on harms occurs gradually over a 10 year period. Estimates of harms shown are for the maximal impact per year (predicted to occur in year 10). The cumulative value of harm reduction is for the entire ten year post-intervention period and includes financial valuations for health and crime benefits (calculated through QALYs) as well as being discounted for time preference. Adapted from (Meng, Hill-McManus et al. 2012).

Another key group of policy interest is young people. While the report of this version of the Scottish model does not provide a direct comparison of young people's price responsiveness (Meng, Hill-McManus et al. 2012), the English model has reported a comparison by age group elsewhere (Meier, Purshouse et al. 2010). In that analysis, the Sheffield team found that for England hazardous drinkers overall would reduce their consumption by 5.9% but for hazardous drinkers under the age of 25 years, consumption would fall by 3.0%. The authors of the Sheffield model explain that young people are actually less responsive to minimum unit pricing because they tend to consume a greater proportion of their consumption in the on-trade (where prices are already above the minimum unit price). Importantly, this does not mean that minimum unit pricing would be ineffective for young people but just that they would be less affected than the rest of the population.

Lastly, the impact of introducing minimum unit pricing is predicted to be lower in the second version of the Sheffield model than in the first (Meng, Hill-McManus et al. 2012). This is primarily attributed to a slight fall in overall population consumption and a small

increase in the prices of off-trade alcohol (meaning that fewer products will be affected by minimum unit pricing).

7.4 Perspectives of policy actors on using econometric modelling to inform policymaking

Interviewees' understandings of the Sheffield model are first described in relation to the main themes that emerged from the analysis and these demonstrate their familiarity with both the concept of modelling and in some cases detailed knowledge of the Sheffield model in particular.

7.4.1 Familiarity with the Sheffield model

In general, respondents were familiar with the notion of modelling to inform decision-making and frequently drew upon their previous encounters with what they viewed as similar modelling exercises to the Sheffield model. A diverse range of comparisons were drawn upon by interviewees including the introduction of the minimum wage in the UK, infectious disease modelling in relation to outbreaks (and specifically pandemics), regulatory impact assessments (that require potential impacts of policy to be assessed in advance of implementation) and modelling of the obesity burden. Despite this awareness of other examples of modelling, it did seem to a number of respondents that the Sheffield model represented something that was qualitatively different as illustrated by the comments from this advocate:

Int: And do you think that generally, does public health actually make use of models in this way quite frequently, or is it a relatively new development to try and use modelling in this way?

Advocate: It's the first major example that I've come across, you know, of it being used in this way I would say. Yeah. I suppose the... maybe the smoking ban estimated how many people... I mean it's different isn't it. It's the estimating... I mean it's a little bit like sort of,

attributable fractions isn't it. You sort of go "well, you know, with..., there's a hundred deaths alcohol... directly alcohol-related, and then another hundred deaths that are... you know, because of the breast cancer risk and other things," and that's attributable. But it's, in some ways it's... it's a bit like that, you know – that is an estimate, that's our best guess if you put confidence intervals round it or something, and that's a reasonable approach. So in some ways, although it's modelling and it might be slightly... it's slightly different, but actually it... you know, it doesn't feel too dissimilar.

This interviewee therefore suggests that the Sheffield model is broadly in keeping with previous experiences but perhaps represents an extension of existing approaches.

Respondents, and especially those based in Scotland where the policy debate was more advanced, frequently showed a detailed level of knowledge of the Sheffield model. For example:

Politician: And of the 18 to 24 year olds – which if we go back to the public perception of the night economy – they are the least affected by this measure. [...] you look the figures up and it's 1.6 percent. So 23 units a year less at 45 pence. That's half a pint a week. Come on, you know, what the hell is that doing? Now I know it's averages and with some affected and some not, but will it have... if you're using a population measure, you have to actually say 'is it going to be, have an effect upon the population as a whole? Yes, consumption will go down slightly, but you know, will it really affect the people you want to affect?'

It is worth noting that the above quotation comes from a verbal discussion during which the respondent did not have written documents with them and so had accurately (Purshouse, Meier et al. 2010) committed some aspects of the Sheffield model to memory.

Some respondents conceptualised modelling as merely informed prediction and therefore by extension, something that they themselves could do. For example, one industry actor conducted their own competing model to demonstrate that they considered the Sheffield model could be incorrect:

Industry: Ok so I just did some modelling to say 'ok, so what has actually happened to fall in alcohol consumption – come down considerably – therefore for every one percent fall we should have seen three thousand four hundred but actually everything went the other way.' Now that for me is evidence and it's been ignored, it's never been revisited. Sheffield haven't come back and said 'd'you know, we said a one percent fall would result in three thousand four hundred – it hasn't. It's actually led to a rise. So what was wrong in our modelling? Because this [the Sheffield] model is still being touted four years later as the evidence behind minimum pricing, but actually the fall in consumption has not lead to fewer alcohol related admissions or alcohol related deaths. So that for me is evidence, that's not me making up numbers. That's just what actually happened. That's empirical evidence.

While clearly the pursuit of counter-modelling in this example served a political purpose, it is striking that although the respondent did not feel they had an academic background, they felt able to carry out modelling which they presented as worth considering alongside the Sheffield model. However, another point that is raised by this interviewee is the differentiation made between 'empirical evidence' on the one hand and 'modelling'. The next section therefore investigates how policy actors perceived the Sheffield model, focusing on the extent to which it was accorded the status of knowledge.

7.4.2 The Sheffield model as knowledge

Despite the familiarity of interviewees' with the idea of modelling, there was considerable debate about the extent to which the Sheffield model constituted legitimate knowledge that could inform decision-making and whether it should be considered 'evidence'. For example:

Industry: I think it [the Sheffield model] consistently is referred to as evidence, consistently is referred to as research, and it's closer to research than evidence. There was undoubtedly a large research base behind it but it is effectively a model. So you know, people refer to the 'Sheffield research, ScHARR's Research.' No, the 'Sheffield evidence' or 'ScHARR's evidence' when you know, the two terms should not be used in the same sentence; it's modelling.

Although this perspective could be seen to advance a political purpose (by helping to argue against minimum unit pricing), many in favour of minimum unit pricing also suggested that modelling, while helpful, was imperfect and subordinate to other forms of academic knowledge:

Int: You mentioned the Sheffield kind of modelling work. What do you think of the use of modelling work to kind of inform policy debate?

Academic: (Laughs). Well I like the little platitude of "do you believe the weather forecast? That's modelling". You take data, you use it, you try to make your best guess based on the relationships and trends you can see. You try to make the best predictions from that. I'm in sympathy with people who say "it's just modelling". And therefore I think the only answer can come from running the experiment and the Scottish Government has been very courageous to run the experiment.

There therefore appears to be an important distinction made between what might be considered as more conventional forms of evidence (such as trials and evaluations) from the type of econometric modelling exemplified by the Sheffield study. The somewhat ambiguous status of econometric modelling led to active discussion amongst some actors more familiar with traditional public health evidence. For example:

Civil Servant: I mean, if it hadn't been, you know, if we hadn't had the ScHARR reports then, you know, we'd have got nowhere. And of course we had lots of debates about the extent to which it was evidence because it was modelling but, you know, that's, you know

The ambiguous status of the Sheffield model as a form of knowledge resulted in conflict on some occasions between staying true to the traditional principles of public health evidence and their responsibility for advancing public health. For example:

Academic: When politicians and journalists ask you for your opinions, ‘well maybe they really want to hear my opinions’ and I did get a bit carried away and felt that I had been unfaithful to my scientific training because I suddenly felt that I really did believe that minimum unit price was going to be a good thing. Whereas to be honest, we don’t know. We don’t know. We’ve got models. Sheffield modelling etc, all the taxation stuff but we don’t know. And we don’t know what’s gonna happen to the very heavy, heavily dependent drinkers. We actually don’t know and there may be some pluses and minuses.

However, while most interviewees expressed a preference for more conventional forms of evidence, the benefits of evaluation studies over modelling were not always considered quite so clear-cut. Perhaps the most obvious indication of this is the relatively little emphasis placed by interviewees on the Canadian experiences (which included evaluation studies which demonstrated a decrease in consumption and harms following the introduction of the related policy intervention of reference pricing). In contrast to the detailed awareness respondents had of the Sheffield studies, one interviewee in favour of minimum unit pricing considered the Canadian studies as “something relevant” while in contrast rating the Sheffield models as hugely important in making the case for minimum unit pricing.

An important tension was evident between what was considered the need for gold-standard evidence in the form of evaluation studies and the applicability of research from elsewhere. Econometric modelling was therefore valued as providing highly applicable evidence that related closely to the policymaking context. For example:

Academic: And mostly researchers [...] just say, “well, this policy was introduced and it didn’t work or it did work,” and then the policymaker looks at that and says, “well, that was there then, and that wouldn’t necessarily apply here and now.” “Well, you know, that was

done over there in Australia or Canada..." they never believe it would work. So something that's done locally, using local data, UK data, and at the request of Government, that's what needed to happen. That's why it was effective.

7.4.3 Predicting intervention effects in a complex system

Debates about the extent to which the Sheffield model could help in understanding a system as complex as the alcohol market were common. Before considering specific issues raised by respondents, it is worth noting at the outset that many interviewees (including some sceptical of minimum unit pricing) felt that the Sheffield team had actually made a good attempt at engaging with the different dimensions requiring consideration by policymakers. However, interviewees, and especially those who were critical of minimum unit pricing, argued that the Sheffield model was inadequate for informing policy for a number of reasons.

Concerns were expressed about the extent that the Sheffield model related to current 'real life'. In other words, the adequacy of the baseline scenario within the model was questioned for not accurately capturing the current realities of alcohol sales or changes in the market over time.

Industry: [...] they didn't model what would happen if that drove consumption to, from England or to online. And yet we look at online and every single week is the, is a record week for online sales. Every week for about the last six months we've sold more this week than we did last week through the internet on everything including alcohol.[...] We will deal with much larger variances than, than we see [in the model]. And therefore it becomes our, it's quite risky for us to put all of our faith into that. So, what role would we use for it? Well, I mean we have looked at it, we've looked at it in terms of how might that change consumption but we take it with a pretty big dose of salt. We wouldn't take any business decisions on that. We don't think it's robust in the real world. Because it doesn't, it just doesn't take into account those other factors.

A second area of concern revolved around the extent that the Sheffield model considered important changes in the alcohol market that may occur as a result of policy changes.

Academic: So I think that, you know, one particular critique of the Sheffield approach is that they don't really allow for second round effects of minimum pricing. So how does it feed through on the industry side. Now of course that's probably an order of magnitude more difficult to model than what happens on the consumer side. But I think perhaps trying to sort of come up with some scenarios where you would say well in the case where there's a knock-on effect on other alcohol, prices go up, this is what happens; in the case where there's a knock on effect on other alcohol, prices come down, this is what happens. There are economic models that you can estimate that would allow you to try and predict what you think the industry response would be under some assumptions about how the industry behaves, and I haven't seen any of that in the debate. And you know, perhaps it would be a nice thing to try and do. It's again complicated and it's limited by the data that we do and don't have at our disposal but I think that could have been a feature of the debate.

Interviewees critical of minimum unit pricing tended to highlight these limitations too and suggested that such issues should have been taken into account. However, they also tended to express dissatisfaction with a perceived lack of transparency within the model.

For example:

Politician: But to take minimum unit pricing, I've never said that an econometric model is a bad thing, and I don't deny that it has a role to play, but I think that we have to be very careful about applying econometric models. Labour applied an econometric model in relation to promoting the minimum wage which the opposition claimed would wreck the economy and it never did, and the econometric model showed that it wouldn't. It would have some adverse effect but it wouldn't have a major adverse effect. So I've never been against it, but I think the models have to be understandable and I have yet to meet –

you may be the first – but I've yet to meet anyone who can explain that Sheffield Model to me.

This politician who was critical of minimum unit pricing therefore felt that the Sheffield model already lacked transparency and perceived this as a major disadvantage. The need for transparency therefore appears to be in tension with calls for incorporating second round effects (and other additional considerations) into the Sheffield model.

7.4.4 Communicating uncertainty

The importance of communication in relation to econometric modelling was repeatedly emphasised. Many interviewees suggested that the uncertainties inherent in the modelling exercise were frequently not adequately communicated:

Academic: I do sometimes think that perhaps a little too much certainty is placed on the results of the modelling. So when you look at a lot of the discourse from supporters of minimum pricing in Scotland where they talk about the policy leading to X number of saved lives in year one or fewer admissions or whatever, you know, it's worth kind of bearing in mind that there's a huge amount of uncertainty around those estimates. I don't expect ministers to say you know 40 fewer deaths plus or minus 35 but it would be nice to have some acknowledgement that this is based on model estimates without it coming over as this will definitely happen because I think it leaves you open to possible criticism if it doesn't happen.

Many respondents who were actually responsible for communicating the findings from the Sheffield model were clearly aware of the risks in presenting the Sheffield model in too certain terms but also reflected that the communication of risk in general, and econometric modelling in particular, was difficult.

Civil Servant: So, yeah, trying to explain modelling and, you know, elasticities and all of that, I mean, I find it difficult to get my head around that, so, you know, not surprising that that's quite a difficult thing to explain to the public, media, you know, committee, especially

when people don't necessarily want to believe it either, you know? [...] but I guess it's like all of these things that, you know, we're not very good, we're not very literate with uncertainties and, you know, like we always say about risk, you know, people find it really hard to get their head round, you know, if I smoke for the next twenty years versus, I don't want to get on that aeroplane because I'm worried it will crash out of the sky, you know, I think just there's something about sort of us as humans and our level of understanding about data and confidence intervals, you know...

In addition, there was an awareness that some individuals (especially politicians) need to be able to communicate the findings from the Sheffield model to potentially quite hostile audiences (such as the Parliament or mass media) and this could be challenging. For example:

Advocate: I think there's no doubt though that modelling studies are much more difficult to understand, and it has always seemed to me that for a politician they've not only got to understand it themselves, but be able to explain it to a hostile audience in the House of Commons and probably to a hostile audience in the mass media.

Some interviewees noted that in this case, the fact that the Sheffield model had resulted in a relatively clear message (i.e. that minimum unit pricing was a targeted intervention) and this had helped communication efforts but future modelling studies may not result in as simple messages.

7.4.5 The future for modelling public health policy options

In general, there was considerable support for the increased use of modelling to inform public health decision-making. However, there was an appreciation amongst those involved in public health that since modelling required a specific set of expertise, this may require collaborative work with econometricians or statisticians. However, a number of interviewees expressed caution at the idea of advocating for increased modelling. On the

one hand, a number of interviewees highlighted the need for better evaluation of policy interventions and were keen that modelling was not seen as a substitute for such work:

Int: Do you think there's the potential for a greater role for modelling studies elsewhere in public health?

Academic: Yes, I'd sort of say this with slight nervousness. I think one of the biggest problems... I mean yes is my short answer to that. But I think one of the most, ... the most important issue is that there are so many policy changes that go on that are just not properly evaluated and there's no doubt that everyone is much happier with a real life experience, well evaluated than a model; so I think you need both. I think one should go on refining and getting good models because they are very good and I think if you can, you know, start checking it against reality that's very helpful. But the biggest gap is that there's so many policy changes go on that are just not evaluated.

On the other hand, some interviewees highlighted the risk that a lack of modelling (or evidence in general) should not become a barrier to taking action if needed:

Advocate: there's a place for them [modelling studies], but I think they, you know, I don't think everything should be decided, and I'm, you know, although I'm a very very big advocate for evidence-informed policy, I'm also of the view that sometimes if the evidence is not there, or it's grey, then you invoke the precautionary principle. So, you know, modelling research has its place, and it's a useful tool, I don't think it needs to be the key tool, and equally I don't think that we should get too caught up and not be prepared to do anything unless there's compelling evidence, which is not always the case.

Despite the general enthusiasm for increased use of econometric modelling, the importance of allowing for value judgements was emphasised by politicians. In addition, modelling studies were weighed up against other forms of knowledge, including an

individual's own experiences and observations which they felt were more grounded in real life. For example, another politician who was critical of minimum unit pricing said:

Politician: Well I just... you know, to be perfectly honest, you know, with all these studies, you know, and I hope you'll take this in the spirit in which it's intended in, but you know, I've never been a big one who's – in terms of being blinded by some study that's been carried out in an ivory tower somewhere. I mean, I try to think of what I call sort of logic and human nature and my observation of human nature over a period of time, and I just don't accept that it will make any great difference to people's behaviour.

To conclude, this section on policy actors' views of econometric modelling to inform the policy process found that most interviewees displayed a good understanding of the Sheffield model and appeared comfortable in understanding the principles underpinning the work. While interviewees considered the Sheffield model helpful, many displayed a preference for *post hoc* evidence. This was countered by a minority who argued that the Sheffield model arguably presented more externally valid evidence than historical or international evaluations, being grounded in local data. Concerns were expressed (and not only amongst industry-related interests) about the limits of modelling based on the *ceteris paribus* assumption since dynamic system changes may occur in response to minimum unit pricing. While some interviewees noted the potential for even more complicated econometric modelling techniques, a tension was apparent between the need for transparency and the comprehensiveness of the model. This was particularly the case since the Sheffield model was considered difficult to communicate with many respondents noting the potential for misrepresenting, or at least over-simplifying, the evidence when presenting it to different audiences.

7.5 The influences of the Sheffield model on the policy process

In this section, the influence of the Sheffield model on the policy process will be focused upon. To do so, political science theories introduced in the literature review will be drawn upon. The particular theories of greatest interest are briefly recapped here with more details provided earlier (in section 2.5).

As noted previously, evidence can have a variety of influences on the policy process (Macintyre 2012). The rationalist ‘stages’ view of policymaking implies evidence is used in an *instrumental* manner but this is acknowledged to account for a small amount of observed use. Weiss’s work (more recently extended by others) identifies a number of other frequently more important influences of evidence on the policymaking process (Weiss 1979; Nutley, Davies et al. 2000; Haynes, Gillespie et al. 2011). *Conceptual* use suggests that evidence has helped policymakers think about an issue in a new way – in other words, research serves an enlightenment function (Weiss 1977). A third broad category is *symbolic* use (Weiss 1979). Weiss suggests that policymakers may, particularly for intractable areas of policy, draw upon evidence selectively either to support their position (political use) or to delay decision-making (tactical use).

A separate emerging set of literature on the influence of evidence on policymaking provides an alternative perspective by emphasising the role of *rhetoric*. Greenhalgh and colleagues (2006), building upon the work of political scientists (Stone 1989), view policymaking as “the authoritative exposition of values” and argue that evidence therefore helps policy actors to deliberate on the resolution of competing values. Drawing upon Aristotle, they argue that there is a central role for rhetoric – the art of persuading others – which comprises:

three elements: *logos* – the argument itself; *pathos* – appeals to emotions (which might include beliefs, values, knowledge and imagination); and *ethos* – the credibility, legitimacy and authority that a speaker brings and develops over the course of the argument [emphases in original] (Russell, Greenhalgh et al. 2008).

They claim that the focus of the evidence-based policy movement has been on research evidence influencing policymaking from a naive rationalist perspective, with less attention paid to the other two spheres. In contrast, they argue that rhetoric is a central part of policymaking and evidence can, and indeed should be, used for rhetorical purposes but they note the dearth of empirical research studying the role of rhetoric within the health field.

A considerable body of literature has developed to explain the lack of instrumental use of evidence, much of which has built on the idea that researchers and policymakers inhabit two different communities (Caplan 1979). Importantly, Caplan does not just argue that the two communities do not come into contact with each other, but rather that a cultural gap exists. Knowledge transfer initiatives typically aim to push research findings to policymakers while knowledge exchange initiatives emphasise the two-way processes between researchers and policymakers in jointly developing evidence (Lee and Garvin 2003). The former are intended to improve dissemination of findings to those that might want them, while the latter seeks to help improve understanding between the cultures.

An alternative perspective, derived from studies on the sociology of science, is provided by Actor-Network Theory (ANT). It posits that to understand the influence of research it is necessary to trace the process by which both human and non-human actors interact to create action (Latour 2005).

Having reminded the reader about the key theoretical perspectives that inform the remainder of the analysis within this chapter, the empirical findings are now presented.

7.5.1 *The many influences of the Sheffield model*

Prior to considering the different ways the Sheffield model influenced policy development, it is worth establishing the extent that policy actors felt that the study was important in the policy process. In keeping with expectations from the analysis of evidence submission documents, participants consistently and usually spontaneously highlighted the Sheffield model as having played a central role in the policy debate on minimum unit pricing. Indeed, many interviewees considered it the single most influential study as suggested by one advocate:

Advocate: Well, certainly around minimum unit price we have, so we've looked at lots of, we've obviously looked at the Sheffield study, which has sort of become the (laughs), 'the study'

Others echoed the opinion expressed above that the Sheffield model had become a real focus for debate with one civil servant referring to it as “the single most often referred to piece of work” in relation to minimum unit pricing.

Underlying the consensus that the Sheffield model was important was a range of different (but generally not contradictory) views about the nature of influences that the Sheffield model exerted, thus suggesting that a variety of influences occurred. Some interviewees expressed the view that the work had been crucial in allowing minimum unit pricing to emerge as a realistic policy option and suggested that in its absence, there would have been a lack of confidence to pursue it:

Civil Servant: Minimum unit pricing would never have flown if we hadn't had something, you know, to kind of back it up. Frankly we were just, we were really lucky that Department of Health kind of commissioned ScHARR, you know, to do the work that they had done on sort of... the initial work that they did was on sort of comparing different types of affordability interventions. So, you know, that kind of provided a sort of, a starting point.

Academic: Well, I think the evidence around price has clearly been very influential, and then the modelled evidence of what effect the minimum unit price would have has clearly given people confidence that this proposal would have the desired effect. Not universally, but in terms of the balance of decision making.

It is worth noting here that both speakers appear to highlight the rhetorical importance of the Sheffield model – it provided policymakers with something to back minimum unit pricing up. However, there were clear indications of the importance of more instrumental use – particularly in two areas. First, the model was seen as helping to establish both the

principle of minimum unit pricing as an instrument (especially that the policy was targeted i.e. affected harmful and hazardous drinkers more than moderate drinkers):

Academic: And the fairness and reason behind a minimum price for a unit is kind of easily grasped, I think, at political levels as well. And then the modelling showing that this is going to have minimal impact on light drinkers and quite a big impact on heavy drinkers, it helps. So I think there's an idea and some evidence and a way of presenting it that's really got legs, and has been effective, it's been easy for people to communicate and advance policy on the back of.

Here, the interviewee clearly describes an instrumental use of the Sheffield model, namely that a key finding from the model that those at highest risk from alcohol-related harms may be affected to a greater extent by the policy has been influential. However, they simultaneously emphasise the importance of the Sheffield model as a way of presentation – a means of making a rhetorical argument.

The second area the Sheffield model exerted an instrumental influence is in relation to the level that the minimum unit price should be set at:

Civil Servant: So the Sheffield modelling is telling us that to get the impact we want, this is what you should set your price at, and 45p was the figure that was chosen the last time. Because we've got to satisfy European issues, because of barriers to trade and interference with the market cause it is a market intervention. So we've got to be able to justify that, and that's where the modelling comes in.

The civil servant in this above quotation also highlights the importance of being able to present evidence to demonstrate the proportionality of the policy, given the interference with the alcohol market. As such, the Sheffield model helps to provide the Scottish Government with a piece of evidence that can help justify the level minimum unit pricing is set at in the case of legal challenge (note that the above interview was carried out prior to both the passage of minimum unit pricing legislation in Scotland and the instigation of legal challenges).

While the Sheffield model appears to have facilitated the emergence of minimum unit pricing as a serious policy option and informed subsequent discussions about potential implementation of minimum unit pricing, it would be misleading to suggest that policy actors merely responded to the emergence of this piece of evidence in a ‘rational’ manner. Indeed, many respondents suggested that the Sheffield model would often not influence the supportiveness of specific policy actors, one way or the other:

Advocate: [...] I could imagine that depending on what you want to hear, you'll either see the modelling study as a very good piece of work or you'll see it as a work of fiction. So I suspect it depends on your inherent belief. I'm not sure modelling studies sway people particularly, I think they just confirm what you already thought! It's a bit cynical, but, you know, I can't help but think, you know, if you don't want to believe it, you'll, you can dismiss it as just being modelling.

This viewpoint was echoed by others. For example:

Int: And you mentioned the Sheffield model earlier. (Mmm.) How do you think that modelling type evidence has been perceived by policy makers and those in the debate?

Civil Servant: Well I think it's varied. Some seem to have been fairly convinced by it. Others have been quite dismissive. It depends on what your prior views and your particular position might be. And so say a policymaker whose primary concern might be in overall food and drink policy for Scotland where they're trying to encourage markets to develop and make Scotland seem like a civilised place, then they would be less inclined to support a policy that might seem to do the opposite.

In other words, interviewees suggested that policy actors frequently exhibited a confirmatory bias – perceiving the Sheffield model as a robust piece of research if already supportive of minimum unit pricing but considering it merely a ‘modelling exercise’ if hostile. While this might at first seem contradictory to the high level of importance interviewees afforded to the Sheffield model, this is only the case if its impact is

considered from an instrumental perspective. If instead a key influence of the Sheffield model has been as a rhetorical tool that highlights the health arguments for minimum unit pricing (as opposed to other dimensions such as business considerations), then the Sheffield model can have simultaneously been influential while not necessarily influencing policymakers' level of support.

Data from a respondent critical of minimum unit pricing suggest that this may be the case:

Industry: That's a difficult debate for us to be in so, you know, having that, you know, arguing with experts, medical experts about how many people are going to die or otherwise is a difficult place to be and yet the [Sheffield] model is not infallible and changes as, dependent on what factors you put in. So when they put, it was the 2003 or the, I can't, I forget what years the public health survey ones were, but when they put the new data, you know what I mean, we put the new data in and that changed some of the out, as it would do, changed some outputs. So actually you're not, you're then, you're then into quite a detailed argument about how the model works and what is and isn't in it and where the factors are and yet the outward bit is about x number of people will die or not die. And it becomes quite a stark, it becomes quite an emotional debate. And that's difficult for a, that's difficult for a retailer to engage in. In that kind of debate.

Therefore the way the model worked to quantify harms helped to highlight the health aspects of the debate in an emotive manner (pathos) and strengthened the potential for the Sheffield model to serve as a rhetorical tool i.e. to present an argument in a favourable way to relevant audiences (such as the public, the mass media and politicians). This arguably helped health aspects of alcohol policy to be valued more, thus changing the way the policy issue is framed – known to be an important explanation for policy change (Riker 1986).

7.5.2 Reasons for the Sheffield model becoming influential

A number of factors were identified as key factors facilitating the Sheffield model exerting an influence on the policy process. First, the Sheffield model had clearly been designed to meet the needs of a particular policy situation. In the words of one interviewee:

Academic: So I think what's been key has been the ability to answer the questions policymakers want answering and also to counter the criticisms that are levelled at policies, have been levelled at policies in the past. And part of that may have been that the Sheffield team had people who've been very good at going out and talking to people and actually getting those messages across. But I think also it is, the way the model was designed was to answer policy questions.

The above quotation also highlights the importance of communication by the Sheffield team – thus providing some support for initiatives that seek to encourage researchers to disseminate findings across the ‘research-policy gap’. However, the quotation also suggests that it is not just the fact that the model answered a specific policy question but also that the policy question was of interest to policymakers at the time. As noted earlier, the Sheffield model was specifically commissioned – first, by the Department of Health in England, then subsequently the Scottish Government and the National Institute for Health and Clinical Excellence. Therefore it appears that it is not just the fact that the Sheffield model answered a question from a policymaker’s perspective but also they were commissioned to answer a question which was already of interest:

Academic: Well, I think it [the Sheffield model] has a pivotal role, and I'm just reflecting now that it's not just the evidence coming from outside that's come to the policy, and affects the policy: something I've mentioned before, my experience is that of all the research that's ever done, I mean, it's when Government asks and commissions research that it seems to have the most impact, that's my experience. It often, it's uncanny, you know. When the Government asks, 'can you do this research, can you model this,' and it's done, then they, it's fitted neatly

into some existing process of decision-making. The other stuff needs to go on, because it can feed in eventually to something like that.

Interview data show that the original commissioning process with the Department of Health involved ongoing dialogue with a mid-point review to help ensure the findings would be of policy relevance. In addition, representatives of the Scottish Government were also in regular communication with Department of Health officials during this early period and articulating the Scottish interest in minimum unit pricing early on. The collaborative approach between the Sheffield researchers and the civil servants commissioning the work therefore appeared to influence the development of the project with the Sheffield team being guided by the civil servants as to what would be of policy relevance. One particularly good example of this exchange is the decision to quantify the extent of harms under different scenarios as illustrated by one interviewee:

Academic: So the fact that the Sheffield Group won the tender, I think it was about five years ago, to model what would happen in different policy scenarios, looking at restricting advertising, marketing, cheap alcohol and so forth. And the evidence then was, it was a group that was very good at communicating with policy-makers, cos they knew they wanted different scenarios modelled for them, you know, what would be the concrete effects? How many lives lost, how many hospital admissions prevented, economic costs saved, and so forth. They loved that. ‘And if we do this, what it’ll be, and if we do that.’

The origins of the Sheffield model therefore seem to relate far more closely to models of knowledge exchange than models of knowledge transfer. However, potentially in contrast to the knowledge exchange literature, the development of the Sheffield model does not appear to have served a merely instrumental or indeed political use (where the evidence was used merely to support a decision already taken). Instead, the preference for quantification of harms serves to reiterate the importance of considering appeals to pathos as a component of rhetoric. The ability to quantify harms in such a way was appreciated by those involved in the policy process as very helpful and indeed was noted

by one interviewee to be a factor that helped the Sheffield team to be successful in their application.

While the collaborative approach between government officials and researchers helped create a piece of evidence that ultimately played a role in public health policy, some commentators did not consider this unproblematic. One interviewee that was hostile to minimum unit pricing did question the extent that the Sheffield team's work could be considered entirely impartial:

Academic: [...] I do think that when someone is hired to look at an issue where there is almost a presumption that the government is in favour of the policy then whoever you hire is more likely to come out with a supportive case. Just because they know why they're being hired. But I think presenting something in as rosy a light as possible is a bit different than purposely biasing results. If you get me?

This interviewee while being careful not to claim deliberate researcher misconduct still questions researcher independence on the basis that the Sheffield team were commissioned to carry out their work. Industry representatives expressed similar concerns and while such viewpoints can be seen as furthering their interests, the fact that such a conflict of interest could be construed is noteworthy. In other words, the perceived credibility (ethos) of the Sheffield team is questioned to help undermine the rhetorical influence of the Sheffield model.

7.5.3 Building the reputation of the Sheffield model

The importance of reputation was a prominent theme amongst interviewees and often related to the Sheffield model gaining influence on the policy process.

Civil Servant: I do think evidence has played quite a big part in taking up minimum pricing [...]. The fact that the Sheffield University had done quite a big review that was quite highly thought of had an impact.

Academic: So there is something very clear here about when a piece of evidence becomes recognised as a robust piece of science that can be relied on to give policymakers all of the information that they need, or the majority of the information they need to make about political decisions, that evidence can be very influential and that seems to be what we've seen here.

In both quotations above, interviewees highlight the importance not just of the robustness of the Sheffield systematic review and model but also that the work was *seen to be* well-conducted. However, such a reputation was clearly not a given nor did it remain in a static condition. Rather, the reputation of the Sheffield model, particularly within the policy debate, was actively developed with the role of deliberation and public argument by the Sheffield team being considered especially important. One politician explains this process eloquently:

Politician: So that was my... I know some of this is how we used the evidence in the legislative process, and for me that's when the light went on above my head to say 'I believe minimum pricing was right'. I read the conclusions of Sheffield, it's very, very powerful, but I have to be confident that what Sheffield are saying is substantiated. And there's a disengage between politician and expert at that level – you have to at some point trust in the experts that you asked to come up with these conclusions. So at the [Scottish Parliament's Health and Sport] Committee what we had was two sets of experts. One for minimum pricing, one very lukewarm suggesting that it may not be worth the efforts, and they just had that debate in front of politicians and Sheffield came out with glowing colours, and that wasn't a certainty. The reason they came out with glowing colours was because their evidence base was robust, because if it wasn't robust the other guy would have exposed that. So that was the most powerful thing in terms of our Committee and using an evidence base to say minimum pricing will work.

The “disengage between politician and expert” referred to above suggests that highly technical matters of scientific evidence may not be amenable to politicians establishing the veracity of knowledge claims. The interviewee indicates that the public act of debate between researchers, that is the dialectical presentation of argument and counter-argument, helped to position the Sheffield work as trustworthy. This *performative* element has in turn helped develop the reputation of the Sheffield model which, as seen above, helped to make the Sheffield model influential in policy circles.

7.5.4 Rhetoric and translation

Another factor that helped the Sheffield model attain influence was identified by adopting an ANT perspective (Latour 2005). While Smith identified three different types of journeys of research ideas into policy (2007), it might be expected that when considering a specific piece of commissioned evidence, only signs of a ‘successful journey’ from research to policy would be found. However, data indicate this was not the case. In the below quotation, an interviewee is asked about a specific aspect of the Sheffield model following prior questioning about the generalities of the Sheffield model:

Int: Just thinking about the evidence, you've mentioned that in England the drivers for the introduction of a minimum unit price has probably come more from issues relating to binge drinking, especially amongst young people. Now, the modelling work actually tends to suggest that young people are not necessarily affected to as great an extent as some other groups for example. So, is there a potential mismatch, the evidence and how it's being...?

Respondent: Well, I don't know, I'm not sure I agree with your interpretation there because my understanding of it anyway is that young drinkers who are buying cheap alcohol are one of the principal parts of the modelling that I've seen. But assuming that we could maybe understand that same evidence differently, I don't think it matters actually, because... and the reason I don't think it matters is that, the young people focus provides the political hook which will pull everything through in its wake. So, even if that, if the evidence relating

to youth drinking and the modelling is less... is less, it doesn't, it's less effective or whatever it is, I don't think from a public health point of view that's necessarily a problem, because it provides us with the political traction to bring in its wake a whole range of other beneficial public health effects.

As noted earlier, the Sheffield model does indeed identify cheap alcohol as being most affected but the Sheffield team note that young drinkers tend to consume a higher proportion of alcohol in the more expensive on-trade and are therefore less affected than other groups by minimum unit pricing (Meier, Purshouse et al. 2010). This therefore indicates that although the Sheffield model did provide accurate arguments as illustrated earlier (i.e. of analytic rather than rhetoric forms of reasoning) for the policy debate; in some circumstances, the policy process resulted in the findings from the econometric study being understood in a manner at odds with those originally articulated by the Sheffield model's authors. In other words, the findings from the Sheffield model did not only travel as 'successful' journeys into policy but were also 'fractured' in the process (Smith 2007). It is worth noting that this interviewee, whom was highly knowledgeable on the evidence base, presented a case for persuasive arguments which appear plausibly true (*logos*), rather than are demonstrably true. In addition, the argument presented built on values that were politically more accepted, therefore facilitating the presentation of a persuasive case in favour of minimum unit pricing.

7.6 Discussion

7.6.1 Perspectives on econometric modelling

The empirical work presented in section 7.4 found that actors involved in policy debates around minimum unit pricing in Scotland and/or the UK felt familiar with modelling studies and in many cases, displayed a detailed understanding of the Sheffield model in particular. Despite this, many interviewees were uneasy about the extent to which the Sheffield model could be relied upon as knowledge for informing policymaking and largely preferred traditional evaluations. A tension was identified between this preference and a

desire for locally applicable evidence, with the Sheffield model being seen to offer high levels of external validity. However, some expressed concern that the Sheffield model did not adequately capture the ‘real life’ world of the alcohol market which was conceptualised as a complex and to some extent, intrinsically unpredictable system – echoing issues debated within the academic literature (Lessard 2007; Shiell, Hawe et al. 2008). Communication of modelling results to the varied audiences involved in the public policy debate was often viewed as having been suboptimal but also considered intrinsically difficult. Presenting an appropriate picture of the uncertainties inherent in modelling was viewed as necessary. There was enthusiasm for increased use of econometric modelling to inform future public health policymaking but an appreciation that such evidence should only form one input into the process.

Econometric modelling has been used as a tool for alcohol policy for some time (Godfrey 1989), but few instances exist where a modelling study has informed public health policy debate to a similar extent. While the views of health service and health systems decision-makers have been examined (McDonald and Baughan 2001; Bryan, Williams et al. 2007; Taylor-Robinson, Milton et al. 2008), there has been little previous research on the use of similar methods for informing public health policy. This study therefore provides a valuable contribution to the literature by highlighting both the scope for its future use and indicating areas for potential improvement in development and application. Recent experience with mathematical modelling of pandemic influenza illustrates that modelling cannot be considered a panacea (Van Kerkhove and Ferguson 2012; Mansnerus 2013). However, its use has been influential in other areas (such as tobacco control (Max and Tsoukalas 2006)), raising the possibility that the Sheffield study may serve as a model for the practical application of research for the future.

7.6.2 The Sheffield model’s influences on the minimum unit pricing policy process

The Sheffield model has had an important impact on the minimum unit pricing debate. While many health researchers and increasingly research funders aspire to increase the instrumental use of evidence on policy, the empirical work has found that even in the case of a commissioned piece of research, the influences on policy are complicated.

Findings from the Sheffield model had a direct influence on the policy process, with the model's demonstration of minimum unit pricing as a targeted intervention and its capacity to facilitate the comparison of different policy options (including the level at which to set a minimum unit price) particularly valued. However, at least as importantly, the Sheffield model served a rhetorical function. Its existence helped policymakers to present a rhetorical argument to a variety of audiences (including the media, public and politicians) that helped highlight the public health aspects of minimum unit pricing. Rather than helping policymakers to achieve a pre-defined goal, the Sheffield model served to help advance public health interests by informing debates over contested values (Majone 1989; Sanderson 2006; Russell, Greenhalgh et al. 2008).

A number of factors helped the Sheffield model attain an influential position in the policy debate. Consistent with existing theories that emphasise the importance of knowledge exchange (Contandriopoulos, Lemire et al. 2010), the Sheffield model was developed through a collaborative approach between researchers and policymakers. Related to this collaborative approach, the Sheffield model demonstrated a close fit with the decision-making context and was therefore seen as highly relevant by policymakers (Dobrow, Goel et al. 2006). These factors provide only a partial explanation for the Sheffield model's success in achieving policy influence, however. An overarching reason for the Sheffield model's influence was its potential to inform rhetorical debate. The model presented a range of arguments (*logos*) which appeared plausible, although not necessarily always entirely accurate, while also highlighting the health aspects of the policy debate (*pathos*). Its capacity to act as a successful rhetorical tool was not automatic but instead required *ethos*: the Sheffield model and its team had to actively develop a reputation as a credible source of expertise (Haynes, Derrick et al. 2012). This involved undergoing 'trials of strength' whereby the Sheffield model/team had to undergo, and be seen to undergo, a process of argumentation before it became seen as legitimate (Latour 1987).

This detailed analysis of the influences of a specific piece of evidence within a high-profile policy debate empirically illustrates the utility of a rhetorical perspective to analysing the influence of evidence on the policy process. While it is important not to downplay the importance of instrumental use of evidence, especially in policy areas of low polarisation (Contandriopoulos, Lemire et al. 2010), the analysis presented here suggests that

rhetorical influences of evidence operate in the development of real-world public health policy. In addition, rhetorical use of evidence can advance a health perspective to inform debates about the values that underpin public policy. This differs from dominant approaches to the pursuit of healthy public policy (Bowman, Unwin et al. 2012) but may better reflect the reality of the policymaking process.

7.7 Chapter summary

This chapter has presented a detailed analysis of policy actors' perceptions of a relatively little used form of evidence which could be used to inform the development of population-based public health policy. Policy actors' generally appreciated the potential for econometric modelling to inform the policymaking process and there appears to be potential to increase its use within public health policy. However, the influence of econometric modelling is not straightforward. Rather than informing policy debates in a linear manner, the Sheffield model was used as a rhetorical tool in the policy debate. The Sheffield model does provide a relatively successful example of knowledge exchange, whereby end-users' needs inform the development and conduct of research, but a more striking finding is its influence as a tool to help policy actors to deliberate about contested values.

8 Results 4: Explaining the development of minimum unit pricing – A case of evidence-based policy?

8.1 Overview

This chapter seeks to build upon some of the insights from previous chapters by drawing on political science theories to try to explain the development of minimum unit pricing. It starts by assessing the extent to which the policy's development can be accounted for by some of the main theories of the policy process in turn. It then goes on to consider the different influences research evidence has had on the policy process. An explanation which integrates insights drawn from the various political science theories and also emphasises the role of evidence in the development of minimum unit pricing is then provided. Finally, some reflections on the implications of the minimum unit pricing case study for public health professionals seeking to improve the relationship between evidence and policy are outlined. Greater consideration about the implications of both the minimum unit pricing and English public health White Paper case studies is provided in the final chapter.

8.2 Chapter aims

As described in Chapter 2, a large number of political science theories which aim to explain the policy process exist. These have been widely used in the public policy, sociology and increasingly, public health policy fields to explain the development of policy. Below, some of the key theories derived from political science are applied to the minimum unit pricing case study. Within political science, the use of multiple perspectives allows a better understanding of the policy process since each theory provides different insights and explains different aspects of the policy process (Allison 1969; Cairney 2007a). This chapter therefore aims to:

- Explain the development of minimum unit pricing by applying a range of different political science theories
- Provide an analysis of the policy process that draws upon ‘multiple lenses’ to better understand the minimum unit pricing policy process

While a large range of lenses could be applied, this chapter will focus on four. First, a linear stages model, although of limited utility for this case study, will be briefly considered because this model continues to be reflected in much of the evidence-based public health literature. Following this, Kingdon’s multiple streams model, punctuated-equilibrium theory and multi-level governance perspectives are applied. These sets of literature have been drawn upon as they jointly provide a high level of explanation but it should be acknowledged that other theories could nevertheless add to this analysis. However, this has been balanced against a need for parsimony and it should be noted that elements of other theories have been incorporated into the three perspectives adopted – in particular, the policy networks literature fits well with a multi-level governance perspective and so has been drawn upon in that section.

8.3 Linear stages

To briefly recap, the stages model of policymaking suggests a logical linear sequence underpins policymaking so that policy proceeds in a purely ‘rational’ manner. While this model continues to underpin the implicit perspective of many public health researchers and can serve as a helpful heuristic device, it is usually considered inadequate within much of the political science literature.

In the case of minimum unit pricing, the stages heuristic initially *appears* helpful but ultimately explains little. From the stages perspective, epidemiological studies and expert opinion can be seen as resulting in the problem identification of alcohol-related harms. This in turn resulted in the problem attaining a high level of interest amongst policymakers (agenda-setting) which resulted in a number of policy proposals (option appraisal). Different potential policies were considered (and in this case, the process assisted by a modelling exercise) leading to the option that best met the objectives being chosen. Following the choice of policymakers, the implementation phase was started by

the passage of legislation. A broad evaluation programme has been established to allow the effectiveness of the policy to be reviewed which will inform the planned ‘sunset clause’ review.

However, this narrative may be considered unsatisfactory on a number of accounts. First, while epidemiological and other data did help to define a policy problem, this did not result in the direct policy response of minimum unit pricing. Instead, the Labour-Liberal Democrat Scottish Executive were aware of trends in alcohol-related harms but adopted a different approach that focused on addressing harms amongst key population subgroups (young people and problem drinkers) and changing licensing legislation (despite the epidemiological evidence identifying chronic harms such as liver disease being neglected). Second, the stages model provides no explanation for why alcohol became a policy priority except in response to the problem. However, the epidemiology suggests that alcohol-related harms had reached a plateau (at a high level of harms) prior to the development of minimum unit pricing. Third, there is no explanation for why some policy approaches attain the status of policy options worthy of consideration while others are ignored. Lastly, in contrast to the neat picture described above, in reality minimum unit pricing did not develop through a number of separate stages. Instead, many of the above parts of the policy process operated out of sequence or interacted with other components. For example, the consideration of the sunset clause and its ultimate inclusion helped in the policy gaining political support to facilitate its adoption.

The stages model therefore holds little explanatory power and is also of limited assistance in facilitating description of the policy process. It is worth noting that this perspective echoes the traditional perspective of evidence-based medicine which usually seeks to improve the decision-making of an individual practitioner, assumed to have the capacity to implement their decision, to achieve a specified goal (improve patient health). In contrast, the goals, options available and capacity to implement each option were all indeterminate for a broader variety of decision-makers in the case of minimum unit pricing. However, the stages model still captures normative views of how some actors believe the policy process should happen (Cabinet Office 2003).

8.4 Kingdon's multiple streams model

According to the multiple streams model of the policy process, three streams (problem, policy and politics) would be expected to coalesce to allow minimum unit pricing's development (Kingdon 2010). In the problem stream, a change in a well-respected indicator could help highlight a problem for policymakers. Epidemiological data that described the burden of alcohol-related harms appeared particularly influential in the policy process. In particular, the study published in the Lancet (Leon and McCambridge 2006) demonstrating the large burden and adverse trend in Scotland was seen as particularly influential as illustrated by these two interviewees:

Civil Servant (Scotland): [...] there is no doubt that the single most compelling graph that we showed ministers was that taken from a paper published in the Lancet by David Leon and Jim McCambridge which shows deaths from liver cirrhosis in Scottish males. It kind of looks like the north face of the Eiger, just kind of heading north and contrasts poorly with England and Wales and particularly actually with figures from Europe where they've passed their peak and are on the way down. And I think they found that quite alarming and made them a bit braver perhaps than they otherwise would be.

Civil Servant (Scotland): I was staggered by some of the graphs and some of the trends which you don't see in public health very often, you know, the Leon and McCambridge liver cirrhosis graph for example, the quadrupling of hospital admissions [...] Kind of you know, whilst talking to ministers as well, I think the Cabinet Secretary was quite startled by some of the evidence we presented on the scale of the problem.

In keeping with Kingdon's model, the recognition of the policy problem did not automatically result in policy change or in the issue becoming a policy priority. Instead, interviewees describe a short period of time prior to the SNP election when the importance of price in tackling alcohol-related harm began to be recognised. For example,

one interviewee who had been involved in developing a political party's manifesto recalled:

Respondent: Yeah, so the manifesto development process of the political parties mostly kind of, for most of them started about a year and a half out from the elections and it was really towards the tail end of 2006 that they, that collectively the parties started to get submissions to their manifesto process around alcohol pricing controls. A little bit around minimum pricing, more around happy hour type quantity discount bans, but without much policy evidence behind it. More just on a it's not right that something should be cheaper than water or cheaper than soft drinks, that type of thing. And the SNP were the first to pick up on that in the 2007 manifesto and at the time of writing, there were voices within other parties who were interested in it but felt it was too early to take that jump

The politics stream can therefore be seen as being brought into alignment by the replacement of the Labour-Liberal Democrat Coalition by the SNP Scottish Government. According to interviewees, the former administration had expressed interest in taking action but preferred to continue a partnership approach with industry, exemplified by the establishment of the Scottish Government's Alcohol Industry Partnership. It appears that it was not until the political environment changed following the election of the SNP that a window of opportunity opened allowing addressing alcohol price to become a focus for policy:

Civil Servant: I suppose the change of administration at the government was significant in the shift of focus for alcohol policy. So, I think the old administration had recognised the problem but in terms of shifting the emphasis of what we do, it didn't happen until the new administration came in, the SNP administration came in [...]

Following this, the expert workshop held by SHAAP contributed to the 'solution' stream by publishing its report calling for minimum unit pricing in Scotland (Gillan and

Macnaughton 2007). Within the expert workshop, Scottish Government representatives were involved in discussions around minimum unit pricing in particular.

Lastly, Kingdon's model highlights the importance of policy entrepreneurs in facilitating policy and achieving 'coupling of the streams'. While a number of potential policy entrepreneurs can be identified in relation to minimum unit pricing policy, three appeared particularly prominent within the Scottish context. First, one individual (who had previously conducted a PhD on the relationship between evidence and policy (Gillan 2008)) who represented SHAAP was repeatedly identified as having been effective in ensuring both the problem and solution streams remained on the agenda. Second, Scotland's Chief Medical Officer had an active role in highlighting the importance of alcohol for Scotland's public health and the potential for minimum unit pricing within Scottish Government (for example, Chief Medical Officer 2008). Third, the Deputy First Minister (and previously, the Justice Minister, Kenny MacAskill) were noted to have been key in helping make minimum unit pricing a politically viable option, including by building political support within the SNP. In the words of two different interviewees:

Civil Servant (Scotland): the really important thing to understand for somebody studying this, is that that difficulty was not at all limited to opposition parties. So the first time that, you have to understand that the proposals that were put forward around alcohol actually went forward in about, from memory, 2006/2007 and they went up to the Cabinet and, I won't you know, quote verbatim, but the First Minister's response at that time was reportedly far from complimentary or supportive at some of the measures that were being suggested, and the person who saved the day was actually Nicola Sturgeon, who at that time was both Health Minister and Deputy First Minister, and she persuaded the First Minister to allow her to take the issue off the table at that point, off to one side and to spend time with him talking him through the issue of alcohol on health and alcohol on society. And she was, much to her credit, able to get him to a position where he accepted almost all of the package.

Civil Servant (Scotland): Certainly, you know, the [new SNP] Deputy First Minister took a really close personal interest and saw this as a flagship policy area. So, you know, she was taking a really close interest. She had been... she, when she was in opposition she had proposed a members bill on tobacco and so, you know, obviously that had then been delivered by the Labour/Lib Dem coalition and she saw this very much as, this was her tobacco bill, this was her kind of seminal moment to tackle a major public health problem....if it hadn't been for Deputy First Minister's personal drive and commitment and seeing this as, no, we really need to address this, then, you know, we wouldn't have had such a radical policy as we have had.

Kingdon's multiple streams theory therefore highlights the importance of the epidemiological evidence in helping identify the policy problem. However, it was not until the development of a feasible solution by an advocacy organisation and the establishment of an amenable political context that minimum unit pricing became the centre of detailed political debate. A number of individuals from a variety of backgrounds acted as policy entrepreneurs to help 'couple' these three streams.

8.5 Punctuated-equilibrium theory

The developers of the punctuated-equilibrium theory observed that many areas of public policy exhibited little policy change (i.e. were in equilibrium) while relatively few areas were focused on by policymakers and experienced rapid shifts in policy (punctuations) (Baumgartner and Jones 1993). Time constraints lead to policymakers focusing more on 'hot topics', attracting the attention of the media and a broader group of actors than previously engaged, while leaving most other areas of policy to expert policy communities who make incremental policy changes which do not result in radical shifts in policy. Policy areas that are undergoing punctuations therefore experience an increased tendency towards policy movement as a result of the escalating interest driven by the media and broadening range of policy actors involved. In keeping with Kingdon's multiple streams

model, punctuated-equilibrium theory suggests that a change in the framing of a policy issue or a change in a well-respected indicator can be crucial in triggering increasing interest in an existing policy problem.

Seen from a punctuated-equilibrium theory standpoint, minimum unit pricing raises the possibility that a punctuation may have occurred in alcohol policy (Baumgartner and Jones 1993; True, Jones et al. 2007). In other words, alcohol policy may have moved from a relatively niche area of public policy that did not enjoy a high priority to become an area of broader interest to various stakeholders and susceptible to more significant policy change. Indeed, there was a general consensus among interviewees that alcohol policy had become a high-profile area that was receiving far more attention than previously. For example:

Academic: I think it [alcohol policy] has become more of a focus for several reasons. One is I think the media find it quite a topic of interest for their readers, particularly the anti-social behaviour and binge drinking cultures. I think the objective evidence of the increasing costs of alcohol particularly in health and the rising frequency of alcoholic liver disease and alcohol related mortality, rising alcohol related admissions, I think are all, have all raised its profile and I think most of all, I think it's been the pro-active, more pro-active approach taken by the Scottish Government.

Consistent with punctuated-equilibrium theory, the role of the media in making alcohol policy a priority is emphasised by this respondent. There is therefore evidence to support the existence of a punctuation but this raises the question of why. According to punctuated-equilibrium theory, a change in a policy issue's framing may result in an increased focus on a policy area (True, Jones et al. 2007).

In the case of minimum unit pricing, the evidence from Leon and McCambridge (2006) clearly fulfils the requirement of a change in a well-respected indicator (as described in relation to the 'problem' component of the multiple streams model). However, Chapter 6 suggests that such a re-framing also occurred. In particular, policy advocates have worked hard to change the policy 'image' from tackling the misuse of alcohol, especially among

young people and ‘binge drinkers’ (Scottish Executive 2002), to adopting a ‘whole-population’ approach aimed at improving public health (Scottish Government 2009a) that seeks to change the population distribution of alcohol consumption (Rose 1985). Interviewees’ felt that emphasising public health aspects helped redefine the policy issue in a manner conducive to minimum unit pricing:

Civil Servant: I think – and I think it was true when we did the smoking ban as well – that as soon as you talk in public health terms, it sort of, it brings the debate up to a better level. Because whenever anybody spoke to us when we were doing the smoking ban, and started talking about the impact on the business, or what might happen, you know, we would always say, “but this is about public health,” and it’s almost like public health is something which overrides anything, because how can you not do something which is in the interests of public health?

The ‘whole-population’ policy image also highlights the importance of harms arising from, and experienced by, a far broader part of the population including impacts resulting from the drinking of others. This switch to a population-based approach was informed by the work of public-health advocates over a period of several years, including the work of international alcohol epidemiologists portraying alcohol as ‘no ordinary commodity’ (Babor, Caetano et al. 2010b). Within Scotland, these ideas were captured within the influential logic model by NHS Health Scotland described above (NHS Health Scotland 2008). By broadening the scope of those affected adversely by alcohol, this allowed new entrants to focus on the policy issue, thus assisting in the development of new coalitions:

Politician: So whether it's doctors' groups, whether it's nursing groups, whether it's the BMA [doctors' trade association], you know, whoever it is – I don't think I would single out – but it's actually not just been health groups, it's been like the Salvation Army for example, it's been Children First. So it's not just been directly health related groups. It's been, you know, those groups who have experienced the effects that children have had and brought up in alcohol addicted households.

Punctuated-equilibrium theory has therefore helped understand how an increased emphasis on alcohol policy has facilitated minimum unit pricing's emergence. An important contributor to the increased focus on alcohol policy has been a re-framing of the policy 'image' (as demonstrated in Chapter 6), thus encouraging an increased range of actors to participate in policy debates and facilitate the creation of broad coalitions for policy change. The importance of these networks is considered further in the section on multi-level governance below.

8.6 Multi-level governance

While a picture of the policy process is emerging from the application of the above two theories, a number of important issues have yet to be adequately explained. These include understanding why minimum unit pricing, rather than more conventional approaches (such as increasing alcohol taxation), emerged as a policy solution and why the Scottish Government has been responsible for the policy's development rather than other UK-based institutions. It is to provide answers to these questions that a multi-level governance perspective is turned to. In addition to the twin considerations of multi-level government (multiple layers of government institutions) and governance (the role of non-state actors), factors associated with differences in policy 'style' (inspired by Kingdon's model) between devolved territories is drawn upon: namely 'powers' (an institution's ability to make and implement decisions), 'politics' (especially party political considerations), and the 'policies' being promoted by the policy communities associated with a specific institution (Greer and Jarman 2009). The smaller size of the Scottish policymaking community and a relative lack of institutional civil service capacity are thought to be associated with greater access although the importance of these factors has been questioned (Cairney 2008).

8.6.1 Powers

As noted previously, minimum unit pricing was first explicitly articulated as a policy idea within Scotland by the advocacy organisation SHAAP following its organisation of an expert workshop on addressing alcohol-related harms. An important aspect of SHAAP's

report was the consideration it gave to the limited powers of Scottish institutions, to the extent that the authors obtained legal opinions about the potential for introducing minimum unit pricing within the wider UK and EU contexts:

Fixing minimum drinks prices can achieve health goals that raising alcohol taxes alone cannot by preventing below-cost selling and the deep discounting of alcohol that some retailers engage in. Fixing minimum drinks prices is possible under both UK and EU competition law, provided that minimum prices are imposed on licensees by law or at the sole instigation of a public authority. (Gillan and Macnaughton 2007, pg 15)

The Scottish Parliament's limited powers to intervene on alcohol price were therefore a critical factor explaining minimum unit pricing's emergence:

Academic: From that [SHAAP] workshop, I think the proposal around minimum unit pricing emerged – largely because there was a huge body of evidence about price of alcohol, but the Scottish Government's ability to intervene on price was obviously limited because of the tax powers lying with the UK government.

While a consideration of the powers of the Scottish Government helps to explain the development of the *form* of intervention, it does not help explain why Scotland decided to take a lead within the UK in the first place.

8.6.2 Policy communities

One important explanation for a Scottish lead on alcohol policy consistently identified by interviewees was the greater burden of alcohol-related harms in Scotland than elsewhere in the UK:

Academic: [...] the other thing I think is that I mean countries don't like to be sort of scored or measured, compared with other ones, and when you start sort of showing that one country is much worse than another country, i.e. the cirrhosis deaths in Scotland or England, I think this also

makes politicians a little bit sort of embarrassed, again sort of thinking 'oh gosh we need to do something.'

However, while the greater burden was clearly identified as important, several other contributory factors were evident. Many respondents explained that the relatively small size of the Scottish policy community meant that access was easier for those seeking to influence policy, in keeping with previous research on the role of alcohol industries in seeking to influence Scottish alcohol policy (Holden and Hawkins 2012). For example:

Politician: I think it's just the way smaller nations with a relatively small government and a very active civic Scotland – third sector however you want to define it – how they operate that if you've got a story to tell that is packed with a really strong persuasive evidence base, you get to speak to the most senior people in government very, very quickly in Scotland. I don't think that's necessarily the case elsewhere in the UK.

From an early stage, SHAAP worked actively to ensure that politicians and civil servants were closely engaged (as reflected by a civil servant representing the Scottish Government having attended the workshop as an observer) – an approach made easier by the smaller size of the policymaking community at the Scotland compared to UK-level.

Multi-level governance theory draws attention to the potentially influential role non-state actors can play in policy development. Interview data suggest policy actors have perceived a broad coalition of actors to be in favour of minimum unit pricing, from the health and voluntary sectors (e.g. those working with young people, families and low-income communities) to the police. For example:

Politician (Scotland): It hasn't just been those at the sharp end of dealing with the medical effects of alcohol – they're collecting data to say things are getting worse – but at the same time we've got, if you like, the Scottish kind of Civic Scotland, the voluntary sector, stepping forward and saying 'we are seeing more people [affected by alcohol].'

As noted previously, punctuated-equilibrium theory anticipates increased involvement of a broad range of actors in response to a change in policy ‘image’. In contrast to this broad coalition in favour of minimum unit pricing, there have been marked differences within industry positions (Holden, Hawkins et al. 2012). In general, many licensed trade representatives (who are expected to benefit as a result of a shift from home drinking to consumption within pubs and clubs) are supportive; various producers and off-trade retailers appear to have contrasting positions. For example, Tesco has been broadly supportive while others such as Asda, which competes more strongly on price, have actively campaigned against minimum unit pricing (Health and Sport Committee 2012). The existence of a broad and unified coalition in favour of minimum unit pricing, and the division amongst private sector actors seems likely to have favoured the policy’s adoption.

8.6.3 Politics

A number of interviewees emphasised the importance of considering the Scottish political and cultural context. Interviewees expressed the view that the Scottish electorate was different from England in terms of their political support and in particular, more accepting of state intervention, a point noted in previous academic literature (Cairney 2011b). However, this greater willingness of state intervention was tempered by the view that drinking alcohol was an ingrained part of the Scottish culture, as illustrated by whisky’s emblematic role as the national drink.

Recent events have served to create a more hospitable environment for the introduction of minimum unit pricing. In particular, the early introduction of this legislation in Scotland has largely been perceived positively by public health policy actors. For example:

Civil Servant (Scotland): [...] the smoking ban is widely recognised as being really successful – more so than anticipated. It demonstrated that the Scottish Government was in a position to take action that might be different from that in other parts of United Kingdom, with the powers that were available to it. They could take a legislative approach which was quite cheap and accepted by a surprisingly large proportion of the population, and the feedback from the evaluation

showed it was highly effective with real health benefits. Some elements of government thought if we could do this then maybe we could tackle other similar problems using lessons from the smoking ban.

Scotland's policy leadership on smoke-free legislation was consistently constructed by interviewees as a potential stimulus for taking action to reduce alcohol-related health harms in Scotland. For example:

Civil Servant (Scotland): I think you know the success of the smoking ban shows that such legislation can work. It was equally controversial pre-implementation but once it's been implemented, people just kind of accepted it. You would hope something similar would happen with minimum pricing. It's obviously been a controversial policy. Once implemented, hopefully people will see the benefits. So I think it's important you know, I think people in Scotland are beginning to realise, I would suggest, that our public health has not been the greatest for the last generation and something has to be done, so I think there's more support for minimum pricing than may have happened before the smoking ban.

The influence of the smoking ban in public places illustrates the importance of appreciating the longstanding and often unintended influences of previous decisions within a devolved Scotland (i.e. path dependency). Similarly, the fact that alcohol licensing had already established the principle of legislative intervention within alcohol policy assisted minimum unit pricing's development in the view of several interviewees.

The previous experience of the smoking ban did not only serve as a factor favouring minimum unit pricing, however, but also worked against its development too. The positive perception of the smoking ban resulted in interviewees expressing scepticism about Labour's position opposing minimum unit pricing, suggesting that such opposition was purely party political:

Int: Why do you think, when it came to minimum unit pricing, at least first time round, it was difficult to get a political consensus on it as a policy, in comparison to, say, the smoking ban?

Respondent: I mean, this is where it's really down to the parochial nature of Scottish politics, I'm afraid. In Scotland, where Scotland's different from England is the opposition parties are SNP and Labour. In England it's usually, generally Labour and the Conservatives, so that's not the case in Scotland. Labour and SNP are the two main parties in Scotland, and they actually hate each other. And it's quite toxic, the way they are with each other. I'm perhaps straying into partisan territory, but Labour are particularly negative about, about the SNP. And I've heard that from Labour party members who work in policy-influencing and say, "ooh, God, it's so difficult, because they're so negative about the SNP." So I think the big problem for the minimum pricing policy was that it was, and information that I got from a Labour insider was that their decision to oppose it first time round was immediately following the Glasgow East I think it was by-election, where they'd run a very negative campaign against the SNP and won, and this sort of made them think that negative campaigning was the way to go. So I think Labour, it was, I think it was primarily party-political in Scotland, in that Labour did, having been the administration that had this very good reputation and track record as a public health innovator when in office, they were reluctant to see that mantle going to their main opposition party in Scotland.

Here (and indicated in other interviews) is the suggestion that the Labour Party were aware that the SNP might benefit from having a 'smoking ban moment' as a result of minimum unit pricing and Labour's loss in the 2007 Scottish Parliamentary election contributed to their opposition.

8.6.4 The interplay between powers and politics

The broader political purpose of the SNP is worth highlighting in relation to minimum unit pricing's development. As noted previously, institutional responsibilities within devolved Scotland are complicated. The potential for overlapping responsibilities has allowed a devolved Scotland to redefine some public health policy issues to enable it to take action, as exemplified by the smoking ban in public places. By redefining alcohol pricing as a public health issue, this has helped the pro-independence SNP to pursue policy divergence from England and potentially demonstrate Scotland's position as an emerging nation-state, playing a leading role in health policy (Smith and Hellowell, 2012). Interviewees certainly noted the benefits of Scotland pursuing divergent public health policy from England and this divergence was seen, for various reasons, to help promote the idea of minimum unit pricing within the SNP government:

Policy Advocate: I think it's a lot to do with the Scottish National Party [...] I suspect it's part of their Independence agenda, that it's about getting, they believe that getting hold of the revenue on alcohol – and I think this is seen as one route towards that objective – is a route towards greater independence and sovereignty.

Civil Servant (Scotland): Being able to sort of say, we're being progressive, you know, is actually quite helpful. And, you know, lots of rhetoric around, 'we do hope that they'll [England will] follow us in doing this'.

The greater uncertainty about the 'rules of the game' arising as a consequence of multi-level governance may mean that political actors are not only negotiating the decision to be reached but also the processes by which future decisions are made (Hajer 2003). In this case, bringing alcohol pricing within the remit of Scottish Government may have knock-on effects for Scotland's future decision-making competency.

The limitations of the Scottish Government's current competence still, however, served as a barrier to the implementation of minimum unit pricing. The Scotch Whisky Association has queried the legitimacy of the Scottish Government in passing legislation

on the area of alcohol price, arguing that this confers a trade policy, which remains reserved to the UK Government. The legislation has also faced challenges at the European level (Cook 2012), with several EU member states (Bulgaria, Spain, Italy, Portugal, France) arguing that minimum unit pricing may confer a barrier to the free movement of goods across European member states (STV News 2012). Qualitative research of alcohol policy in Scotland conducted by others suggests that alcohol industries may have greater influence at the European level rather than in Scotland (Holden and Hawkins 2012).

8.7 An explanatory synthesis

Initially, this chapter has found that the linear model of the policy process is inadequate to understand the development of minimum unit pricing policy and therefore three different political science ‘lenses’ have been used to highlight different aspects of the policy process. This section seeks to create an explanation that draws on insights from all three perspectives while also highlighting the influences of research evidence in the policy’s development.

Drawing on Kingdon’s three streams model of policymaking, minimum unit pricing’s development can be considered as having required the alignment of the problem, policy and politics stream. Epidemiological data have been used to draw attention to the high burden and growing rate of alcohol-related harms at a Scotland-level – a trend which compared unfavourably to the rest of western Europe and UK (Leon and McCambridge 2006). In addition to the observation that liver cirrhosis deaths had reached a historic high in Scotland, epidemiological data were brought together with other information on crime, consumption levels and economic costs (Graham, Hughes et al. 2005; York Health Economics Consortium 2010) to further construct the issue as a ‘problem’ requiring action. A particularly helpful development in the evidence base on the problem stream was the procurement of alcohol sales data from Nielsen, obtained as a result of the Scottish Government Alcohol Industry Partnership (initially not released in a public report but later available in Robinson, Catto et al. 2010). This helped resolve the discrepancy between the static trends in consumption observed in the Scottish Health Surveys

(Bromley, Corbett et al. 2011) with the epidemiological data showing increasing rates of harms by suggesting that the former were misleading.

Punctuated-equilibrium theory highlights the influence that a change in the dominant view of the policy issue plays in increasing the scope for more radical policy developments. A change in the perception of alcohol policy has occurred that both increased the focus on public health aspects as well as broadening out the issue to pursue a population-based approach. This strategy drew heavily on epidemiological theory, particularly the work by Geoffrey Rose (1985) that argues that in many circumstances improvements in population health are best achieved by changing the population distribution of a risk factor rather than targeting only those most at risk. Epidemiological thinking of this type helped contribute to logic models that were presented to civil servants and politicians by a public health intermediary organisation, NHS Health Scotland, which has a role of linkage between policy and research communities (NHS Health Scotland 2008). In addition, the idea that alcohol should be treated as 'no ordinary commodity' (Babor, Caetano et al. 2010b) and the potential for culture to be changed in response to a policy intervention was incorporated into the logic model.

Minimum unit pricing emerged as a potential policy solution in Scotland following an expert workshop coordinated by a relatively new advocacy organisation (Gillan and Macnaughton 2007). SHAAP initially identified the central importance of price as a mechanism for influencing alcohol-related harms, drawing heavily on existing systematic reviews that explored the relationship between price, consumption and harm (for example, Booth, Meier et al. 2008; Wagenaar, Salois et al. 2009). The organisation was careful to pay attention to the powers available to the Scottish Government prior to making recommendations, including seeking formal legal advice (Gillan and Macnaughton 2007). The small geographical scale and relatively limited powers of the Scottish administration (meaning that health issues attracted higher priority than in the UK Government) resulted in advocates of the policy being able to rapidly present the case for minimum unit pricing to influential policymakers.

Different forms of evidence helped establish minimum unit pricing as a favourable policy option. An econometric modelling study, initially commissioned by the Department of Health and later by the Scottish Government (Brennan, Purshouse et al. 2008; Meng,

Purshouse et al. 2010), helped present minimum unit pricing as an effective, realistic and feasible solution. In particular, the modelling studies found that those at greatest risks of alcohol-related harms were most targeted by the intervention. Similarly, research on dependent drinkers found that they consumed particularly cheap alcohol and so would be particularly affected by minimum unit pricing (Black, Gill et al. 2009; Black, Gill et al. 2011). SHAAP also commissioned research to investigate the impact of minimum unit pricing which included explicit consideration of low-income households and found that on average low-income households would not be more financially adversely impacted than other groups (Ludbrook 2008). Later on, the case for minimum unit pricing was supported by the emergence of evaluation-based evidence of reference pricing in Canada (Stockwell, Auld et al. 2012; Stockwell, Zhao et al. 2013), although these studies emerged after minimum unit pricing had become a well established policy.

A number of institutional, political and historical factors came together to facilitate a favourable political climate. First, a change in the Scottish Government helped provide an external shock to established policy communities, thus allowing a fundamental shift in alcohol policy to be considered. Importantly, the SNP's pro-independence position served to encourage the development of distinctive alcohol policy – not only for the purposes of distinguishing Scottish policy from UK policy but also to help portray Scotland as a nation state in the making. Second, health was one of the most high profile policy areas to be devolved to Scotland. Third, alcohol licensing within Scotland already operated independently of England. Fourth, Scotland's leadership in terms of banning smoking in public places was generally well-received and paved the way for Scottish leadership in other areas of public health. Finally, Scotland has historically been more tolerant of state intervention, with the alcohol sector having been subject to prior legislation.

A number of key policy entrepreneurs appear to have helped in coupling the three streams to assist in the emergence of minimum unit pricing, often making use of evidence to help do so. SHAAP consistently presented epidemiological and econometric modelling evidence in order to highlight the problem of alcohol-related harms and present their preferred solution as viable and effective. The Scottish Chief Medical Officer (along with other key individuals within the civil service and intermediary organisations) played an important role in redefining the policy problem (drawing upon epidemiological thinking)

to facilitate alcohol policy becoming a priority area. Lastly, politicians such as Nicola Sturgeon helped bring about a political climate suitable to minimum unit pricing by making the case for action within the SNP party and in public arena.

8.8 Chapter summary

Understanding the process by which public health policy develops holds considerable promise in improving the ability of public health practitioners and researchers to better engage in the policy process. This chapter has therefore studied the development of an innovative high-profile public health policy by taking a multiple lenses approach. The use of three perspectives to understand the policy process has provided insights which could not be attained through the use of a single theory. In addition, by building an understanding of the policy process as a whole, the chapter has been better able to demonstrate the broad influences of different forms of evidence in the policy process while also being careful to avoid overemphasising the impact of evidence.

The story of minimum unit pricing illustrates the complexity of the policy process and highlights the limitations of seeing policymaking as purely determined by evidence (evidence-based policy) rather than evidence as one important influence on policy (Sanderson 2009). While epidemiological data showing a change in alcohol-related harms has been key, epidemiological ideas have also been influential in changing thinking about the policy issue and have fostered a move to a population-based approach. In addition, evidence has been tailored to the political context so that data were presented at a politically appropriate aggregation. However, much of the minimum unit pricing policy story does not relate to evidence but rather political and institutional factors which should not be ignored by researchers and practitioners seeking to influence the policy process.

9 Discussion

9.1 Overview

This chapter provides a summary of the empirical research presented in the thesis so far, before considering key strengths and limitations of the methodological approach adopted.

Previous chapters in the thesis have established the utility of adopting a multi-level governance perspective. Given the relatively little consideration that has been given to multi-level governance within public health, this chapter reflects upon its implications for public health professionals and argues that a number of challenges and opportunities exist for those seeking to bring about healthy public policy.

Following this, a model to help understand when and how evidence is likely to be used across different public health policy contexts is presented. The model is informed by a broad body of political science literature, as well as the empirical findings presented within this thesis. A number of hypotheses that arise from the model are described so that the model can be empirically tested. The implications of the model and this thesis for the evidence-based public health movement are then considered.

The chapter concludes by summarising areas for further research and some of the implications for public health practice.

9.2 Summary of empirical findings

Prior to considering the implications of the thesis for research, practice and theory, this section briefly recaps the empirical research presented in the previous chapters.

9.2.1 *The English public health White Paper*

The English public health White Paper, ‘Healthy Lives, Healthy People’, included considerable rhetoric about pursuing evidence-based public health policy. Despite this

prominent discourse in policy, the analysis found public health policy continues to be unreflective of the existing public health evidence base. Similar findings have been observed in the past but have rarely been based on a systematic analysis across many areas of public health policy and had not been conducted on current UK public health policy documents. The analysis has served to highlight important areas where the evidence base is currently lacking and points to areas where further research is needed.

'Healthy Lives, Healthy People' also illustrates the importance of considering broad forms of evidence. This includes relatively clearly articulated frameworks, such as the Nuffield ladder of public health interventions, and more nebulous ideas such as nudge. In the former case, the Nuffield ladder was described in a similar way as in its original articulation by the Nuffield Council on Bioethics, but its application appears to differ in potentially problematic ways (including the conflation of individual and corporate liberty). The lack of transparency in the way the Nuffield ladder has been used may set unhelpful precedents for its future use in policy. Meanwhile, despite the emphasis on nudge within public debates, the idea appeared to result in a relatively limited impact on the policy interventions advocated. In particular, the White Paper maintained an emphasis on changing behaviour through targeting the individual rather than changing choice architecture and other broader factors that influence the individual.

The case study of the English public health White Paper therefore confirmed that evidence-based policy (as articulated by many public health actors and within UK Government) does not occur in a consistent way across public health policy. Instead, different forms of evidence appear to have the potential to impact on public health policy but in a manner that is contextually influenced.

9.2.2 The development of minimum unit pricing in Scotland

Minimum unit pricing of alcohol is a novel population-based pricing policy that aims to increase the cost of the cheapest alcohol products which are most likely to be consumed by those at greatest risk of alcohol-related harms. In order to investigate empirically the policy process and thereby better understand the role of evidence in that process, a brief overview of the public health aspects of alcohol was provided. A summary of relevant public health evidence on alcohol, including the strengths and weaknesses of different

forms of evidence, was presented. Public health policy approaches identified as likely to have the greatest population impact relate to the control of price, availability and marketing.

A description of the minimum unit pricing policy process based on a review of relevant policy documents and interview data was then presented. By including a detailed and integrated description of the policy's development within Chapter 5, this allowed different explanations for the policy process to be investigated in detail in subsequent chapters.

9.2.3 Framing the minimum unit pricing debate

The Scottish Parliament's process of scrutinising primary legislation provided the opportunity to investigate how different stakeholders try to frame the minimum unit pricing policy debate. Systematic analysis of evidence submission documents by a range of policy stakeholders allowed different representations of the policy problem and hence, appropriate solutions to be identified. In addition, the availability of data from a broad range of actors allowed the range of arguments for and against minimum unit pricing to be documented and related to the argumentation frameworks.

In general, policy actors who were supportive of minimum unit pricing constructed the policy problem broadly and argued that overconsumption at the population-level was an important reason for the high level of Scottish alcohol-related harms. Therefore a population-based approach was deemed necessary. In contrast, industry-related actors who were hostile to minimum unit pricing argued that alcohol-related harms were attributable to a minority of dependent drinkers who should be targeted by policy, especially through approaches based on the individual drinker changing their behaviour. The arguments presented by industry actors who were supportive of minimum unit pricing drew upon aspects of both the supportive and critical framings. While arguing that alcohol posed a particular issue for a minority of the population, they presented minimum unit pricing as an intervention which was particularly targeted to this group. Importantly, there were no industry actors who located the policy problem as an issue of population overconsumption. This position therefore facilitated an argument for minimum unit pricing as a targeted policy but also simultaneously helped minimise the

potential for future interventions which seek to reduce population consumption (such as limiting the number of alcohol outlets or reducing the hours of availability) to be pursued.

Interview data were used in conjunction with the data from evidence submissions to investigate whether competing framings impacted upon the policy process. Interviewees were consistently aware that a difference in framing existed between those in the alcohol-related industries and amongst public health advocates. More importantly, in terms of explaining the policy process, advocates for minimum unit pricing worked hard to redefine the policy problem and often expressed the view that this reframing had been important in helping present minimum unit pricing as an appropriate policy response.

A wide variety of evidence was drawn upon by policy actors. This included different presentations of epidemiological data (with sales, survey and harms data drawn upon in different ways) to help support the position an actor adopted. More importantly, epidemiological ideas such as the population distribution of risk appeared to influence how alcohol policy was conceptualised. This had the effect of making population-based policy options appear more reasonable than under more individualistic biomedical models for alcohol policy.

9.2.4 Perspectives on econometric modelling

Chapter 7 investigated the influences of the Sheffield model on the policy process. The model was deemed worthy of detailed study because first, it appears to have achieved a sustained high profile within the policy debate in a way that is relatively unusual for a single study. Second, econometric modelling has been identified as an approach which could be used to inform population-based public health policy, when *a priori* evaluation evidence may be lacking.

Econometric modelling was considered influential according to most policy actors and many, particularly within Scotland, displayed a high level of understanding of the Sheffield model. A general preference was found for evaluation-based studies, although a minority noted the potential greater relevance of the Sheffield model than evaluations conducted within other settings. The extent that the complexity of the system (including supply-side responses to the intervention) was adequately incorporated into the model

was questioned by some actors – notably, not limited to those hostile to minimum unit pricing. However, there existed a tension between incorporating enough complexity and ensuring the model was transparent to others. Adequate communication of the results, and particularly the uncertainty surrounding them, was understood as necessary by all parties but considered difficult by those with direct experience in the communication process. In general, there was enthusiasm for greater application of econometric modelling to inform public health policy but concerns were expressed about potentially viewing them as an alternative to more traditional evaluation research.

The Sheffield model has had varied yet complementary impacts on the policy process. Clearly, the Sheffield model was used to some extent in an instrumental manner to help establish the principle of minimum unit pricing as a more targeted alternative than other forms of price-based intervention and assisted in determining the level at which to set the minimum unit price. While it is established that most evidence does not result in instrumental use, it is not surprising that the Sheffield model has been directly drawn upon by those involved in the policy process, given its origins as a government-commissioned piece of work. Such influence provides some support for knowledge exchange initiatives which are popular within public health.

Identification of the ways the Sheffield model helped policy actors to make specific decisions is inadequate for understanding its influence on the policy process, however. Analysis that considers the Sheffield model as a tool for rhetoric provides an alternative and valuable perspective. Drawing upon the work of Aristotle, which has recently been adapted to health policy, allows the identification of three elements of rhetoric: logos, pathos and ethos (Russell, Greenhalgh et al. 2008; Aristotle 2012). The instrumental view of evidence emphasises the mode of logos, being concerned with presenting specific arguments. The Sheffield model helped to make health aspects of the policy debate more prominent (particularly through the quantification of different harms), thereby playing an important role in framing the debate – an illustration of the mode of pathos. Lastly, the credibility of the Sheffield team as the producer of the model (ethos) was important in the Sheffield model's influence and benefited from the public performance of the team to build their reputation.

9.2.5 Explaining the development of minimum unit pricing

The final empirical chapter sought to provide a detailed explanation of the minimum unit pricing policy process. By drawing upon three different political science frameworks, the chapter illustrated how different insights could be obtained from the use of different theoretical approaches.

Application of Kingdon's multiple streams model highlighted the importance of considering how the problem, policy and politics streams might have been coupled by policy entrepreneurs. In terms of the problem stream, by identifying the extent of the problem and portraying it as a crisis, epidemiology has been an important driver for the development of minimum unit pricing. The existence of a suitable policy was provided by an advocacy group within Scotland while systematic reviews and the Sheffield model demonstrating a consistent negative relationship between price, consumption and harms helped present the intervention as appropriate. The election of a SNP Scottish Government helped create a favourable political climate. In addition, the existence of multiple policy entrepreneurs, who advocate in a sustained manner for their preferred solution, could be identified. However, the reasons for price-based interventions were considered at that time, choice of policy solution and why a favourable political climate existed are incompletely explained by this model.

Punctuated-equilibrium theory suggests that the time constraints faced by policymakers results in most policy areas exhibiting relatively little policy change, with a small number of issues becoming hot topics where there is potential for more radical policy development. An important reason for a punctuation developing is a change in the understanding of the policy issue. In the case of minimum unit pricing, it was argued that a punctuation had occurred in alcohol policy, at least in part due to a change in the framing of the policy issue. In particular, epidemiological thinking had helped characterise the problem at the population-level and the evidence-derived idea that alcohol was 'no ordinary commodity' similarly changed how policy actors debated the policy problem.

A better understanding of the reasons for a favourable political climate and choice of policy solution is provided by adopting a multi-level governance perspective. Favourable contextual factors included the election of a pro-independence SNP party which

potentially benefited by distinguishing itself from UK policy; the SNP's subsequent majority status within Parliament; a greater acceptability for state intervention compared to the rest of the UK; and recent positive experience with public health legislation. A number of institutional factors contributed to policy development including the powers available to the Scottish Parliament, the existence of a longstanding difference in alcohol licensing and the potential to reshape policy jurisdictions between Scotland and the UK.

Each of these political science lenses therefore focuses on distinct aspects of the policy process and a more complete understanding of the policy process is provided by the use of multiple theories. Additional political science theories (such as Sabatier's advocacy coalition framework or Hall's paradigm changes) could provide further insights but a balance is required between parsimony and comprehensiveness.

9.3 Reflections on methods

9.3.1 Overall methodological approach to the research

This thesis has a number of strengths. The use of two different case studies provides insights which would not be possible if relying on a single case study. The case studies have been chosen to allow a relatively broad area of public health policy (the English public health White Paper) and a more specific area (minimum unit pricing of alcohol) to be studied in greater detail. These topics were also chosen for their substantive interest, as well as to illuminate the relationship between evidence and policy.

The study of only two case studies provides limited opportunity to investigate the role of context, which would ideally require the availability of a larger number of diverse case studies. Similarly, these case studies have been chosen purposively and cannot therefore be considered representative examples of the policy process. The extent that these findings may be transferable to other areas of public health policy and to other settings is unclear. However, the findings in this thesis, highlighting the contingent nature of the evidence-policy relationship and the multidimensional influences of evidence, are in keeping with previous literature that has investigated the policy process in other areas of

public policy and strengthens confidence that similar processes may operate elsewhere (Nutley, Walter et al. 2007; Hill 2013). One important area that this thesis does not explore is the policy process at the supra-national or sub-national levels. Many of the determinants of health are influenced at these levels (for example, through international trade agreements in relation to the former or local authority decisions for the latter). Comparisons of findings from this work with empirical research of public health policy at these other levels would be valuable.

The thesis has been informed by academic perspectives derived from a diverse field of literature. While there is increasing interest in the application of political science and social science perspectives in public health, much academic public health research remains relatively insulated from these disciplines. The author's medical background and personal interest in public health has meant that this research has intentionally sought to remain firmly situated within the domain of public health research, rather than exploring the political science or social science aspects in greater detail. For example, the investigation of minimum unit pricing has focused on the policy's development with a view to identify potential lessons for public health practitioners and researchers. An alternative and fruitful perspective would have been to explore how discourses in alcohol policy are produced and reproduced by dominant interests that reinforce a free market ideology, with the analysis serving to expose the inherent contradictions presented in such arguments (a normative critique, in Fairclough's terms (Fairclough 2010)).

9.3.2 The English public health White Paper

There are a number of methodological strengths of the approach adopted to study the 'Healthy Lives, Healthy People' White Paper. First, a systematic and transparent approach to reviewing the evidence on effectiveness of interventions for a broad area has been taken. This includes the use of two reviewers to independently identify interventions to include and a systematic approach to the identification of relevant evidence. Given the breadth of topics reviewed and to assist in the results being timely, it was not possible to carry out *de novo* systematic reviews for each intervention. However, advice from relevant experts has been sought to ensure the appropriateness of the evidence considered. It should be noted that consultation with experts may inevitably introduce

bias in comparison to a systematic review, but given the challenges in reviewing such a broad range of literature, this was deemed the best available option.

A number of limitations exist with this empirical assessment of the evidence base for a policy document. First, despite best efforts, it is likely that some relevant evidence will not have been identified. However, an argument in favour of the approach described here is that an imperfect (but timely) assessment of the evidence base is likely to provide a helpful picture of the overall White Paper while not necessarily being completely accurate for any single intervention. Given the focus of this chapter is on the White Paper and making an overall assessment of that policy document, the main conclusion that many interventions lack evidence to support them is likely to be robust.

Second, interventions in the White Paper are often not clearly described, making it difficult to create a list of interventions for which evidence can be sought. Indeed, by defining policy loosely, this can allow policy to be reinterpreted by those responsible for implementation which can both serve political interests and result in better outcomes (as those responsible for administering policy make use of their discretion). However, the loose definition of interventions in policy documents makes assessment of the relevance of retrieved evidence difficult. Detailed evidence summaries are available in Appendix 1 to help facilitate transparency in the approach undertaken and allow others to examine the interpretation of evidence for themselves.

Third, even if evidence for a clearly defined intervention is found, it does not always allow a straightforward assessment of effectiveness. Difficulties in determining the applicability of evidence for a UK-context, contradictory evidence (both within and between studies) and the lack of longer-term follow-up (which would allow maintenance of intervention effectiveness to be assessed) were recurring problems. For this reason, two reviewers have independently judged the state of the relevant evidence, but this process is not unproblematic (as reflected in the moderate agreement of the kappa scores). However, the extent that evidence of effectiveness is transferable between settings remains a challenging and largely unresolved issue in much of the literature. While some tools have been developed based on expert opinion (such as the approach adopted by NICE in this study or the RE-AIM framework (Glasgow, Vogt et al. 1999)), these lack an empirical grounding.

Fourth, it was frequently necessary to make use of evidence investigating the mechanisms of an intervention, particularly for the social determinants of health, in order to identify the likely impact of a policy. It is therefore possible that assessments of the evidence underpinning a specific intervention may be erroneous, but again the overall implications of these findings are likely to be robust.

Fifth, assessment of the Nuffield ladder using a standardised approach is arguably problematic. In particular, it was clear that although good agreement between the two reviewers was achieved, assessing the level of the Nuffield ladder an intervention operated on remained a subjective assessment, with one peer reviewer of a paper based upon work within this chapter noting that they would have reached very different conclusions regarding some of the interventions (Margaret Whitehead, Personal Communication). Despite these limitations, the systematic assessment helps support the findings of the critique – particularly, suggesting that the principles behind the ladder of intervention have been altered from those originally described.

Finally, the predominant approach to investigating the two conceptual forms of evidence has been based on critical assessments of their application. This approach involved first, reviewing the original evidence; second, identifying how the evidence is incorporated into the rhetoric presented within the White Paper; and finally, critically contrasting these two articulations with indicators of their application to describe specific policy actions. While this approach facilitates relating evidence-based ideas to rhetoric and ultimately to stated actions, the reliance on published actions within the White Paper means that only a narrow range of stated actions are considered. These actions may differ markedly from those ultimately pursued by the government. A reliance on the White Paper as a source of data also limits the detail that can be obtained for investigating the journey from evidence to policy. However, the identification of disconnects between prominent evidence-based ideas and stated policy is striking and points to the utility for further unpacking the influence of specific pieces of evidence.

9.3.3 Document analysis for minimum unit pricing policy

The analysis of documents has been particularly helpful for this research in a number of ways. The review of published policy documents allowed a narrative of key events to be

established. This was necessary to allow the researcher to have some (albeit limited) knowledge of the policy background prior to conducting interviews and thereby allowing the utility of interview time to be maximised by avoiding focusing unduly on material which could be readily obtained from other sources. In addition, this process helped the interviewer to position themselves to the interviewee as a credible researcher which in turn helped increase the chance of recruitment and quality of interview data obtained.

The documents produced by the Scottish Parliamentary process provided an important resource for analysis. In particular, evidence submission documents have allowed a systematic approach to examining the different positions adopted by actors involved in the minimum unit pricing policy process. These written documents also provided an indication of the stated reasons for adopting a specific position with respect to minimum unit pricing and allow the range of arguments to be mapped. This information has again been helpful in planning interviews and has informed the development of the interview schedules.

Despite the advantages of studying these documents, their analysis is not unproblematic. The policy documents and evidence submissions should be considered as having a functional role – that is, they are created with the intention of furthering an aim (or more usually, several aims). They are therefore not merely reflections of the authors' views but rather documents that seek to change the world they are part of. The production of documents by authors occurs within a particular context and from an analytical perspective, an awareness of this context is therefore necessary to help appreciate the interaction between document and intended audiences. Documents are frequently written with multiple audiences in mind. For example, authors of Scottish Government alcohol policy documents are aware that the public, political audiences, industry interests and the media will understand a single policy document in many different ways. Similarly, although evidence submission documents clearly had an intended audience of the Scottish Health and Sport Committee, authors would have been aware that the material would be available to other audiences (with the media perhaps being most relevant). Furthermore, authorship of policy documents (and to a lesser extent the evidence submissions) do not typically represent the work of an identifiable author or authors but

rather present the position of an organisation. As such, conflicts and tensions amongst those associated with a stated position may be (to some extent) hidden.

The field of tobacco control has greatly benefited from the availability of internal tobacco industry documents obtained as a result of litigation, which allow details about the methods used by corporate actors to influence the policy process to be investigated (Collin, Lee et al. 2004). Similar documents have been unavailable for alcohol policy and the documents analysed within this thesis cannot be considered analogous given the differences in their production. That said, the documents analysed have provided a valuable insight into understanding alcohol policy as a result of the relative transparency of the Scottish Parliamentary process.

An important strength of the research presented is the use of a theoretically derived political science argumentation framework. In contrast to the more widely used literature on framing derived from media studies, this theory has been specifically developed to allow a better understanding of political context and therefore allow the relationship with policy change to be more clearly understood. The use of an argumentation framework allowed specific components of argumentation to be identified while allowing the different argumentation framings to emerge from the data. Combining document analysis with interview data (see below for further discussion) has been particularly informative. However, challenges remain in establishing the extent that the mechanisms described have been causally responsible for policy change. Further case studies would help to establish the importance of policy framing.

9.3.4 Interviews for minimum unit pricing policy

Collection and analysis of interview data raise a number of methodological issues. Data collection was carried out during a period of time when minimum unit pricing policy had a high profile amongst politicians, civil servants and the media. The pool of potential interviewees was also relatively small and given their professional positions, their time available for interviews was limited. It might therefore be expected that recruitment into the study would be particularly difficult. However, most potential interviewees generally responded positively when being invited to participate. A number of difficulties did occur during recruitment. First, achieving access to invite some individuals to participate proved

difficult. In particular, some individuals working within the alcohol-related industries had a high job turnover and finding their contact details at times proved difficult. Second, a number of interviewees would express a willingness to be interviewed but then require repeated attempts to schedule an appointment or cancelled meetings at the last minute. At times, this appeared to be a result of a lack of available time but on some occasions, political events appear to have made interviews untenable at that time. Therefore, long periods of time and considerable persistence were required to achieve the interviews necessary. Third, qualitative interviews by another research team to study the role of alcohol-related industries on alcohol policy in the UK had been recently conducted (Holden and Hawkins 2012; Holden, Hawkins et al. 2012). It is therefore possible that recruitment may have been less successful given this recent study, partly as a result of respondent fatigue but also if the previous research experience had been viewed in negative terms (if, for example, the research findings appeared damaging to the actor's own interests). Fourth, while recruitment was largely successful, some individuals who are likely to have unique insights into the policy process were not interviewed. It is possible that these individuals may be willing to be interviewed in the future, when the policy debate is more settled, but it appears unlikely that any alternative methodological approach could have addressed this gap. There is a chance therefore that potentially important factors remain unidentified but the purposive sampling frame minimises the risk of this. A related point is that the data obtained inevitably reflects the political context at that time (Desmond 2004) and since interviews have necessarily been conducted at different times, the specific context for each interview required consideration during the analysis.

Some factors appear to have been successful in assisting recruitment. First, a number of interviewees highly valued the confidentiality provided and were only willing to participate on this basis. Similarly, a small number of interviewees were willing to only take part in the research on specific provisos such as that no quotations were used or the interview was not recorded. Second, some interviewees only agreed to take part after hearing favourable comments about the research from other interviewees. This therefore helped recruitment but did pose occasional challenges in ensuring confidentiality (where the interviewer was unable to confirm the participation of a colleague, for example). Third, a few interviewees commented on the Medical Research Council's (MRC)

sponsorship of the research. It therefore appears likely that the MRC's reputation has allowed interviewees to be comfortable that the research would be worthwhile and carried out to a high standard. However, it is also possible that some potential interviewees may have refused to participate as a result of the MRC's affiliation.

Much qualitative research within the health field has focused on exploring the perspectives of patients or other potentially vulnerable groups, raising issues of interviewers having greater power over the interviewees. It was the reverse in this study, where interviewees could be considered 'elite' (Desmond 2004; Smith 2006; Neal and McLaughlin 2009). Elite interviews are characterised by power relationships being either more equal or reversed, since many interviewees occupy high-level positions within their respective organisations. While it has been argued that the distinction made between elite interviews and other qualitative research has sometimes been overemphasised (Smith 2006), some interviewees did appear to check the interviewer's credentials in the early stages of the interview by, for example, checking familiarity with key policy documents or research studies. Thus, some of the detailed discussion about the nature of the Sheffield model (Chapter 7) may reflect this context. In addition, greater use of specific closed questions was required to ensure adequate data were obtained as some interviewees had considerable experience in being interviewed (especially by the media) and would therefore seek to emphasise key aspects of their message rather than always responding to specific questions posed. This is occasionally reflected by the use of closed questions in some of the interview data presented within the thesis.

The approach to ensuring confidentiality of participants differed from that initially planned. Originally, the author intended to ask interviewees for permission for the use of any quotation they provided, with ethical approval obtained on this basis. This approach minimises participant burden since interviewees need to only check specific quotations in the context of end-products that are ready for dissemination. However, the adopted alternative of seeking approval for an anonymised transcript was pursued because:

1. Interviewees may disagree with the uses to which their quotations have been put and withhold permission solely on that basis.

2. Ongoing communication would be required with the interviewees over a fairly long period of time. This raises pragmatic difficulties since changes in job are common within the alcohol policy sector and loss of contact with those interviewed could have threatened the writing up of the research.
3. The data collected could potentially be used for future secondary qualitative analysis. While care would be needed to ensure anonymity (and hence preclude sharing of the dataset), future collaborative research remains possible using the anonymised transcripts.

The use of this method for achieving confidentiality may have, however, contributed to some interviewees refusing permission for the use of quotations or may have resulted in more guarded responses by interviewees. However, the frankness of some interviewees suggests that this is unlikely to have compromised the findings to any great extent.

Lastly, the use of interview data always requires consideration of issues of reflexivity which may have influenced both data collection and analysis. The implications of the researcher's position on the findings have been considered in section 4.7.

9.4 Implications of multi-level governance

The case study of minimum unit pricing illustrated the increasing importance of multi-level governance. The implications of the ongoing devolution process within the UK for health systems have been studied in detail (Greer 2004; Greer 2005; Greer 2008) but the implications for public health policy have been less considered (with Reich 2002 providing an unusual example). Recent reforms in England have resulted in the move of many public health professionals from the NHS to local authorities (Department of Health 2011a), which also make insights from the multi-level governance literature potentially particularly helpful.

9.4.1 Multi-level governance: Implications for public health

Differing tiers of government and increasing non-governmental influence poses several challenges to the traditional understanding of the nation state as responsible for, and in charge of, its citizens (Bache and Flinders 2004). Within the UK, devolution has meant responsibility for any given policy area is not always clear cut with each devolved government within the UK having different responsibilities that evolve over time (Cairney 2012). In addition, many policy areas cross government department boundaries so that decisions on one policy area made by one tier of government may impact on other departments based on different tiers. More confusingly, responsibility for a policy decision could legitimately lie across several levels of government. In such cases, the framing of a policy issue becomes crucial (Cairney 2007b).

9.4.2 Opportunities for public health

The emergence of new political arenas provides new venues for public health to try to access and influence. Public health advocates have often been seen as having relatively little power compared to other interest groups (Adams, Buetow et al. 2010). For example, alcohol campaigners walked out from the UK Government's public health responsibility deal network citing their voices being sidelined in comparison to those of the alcohol industry (Alcohol Concern, British Association for the Study of the Liver et al. 2011). In such circumstances, when political influence is proving difficult to achieve, greater success may ensue if advocacy efforts are pursued elsewhere. In the context of devolution, this may be particularly the case as the limited responsibilities of devolved authorities may mean that public health is afforded greater importance, since some traditionally politically important areas (such as taxation or foreign policy) are matters reserved to the Westminster Government. It has also been suggested that new political arenas may be more open and willing to consult widely (Cairney 2011a). While the extent that such styles of 'new politics' operate in reality is contested, smaller geographical areas may mean that public health advocates are better able to gain access and develop a close working relationship with politicians and civil servants (Cairney 2008). This may be especially true if devolved institutions lack the civil service capacity of central government and therefore, of necessity, draw upon external sources more readily.

Differences in party politics between levels of government may open up opportunities for new policy that would not have been previously available. Clearly, the case study of minimum unit pricing shows that the existence of different party politics in Scotland facilitated policy development. However, these new policymaking venues do not just represent a ‘second bite of the cherry’ but also allow the opportunity for more closely tailoring advocacy to local health needs through, for example, the production of statistics perceived as locally relevant. Scotland has long been considered the “sick man of Europe” with worse health outcomes compared to the rest of the UK, a fact widely known by Scottish policymakers (McCartney, Walsh et al. 2011). Epidemiological evidence of Scotland’s far higher level of alcohol harms (Leon and McCambridge 2006) is therefore likely to be more easily perceived as an appropriate policy response to the local context. This is likely to have been a factor in the earlier willingness to take action on alcohol in Scotland, as exemplified by the creation of an alcohol strategy two years prior to England’s. In this latter example, it is worth noting that party politics are less likely to have been important given the Labour Party led both Scottish and UK Governments.

Once a public health policy has been adopted by one administration, it is possible that this may help bring about the conditions for its use elsewhere (Dolowitz and Marsh 1996). Within the UK, the spread of a comprehensive ban on smoking in public places provides an obvious example (Cairney 2009). It is worth noting that for both the smoking ban (and for minimum unit pricing in Scotland), developments at above the nation-state level, especially those led by the World Health Organization, have been helpful in assisting policy development. A clear example of such a development is the WHO Framework Convention on Tobacco Control, which is credited with helping foster legislation to reduce the burden of smoking-related harms across many countries (World Health Organization 2009).

Lastly, institutional constraints on areas of policy competence may drive policy innovation. The minimum unit pricing analyses demonstrate this well. The Scottish Government’s limited competence to increase alcohol duty has undoubtedly been a contributory factor in the development of minimum unit pricing as a policy response. Those in favour of minimum unit pricing proposals argue that it may be a better or complementary mechanism for addressing alcohol-related health harms than alcohol

taxation (House of Commons Health Committee 2009b; Health and Sport Committee 2012). This is particularly true in the context of current legislation allowing retailers to opt not to pass alcohol tax increases onto consumers (in the UK, large supermarkets have been particularly criticised for selling alcohol at a loss in order to increase footfall). Therefore limits on institutional competence may act as a driver for policy innovation which results in interventions that are more effective in improving public health.

9.4.3 Challenges for public health

The evolving changes in the political architecture bring about fresh challenges for the public health community. While opportunities for promoting public health may become more frequent, the freedom of each decision-making arena is necessarily limited by the powers of other levels of government. Therefore, while political windows of opportunity may arise at different tiers of government, public health may require the engagement of a specific decision-making forum or even simultaneous windows of opportunity at multiple levels to pursue certain policy options. These issues are illustrated in relation to health inequalities later. Furthermore, while political opportunities may become more likely, this is by no means inevitable. No differences in political opportunity may exist, for example, if a political party governs across several levels of government and deliberately pursues a consistent policy across jurisdictions to avoid being perceived as pursuing incoherent policy (Cairney 2011b). Also, rather than multiple authorities taking an interest in a policy area, the opposite situation could occur. Where a policy area is perceived as unpopular, it may be neglected to avoid taking on political responsibility for addressing a particular problem.

Efforts to introduce public health action may be thwarted by opposing influences seeking recourse to different authorities. For example, tobacco companies have lobbied for the introduction of business impact assessments at the European Union-level in order to help provide an economic framework for discussing social policy decisions (Smith, Fooks et al. 2010). Importantly, the dominant direction of policy might be determined in decision-making venues less amenable to public health considerations. For example, it has been argued that international trade agreements (negotiated at the European Union or World Trade Organisation) have favoured free-market approaches that work against alcohol

control efforts (Zeigler 2009). The overarching framing of a policy issue is likely to be viewed within an institutional logic that presupposes increased free trade as a primary goal to be pursued in such circumstances (Labonte 1998). Legal considerations which may operate at different tiers of government further complicate the choice of public health actions that can be pursued, although these may not curtail public health interests as much as sometimes presumed (Baumberg and Anderson 2008). This may be particularly the case where trade interests need to be weighed against potential health benefits as illustrated by the European Commissioner for health and social policy's rejection of plain packaging for cigarettes (Anon 2012b).

The proliferation of decision-making venues may pose capacity issues for public health. While public health experts may not have the time and resources to engage with policymakers at multiple levels simultaneously, this may not be the case for others such as corporate lobby groups (Holden and Hawkins 2012). Competing interests which seek to influence policymaking in an area unrelated to health may capture the attention of decision-makers over public health advocates, or more worryingly, industry hostile to a public health initiative may be able to out-compete across several decision-making venues. Engagement with the multitude of local authorities may in particular pose capacity issues since public health input may be sought across potentially small localities. For example, the new alcohol licensing system in Scotland has introduced a public health consideration but this appears to have been relatively under-used – partly due to the difficulties and time required for engagement with small area licensing boards (MacNaughton and Gillan 2011).

Finally, the split of responsibilities across levels of governmental and non-governmental authorities may make coordinated solutions to a public health issue difficult. The need for coordinated action is more likely to be of importance in addressing public health issues that exhibit complexity since isolated actions alone may not be effective. This is illustrated in relation to tackling health inequalities in Scotland since this clearly exemplifies the issues involved but similar issues apply elsewhere and for other areas of public health policy.

The Commission on Social Determinants of Health argued that tackling health inequalities requires coordinated action across a number of policy sectors including health,

employment, welfare and early years (CSDH 2008). For these to be addressed within Scotland, coordinated policy action is not just required across governmental departments but also across levels of government. In practice, there is therefore a requirement for political will to tackle health inequalities across multiple agencies – in local authorities, the Scottish Government and the UK Westminster Government – to allow a comprehensive and coordinated approach to be pursued. While, the Scottish Government has pursued a strategy to address health inequalities (Scottish Government 2008b), the actions outlined in the strategy are necessarily limited to those areas devolved to it. A number of challenges are therefore faced by public health advocates in their attempts to address health inequalities. First, effective action will require not just coordinated advocacy across sectors but also across multiple layers of government. Second, it is unclear whose responsibility tackling health inequalities is, or should be. Indeed, while the Department of Health at Westminster was singled out for the lack of progress in addressing the issue following the previous review on health inequalities, only a minority of policy actions identified by either review lie within its remit (Higgins, Katikireddi et al. 2011). Third, it appears difficult to ‘frame’ the policy actions necessary as falling within the responsibility of any single level of government. This therefore limits the capacity to make use of ‘venue shift’ strategies to overcome party political reticence at any given institutional level.

9.4.4 Lessons for public health

Multi-level governance poses both new opportunities and threats to effective public health action. While the impacts of devolution on health system divergence are well documented (Greer 2004; Greer 2005; Greer 2008), less recognition exists of the impacts of multi-level governance on public health (Smith and Hellowell 2012). A number of new opportunities exist for public health to influence policy decisions but future efforts at public health advocacy may require incremental changes in a piece-meal fashion, as political power is increasingly diffuse. However, changes in institutional contexts may help facilitate the emergence of novel public health policy, with the potential for greater public health gain than more traditional approaches. The implications of this consideration of multi-level governance do not just apply within the UK but also illustrate

the potential for evidence to influence policy in other political systems with multiple levels of political representation, including North America and Europe.

9.5 Evidence and policy: A conceptual model

Building upon the findings of the thesis, this section of the discussion will introduce a conceptual model for considering the relationship between evidence and public health policy. This model is presented as a means of drawing together a number of the theoretical implications of the thesis. However, it is not intended to serve as a comprehensive model for the functioning evidence in the public health policy world but rather, the hope is to stimulate future debate regarding how public health researchers and professionals engage with the world of policy.

The model will build on the work of political scientists that view policymaking as a process of resolving competing values (Majone 1989; Stone 1997). Following on from this, the importance of the definition of policy issues for debate is highlighted as a means of understanding the policy process and also, considering the role of evidence. In particular, it will be argued that evidence not only informs which options to pursue for a given decision but perhaps more importantly, what issues require decisions.

As is common in much of the evidence-based public health literature, it is helpful to take the evidence-based medicine movement as a point of departure. Evidence-based medicine can be defined as:

[...] the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients (Sackett, Rosenberg et al. 1996, pg 71)

Seen from this perspective, the purpose of evidence is to establish ‘what works’ to achieve the specified goal (of improving health). In reality, other goals are also incorporated into real-world clinical decision-making, with the most often explicitly considered being efficiency (primarily in economic terms), but also equity (Gray 2009). At the level of the individual clinician, these conflicting goals are often not directly weighed

against each other since agreed codes of professional practice emphasise the importance of treating the individual patient. Even here, however, conflicts over the patient and professional perspectives occur, resulting in the acceptance that evidence can be used to develop guidelines but not rigidly constrain practice (Sackett, Rosenberg et al. 1996; Djulbegovic, Guyatt et al. 2009).

In the case of public health policy, there are a number of reasons to expect that conflicts over values are more likely. First, public health policy, as considered in this thesis, frequently cuts across policy sectors and may often result in one sector benefiting at the expense of another. While there are indeed many policies which result in benefits across multiple sectors, the costs imposed by the introduction of a policy (particularly if financial resource is required), may need to be borne solely by one policy sector. Second, the number of actors involved in decision-making is greater than the classical scenario of the clinical decision. An important insight into what constitutes the political is highlighted by Stone:

Because politics and policy can only happen in communities, community must be the starting point of our polis [model of political life]. Public policy is about communities trying to achieve something as communities. [...] Unlike the market, which starts with individuals and assumes no goals, preferences or intentions other than those held by individuals, a model of the polis must assume both collective will and collective effort. (Stone 1997)

Therefore, politics as articulated above necessarily involves interaction between people to make collective decisions rather than decision-making amongst solitary individuals. In contrast, the ideal-type clinical decision-making scenario is sometimes presented as involving a singular decision-maker (Straus, Richardson et al. 2005). Under such circumstances, conflicts over the competing values held by different actors disappear since the decision-maker is assumed (usually implicitly) to weigh up the different values to allow the goal of a decision to be determined. However, this distinction appears overstated since clinical decisions are not usually made by a single individual (either doctor or patient). Instead, as indicated above, values may potentially conflict between – most apparently – the doctor (or other health professional) and patient. Despite this caveat, public health policy is arguably different since actions often require the

“organised efforts of society”. As such, the potential for differences in the values underpinning decision-making may require negotiation between a larger variety of groups, raising the possibility of greater conflict over values underpinning the goals to be pursued. Institutions can be seen to share embedded values within themselves, thereby facilitating decision-making for the policy area they have a remit over (Béland 2009). However, in so doing, they may stifle policies that operate across policy sectors.

The empirical findings presented in Chapter 3 highlight the variable role of evidence in policy decisions. In particular, it was notable that some areas appeared to more directly draw upon evidence (for example, tobacco and the early years) while other areas reflected the evidence base poorly (such as food and welfare). By examining the case study of minimum unit pricing, the importance of policy definition (which is consistent with some of the political science literature) was identified as an important aspect in understanding the development of policy. Further chapters illustrated that evidence has been crucial in policy development. Importantly, the roles of evidence were not limited to determining the best course of action but also appeared to help define the policy issue that required addressing. As described in the literature review, previous research in the political science field suggests that policymaking is a process in which the actors involved experience considerable ambiguity and are unable to identify their best interests in a comprehensive manner (Simon 1955).

In contrast to the rational model of decision-making, political actors frequently do not have clearly defined, fixed interests that they seek to pursue. In other words: “Interpretations are more powerful than facts” (Stone 1997). Hence, political actors engage in a process of ‘sense-making’, assisted by evidence. In this process, Stone identifies the importance of defining actions as guided or unguided and defining consequences as either intended or unintended for the policy process (Stone 1989). Building upon this perspective, two related aspects of issue definition can be tentatively identified for public health policy: first, where the cause(s) of a policy problem are located (at the individual- or population-level); and second, whether the cause(s) of the policy problem are viewed as controllable or not (see Table 9.1). Evidence plays a role in changing the causal story that underpins public health policy. At the individual-level, a classic example of a disease discourse which is viewed as arising in an uncontrollable

manner is cancer. Over time, epidemiology has helped move many diseases from being considered as caused by uncontrollable factors to being viewed as amenable to human intervention (W.Holland, Olsen et al. 2007). However, caution is needed that in doing so, discourses of responsibility do not act to stigmatise vulnerable population groups (Leichter 2003) – a development observed most clearly in relation to tobacco use (Graham 2012). At the population level, evidence can play a similar role in moving causal stories from the uncontrollable to the controllable, so that they become perceived as potentially amenable to policy intervention. Last, it is worth noting that causal stories can move from the individual to the population-level and vice versa. Tobacco policy is striking as having successfully moved causal stories from the individual-level to the population-level, with the effects of passive smoking having been particularly influential (McKee, Hogan et al. 2004).

Table 9.1: Causal stories in public health policy, as exemplified by alcohol policy

	Uncontrollable Cause	Controllable Cause
Individual	Responsibility not ascribed to an actor results in low value contestation and individual-level solutions e.g. alcohol addiction requires treatment	Low policy priority since harms are ‘just desserts’ of poor choices e.g. individual drinkers must take responsibility for their actions
Population	Societal action to mitigate effects but cannot tackle causes e.g. Scotland’s culture of alcohol implies an intransigent object	Societal action to address causes e.g. Scotland’s cheap alcohol as a cause of health harms assists in population policy interventions

The findings of the empirical work presented have been used to develop a putative model for considering the likely influence of evidence on the policy process. The model presented (see Figure 9.1) suggests the existence of (at least) two key dimensions by which evidence sense-making influences the policy process. In terms of the first dimension, evidence can increase or decrease the level of salience that a policy issue has to policy actors; an increase in salience can help turn a policy ‘issue’ to a policy ‘problem’ (itself influenced by the definition of the causal story described above). A policy issue that

appears to be salient to relatively few policy actors is more likely to be the domain of a relatively small policy community which is therefore more amenable to establishing shared values for decision-making. For the second dimension, evidence plays a role in helping conceptualise the policy issue which, in turn, results in some values being privileged over others. This process of value contestation therefore helps in the definition of the goals of policy, with goals potentially being deliberately ambiguous and contradictory (especially in situations of high value contestation). Importantly, the extent of value contestation and the level of salience interact so that changes in the values that underpin policy may result in a change in the perceived salience of an issue to specific actors and vice versa.

Drawing upon a systematic review of knowledge exchange processes, Contandriopoulos and colleagues argued that the way evidence is used varies depending on the level of issue (or value) contestation (Contandriopoulos, Lemire et al. 2010). While they focus on understanding which actors bear the costs of knowledge exchange activities, their work suggests that the way evidence is used is likely to vary with context – a hypothesis supported by the previous work presented in this thesis. This insight is incorporated into the conceptual model presented by suggesting that the extent that evidence is used in an instrumental fashion varies depending on value contestation.

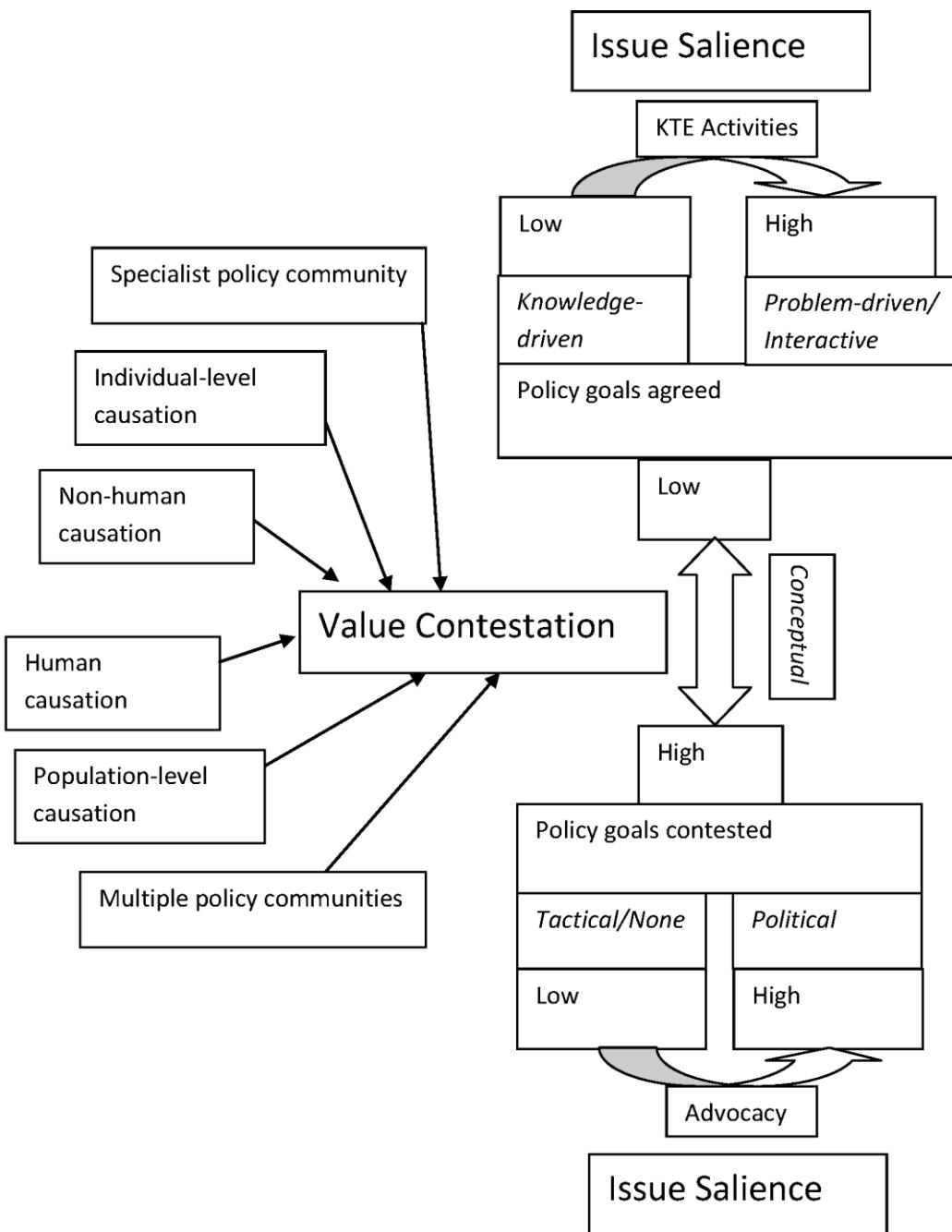
Given the above argument and the findings presented, it should be apparent that there is often not always a clear-cut distinction between objective facts and political values in policymaking. The work of Aristotle on argumentation (i.e. “the action or process of reasoning systematically in support of an idea, action, or theory” (Oxford English Dictionary 2011)) is particularly informative. According to Aristotle, argumentation includes: analytic (argument based on provably true premises i.e. the basis for most scientific practice); dialectic (debates for and against a specific position); and rhetoric (appeals to previously agreed values or positions) (Greenhalgh and Russell 2006; Aristotle 2012).

The model presented suggests that different aspects of argumentation become more important depending on the policy context. Instrumental use of evidence (which is more closely aligned to an analytic, and to a lesser extent dialectic, mode of reasoning) is more likely in areas where values are less contested and under such circumstances, there may

be greater scope for knowledge transfer and exchange activities to be successful. For example, in areas of low salience and low value contestation, the adoption of new interventions, such as a new medication which can be easily administered, may be facilitated by increasing awareness and communicating new guidelines to practitioners. These knowledge transfer strategies serve to increase the salience of an issue to decision-makers. Similarly, health impact assessment could be considered a means of increasing salience of health aspects in non-health policy areas while usually seeking to minimise value conflicts by explicitly engaging with stakeholders to determine the scope of actions to be considered (Davenport, Mathers et al. 2006).

In areas of high value contestation, evidence is more likely to be drawn upon as rhetoric, including to clarify trade-offs between competing values. In such areas, policy issues are constructed through debate, may correspond poorly to sector boundaries and actors are highly (but imperfectly) aware of their own effects on the policy process and therefore engage in deliberative strategies. Eventually, these competing values may result in a new agreed definition of the policy issue (and associated goals) and hence result in the extent of value contestation falling. Alternatively, the policy issue may lose salience over time and result in an absence of debate on the issue. The influence of evidence in changing the conceptualisation of a policy issue appears particularly important in areas where values are contested (as illustrated by the findings presented in Chapter 6). In contrast to less contested policy areas, it can be hypothesised that evidence is more likely to influence the policy process through a process of advocacy and attempts at engaging in 'neutral' knowledge exchange are likely to be only successful when the evidence is in keeping with the dominant policy perspective.

Figure 9.1: A conceptual model for the influences of evidence in public health policymaking



The model presented will undoubtedly benefit from revision after further empirical work in other areas of public health policy but provides a useful approach for understanding when evidence is likely to be instrumentally or rhetorically used in the policy process. In particular, the model makes a number of testable hypotheses:

- Value contestation is likely to be greater for multi-sectoral policy issues than when a policy area lies clearly within the domain of a single institution
- Value contestation is also likely to be greater for population-based interventions
- In areas of high contestation, a ‘crisis’ is likely to be required to allow policy change or a change in framing to allow re-definition of the policy issue to become less contested
- Knowledge transfer and exchange activities are expected to be less successful in policy areas where values are contested
- Conceptual influences of evidence are likely to be more important in areas of high value contestation
- High value contestation is an inherent barrier to the instrumental use of evidence so greater ‘evidence-based’ actions are expected in areas of low contestation

An important limitation of the model is the difficulty in establishing whether an issue is highly contested or not. One approach to investigate this would be to study the causal stories that dominate a given policy area to help establish the level of contestation (with population-based and controllable causal stories being expected to be more contested). A more sophisticated empirical approach would be to longitudinally establish policy actors’ own perceptions of the areas viewed as high politics and low politics.

It is hoped that the model may ultimately serve to facilitate those engaged in public health research and advocacy efforts to (albeit inevitably imperfectly) better understand the relationship between evidence and the policy process so that they can better tailor their strategies to improving public health. However, further research is needed to engage with potential users to assess the utility (or otherwise) of the above model.

9.6 Evidence-based public health

The tentative model presented above, alongside previous research carried out by others, suggests a number of risks and benefits of being ‘evidence-based’ for public health professionals and researchers. In this section, some of these are considered and the author’s perspective for the future of public health engagement with the policy process is articulated.

In Chapter 2, epidemiology was presented as the science underpinning public health. Key to epidemiology has been its attempts to identify causal factors for health and disease in order to assist in the development of preventive and curative interventions.

Epidemiological evidence can locate causation (and hence potential solutions) at multiple levels, with one simple distinction being between the individual-level and the population-level. However, as previously noted, causation is often more easily established at the individual-level. This therefore results in what has been termed a ‘lifestyle drift’ where individual behaviours are often focused upon, rather than their population determinants (Leichter 2003). Interventions aimed at the individual- rather than population-level may also be construed as less value-contested in liberal societies such as the UK, since these interventions can be presented as a matter of individual choice (Stone 1997).

The focus on evidence implied by the term ‘evidence-based’ or even ‘evidence-informed’ public health can therefore appear problematic. It has been argued that such discourses can obscure the normative debates that underpin decision-making, with questions about whether governments have a role in improving population health being neglected in favour of a focus on ‘what works’ (Tannahill 2008). Another important argument against being evidence-based is that the most important public health gains have been achieved in the absence of a solid evidence base, rather than as a result of it (Smith, Ebrahim et al. 2001). In some situations, experimental evidence may be inappropriate when immediate outcomes are observable and the results are consistent with an understanding of theory – an example provided by a systematic review of the health benefits of parachute use to address gravitational challenge (Smith and Pell 2003). Lastly, it has been argued in this thesis that evidence as rhetoric plays (and should play) a fundamental part in the policy

process, particularly in relation to helping actors better prioritise the competing values/goals of public policy.

These above limitations have been presented as posing challenges to the evidence-based, or even evidence-informed, public health movement. However, a rejection of the role of evidence would, in the author's view, be worrying. Many of the above debates have been considered in detail within the public health literature, with considerable efforts underway to broaden the perspective of what constitutes evidence for decision-making so that population-based interventions which are genuinely not amenable to experimental evaluation are less neglected as a result of methodological difficulties (Ogilvie, Egan et al. 2005; Craig, Cooper et al. 2011). Furthermore, the fact that some previous public health benefits have been realised despite a lack of *a priori* evidence does not necessarily provide an argument against its use in the future. Rather, it suggests that a lack of evidence should not be equated with a need to delay action until the evidence is available, a point acknowledged by advocates for the increased use of evidence in public health (Macintyre 2003). The many reasons that high quality evidence can be helpful for policymaking remain, including the potential for unanticipated harms (Macintyre and Petticrew 2000).

Concerns about the limited role of instrumental evidence in areas of high value contestation need not be equated with a rejection of the importance of scientific principles. Instead, there is arguably a role for public health professionals to become more aware of the scope of rhetoric in the relationship between evidence and policy (although it is acknowledged that many of those closely involved in policy already have developed this awareness). In particular, there is a need to consider the potential for public health advocates to make use of evidence for rhetorical purposes and put forward the case for taking a public health perspective in policy debates. It remains crucial that the actual argument presented (*logos*) should still be based on the best available evidence, particularly since public health actors derive much of their legitimacy in the policy arena (*ethos*) from their command of the evidence. If public health actors were perceived as ignoring or wilfully misrepresenting the evidence base, this could have a long-lasting negative impact on their ability to influence the policy process. Rhetoric requires coupling these two elements with the highlighting of public health values

(pathos) and since health is widely held as an important good for society, public health professionals are in a good position to do so (through, for example, the quantification of health harms). This alternative perspective of being ‘evidence-based’, which involves presenting an evidence-informed public health argument, rather than communicating the findings of a study to policymakers for its instrumental use raises important questions about the distinction between research and advocacy. For example, should researchers be involved in deliberate advocacy efforts? More detailed consideration of such questions lies outside the scope of this thesis but nevertheless require further attention within the public health community.

9.6.1 The current focus on research impact

Within the UK (and elsewhere), there is an increased focus on researchers demonstrating the impact of their research on the real world. The wealth of evidence in the public health field illustrates how private sector funding of research can adversely shape research priorities and funding (for example, Grüning, Gilmore et al. 2006). More recently, social science research has identified a more subtle ‘squeeze on academic spaces’ that arises as a result of shifts in the funding processes of public research funding institutions (Smith 2010a). By studying the relationship between evidence and policy in the area of health inequalities policy within the UK, Smith argues:

The findings suggest that the growing pressure to produce ‘policy relevant’ research is diminishing the capacity of academia to provide a space in which innovative and transformative ideas can be developed, and is instead promoting the construction of institutionalized and vehicular (chameleon-like) ideas. (Smith 2010a, pg 176)

The minimum unit pricing policy process and the framework outlined above both highlight the importance of conceptual insights derived from academic research for the development of public health policy. However, the current drive within the UK to produce evidence which directly and observably impacts upon policy/practice (as explicitly sought by the Research Excellence Framework (Anon 2012a)) may result in this form of research being neglected in the future. In addition, it is possible that interventions that fit the current political climate (which may change in the future) will be focused upon, thus

reducing the scope for the development of more radical interventions which result in potentially greater population health gains (Smith 2012). For example, short-term, individual-level behaviour change interventions which can supplement existing public service provision are likely to be more palatable since overt value conflicts are less likely. However, the scope of such interventions to achieve large changes in population health, and especially health inequalities, appears limited and may be unsustainable (Macintyre 2007; Hanlon and Carlisle 2010; Lorenc, Petticrew et al. 2013). This is not to argue that such interventions are not beneficial but rather to highlight the tendency for the new Research Excellence Framework to reinforce a focus on such downstream research, potentially at the expense of population health research.

9.7 Recommendations for research

This thesis raises a number of options for further research, both in relation to specific topics of the case studies presented and the evidence-policy relationship in general. Following on from the first case study, further research that applies the approach presented could usefully investigate if the discrepancy between evidence and policy is consistently observed across different contexts. In particular, the conceptual model relating evidence and policy that has been articulated within this chapter could be empirically tested. The model suggests that more politically contested areas (especially those less clearly attributable to public policy control) are likely to be underrepresented in terms of population-based interventions within policy documents. Similarly, those areas that are less politically contested are likely to have better evidence underpinning recommendations.

9.7.1 ‘Healthy Lives, Healthy People’

The first case study provided a broad overview of the evidence base underpinning the English public health white paper. However, its reliance on document analysis could be usefully supplemented through primary data collection. In particular, qualitative interviews to better understand the process of the policy document’s production would be invaluable in understanding the extent that the evidence base was known by those

responsible for policy development and to gain insight into the intended meanings of being ‘evidence-based’.

The scope of the first case study has also been limited to a single public health white paper. While previous (but less systematic) research has noted similar findings in relation to earlier white papers (Hunter 2003b), comparison using the same methods across white papers would be informative in understanding how discourses around incorporating evidence into public health policy is changing. Similarly, analysis of the prominent ideas (such as ‘nudge’ in Healthy Lives, Healthy People) upon which policy draws would be informative. Tracing the influence of these high-profile ideas could allow their impact (or lack thereof) to be studied.

Lastly, the findings of the first case study identify a number of areas where there is an absence of evidence to inform public health policy. In such cases, there is a need for primary research to investigate the effectiveness of interventions so that interventions can be extended, refined or abandoned as appropriate. Work to investigate the effectiveness of different aspects of initiatives within the White Paper is ongoing, including an evaluation of the Public Health Responsibility Deal (Personal Communication, Mark Petticrew) and ‘nudge’-based interventions (Marteau, Ogilvie et al. 2011).

9.7.2 Minimum unit pricing of alcohol

During the conduct of this research, minimum unit pricing has been a developing policy area and therefore little previous research exists on this specific policy. However, it should be noted that other research has investigated the role of alcohol-related industries on the policy process, and some of this work provides a partial insight into the policy process (Holden and Lee 2009; Holden and Hawkins 2012; Holden, Hawkins et al. 2012; McCambridge, Hawkins et al. 2013). The early phase of research on this topic means that there remains a need for further work in relation to a number of aspects of the minimum unit pricing policy process.

The mass media is known to influence both the development and acceptability of public health policy (Holder and Reno 1997; Scheufele 1999). While some research exists on the influence of the mass media on the development of the smoking ban in public places

(National Cancer Institute 2008; Nagelhout, van den Putte et al. 2012), at present there remains a lack of evidence on the influence of the mass media on policy development within the field of alcohol policy. Given this gap, the author of this thesis is involved in a collaborative project to assess the framing of newspaper coverage of the minimum unit pricing debate over time. However, it is acknowledged that research is also needed on the role of social media, given its growing importance and the investment of alcohol-related industries on-line (Nicholls 2012b).

Similarly, the focus of this study has been on the role of evidence in the public health policy process. As such, the analysis of documents deliberately limited its consideration of broader Foucauldian discourses (Foucault 2002). An analysis that seeks to better illuminate societal power relationships, particularly in relation to neoliberalism, would be of interest for both sociology and political science (for example, following the work of Hay 2004).

This thesis has primarily focused upon the development of minimum unit pricing in Scotland and has therefore not considered UK Government policy in comparable detail. Similarly, price-based initiatives to address alcohol-related harms within local authorities within England have been omitted. Both of these developments are worthy of further consideration but will require the conduct of primary research over a more recent time period. In addition, research investigating these developing policies may benefit from drawing upon the policy transfer literature to establish the extent that these policy initiatives are arising independently of or in conjunction with Scottish events (Marsh and Evans 2012; Stone 2012).

A further important area of the policy process that has been less considered is the influence of industry interests on the development of policy. This omission has been intentional, so work of other researchers is not replicated. However, given the only recent availability of much of this work, there remains scope for drawing upon tobacco policy research to identify commonalities and differences in corporate behaviour across sectors which has not been conducted as part of this thesis.

An important research priority will be to evaluate the impact of minimum unit pricing, when implemented. As explained elsewhere in this thesis, there is a considerable body of

evidence to support the introduction of minimum unit pricing. However, there are no evaluations of this specific intervention and given the potential for negative consequences for some groups (especially low-income drinkers, dependent drinkers and the families of dependent drinkers), careful monitoring of the impacts of the policy is required. An evaluation based on the analysis of routinely collected data is being coordinated by NHS Health Scotland and a further suite of primary research studies is planned to address this gap.

9.7.3 Methodological research

While much of this thesis has drawn upon relatively established research methods, there remains the need for methodological development arising from some of the work presented. In relation to the first case study, the methods adopted to systematically appraise a broad evidence base could be refined. In particular, attempts to replicate this approach to analyse other policy documents could allow a more standardised and systematic approach to be developed. In addition, the approach presented highlights the broader difficulties in carrying out rapid assessments of the evidence base which are necessary for much public health practice and the development of guidelines to facilitate this could be of considerable utility (Bambra 2011).

This chapter has described a simple model which seeks to describe how evidence is most likely to influence public health policy in different contexts. The model is not intended to be comprehensive but rather focuses upon two dimensions which appear crucial for evidence to inform public health policy. While this model has been informed by the empirical work presented in this thesis, testing how well this model performs when assessed in other public health contexts is essential. It is anticipated that subsequent empirical research will be necessary to help refine the model and a number of testable hypotheses have been stated to facilitate this.

Lastly, the research presented raises a number of ethical questions for public health professionals. A key area that requires ongoing debate (and is likely to remain unresolved) is the role of public health in carrying out advocacy. In particular, there is a tension between public health's responsibility to collate data and produce impartial research which is viewed as independent, with its responsibility to advocate on behalf of

the population for which it is responsible. While such tensions are occasionally reflected upon, there currently remains a lack of an explicit widely accepted ethical framework underpinning public health practice and research which could be used to help analyse these issues.

9.8 Implications for public health practice and advocacy

The empirical findings presented in this thesis raise a number of potential lessons for those seeking to improve the use of evidence within public health policy. First, there is variable support for the instrumental influence of evidence on the policy process. In relation to the English public health White Paper, evidence is drawn upon in varied ways which appear to differ markedly by policy topic. Evidence-informed ideas appear to have influenced policy discourses but are often reinterpreted in their journey from evidence to policy.

In relation to the minimum unit pricing case study, evidence (but not limited to evidence of effectiveness) appears to have played a fundamental role in the development of policy. Adopting a multi-level governance perspective suggests that evidence can be tailored to a specific institution to increase its salience to the relevant decision-makers.

Epidemiological data were important in demonstrating the existence of a ‘crisis’ in alcohol-related harms which were greater in Scotland than elsewhere in the UK. Furthermore, minimum unit pricing provides an example of how public health advocates can engage in venue shopping but also how the institutional context can drive policy innovation to result in potentially more impactful interventions.

As might be expected, systematic reviews played an important role in allowing those seeking policy solutions to make use of price as a mechanism to address alcohol-related harms (Lavis 2009). Of note, these systematic reviews demonstrated the utility of a mechanism (public health theory) rather than a specific intervention. Econometric modelling meanwhile illustrated the potential benefits of minimum unit pricing as a specific policy response, as well as providing a justification for setting the level of minimum unit price to be pursued.

In keeping with much of the literature on improving evidence utilisation (Lavis, Robertson et al. 2003; Kouri 2009), intermediary organisations served as a ‘bridge’ between the worlds of research and policy, assisting civil servants in developing an alternative policy image that would help further a public health approach in alcohol policy (Caplan 1979). However, the minimum unit pricing case study highlights the importance of the enlightenment function of evidence (Weiss 1979). The shift to a population framing (inspired by epidemiological thinking) that emphasises alcohol as ‘no ordinary commodity’ allowed a change in how alcohol policy is conceptualised and has been crucial for minimum unit pricing’s development. There therefore remains a need for synthesis, but also longer term research that results in evidence helping policymakers think about policy issues in a new way (Ogilvie, Craig et al. 2009).

Policy entrepreneurs, responsible for helping to combine the three streams of problem, politics and policy, have played an important role in policy development and they have drawn upon evidence in varied ways to assist in this process (Kingdon 2010). There continues to be considerable interest in the use of knowledge brokers to help provide evidence to those responsible for decision-making and the role of NHS Health Scotland in the case of minimum unit pricing provides some support for such efforts (Lomas 2007; Mitton, Adair et al. 2007). However, for the development of minimum unit pricing, a wide variety of other factors were at least as important and so knowledge brokers alone are unlikely to be sufficient in fostering evidence-informed policy in many situations. Furthermore, the fact that advocates, civil servants and politicians all could operate as knowledge entrepreneurs suggests that knowledge linkage efforts should perhaps operate in a broader way – linking multiple communities rather than just bridging a divide between research and policy (Davies, Nutley et al. 2008).

The Scottish Government did not merely act as an alternative venue but the limited institutional powers actually fostered policy innovation, with minimum unit pricing being considered a more effective public health measure than more traditional taxation-based measures used alone (Purshouse, Meier et al. 2010; Rice and Drummond 2012). To capitalise on the availability of a Scottish policymaking venue, local data (Leon and McCambridge 2006; ISD 2009) which compared Scotland unfavourably to other jurisdictions were helpful in prioritising alcohol policy. This combined with the fact that

health policy is a highly visible area for Scottish Government, given its limited powers (Cairney 2011b). Similar efforts that make use of the developing decision-making fora are likely to be of increasing use in the future.

Appendix 1: Summary of evidence assessments for the public health White Paper

Key

Pg = Page reference (with section where available) that statement is from

NR = No reference provided within White Paper

Grading as per NICE Public Health guidelines i.e. [-]=Few or no quality criteria fulfilled and the conclusions are likely or very likely to alter; [+] = Some criteria fulfilled, where not fulfilled or not reported, the conclusions are unlikely to alter; [++)=Most of the criteria fulfilled, where not the conclusions are very unlikely to alter

Quality of evidence underpinning interventions:

-- = strong evidence that the intervention as described is ineffective in improving population health (e.g. well-conducted systematic reviews, negative RCTs, negative robust evaluations)

- = weak evidence that the intervention as described is ineffective (e.g. before-and-after studies, modelling studies, NICE guideline statements not based on the above)

0 = absence of evidence to allow assessment of effectiveness for health outcomes (including interventions where only studies highly susceptible to bias exist)

+/- = mixed evidence on effectiveness.

+ = weak evidence that the intervention as described is effective (e.g. before-and-after studies, modelling studies, NICE guideline statements)

++ = strong evidence that the intervention as described is effective (e.g. systematic reviews, negative RCTs, negative robust evaluations)

References are provided in Vancouver format for this appendix separately from for the rest of the thesis, to facilitate reading of the tables.

Topic: Early Years Interventions

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of available evidence	Notes
Pg 7 11c: “refocusing Sure Start Children’s Centres for those who need them most” [NR]	Targeting Sure Start centres Sure Start is an area-based intervention aimed at all children growing up in a deprived area [+]	NESS 2010 ¹ [<+] Cohort study with synthetic control group from MCS.	Mixed impacts with absence of evidence for change across many outcomes. Of those outcomes that did change, more positive (predominantly around maternal wellbeing and care) were observed.	Equal impact found amongst different population groups (e.g. lone parents) and between different levels of deprived areas.	Highly applicable evidence to suggest that original Sure Start intervention had overall positive impact.	
Pg 32 3.6: “alongside the evidence-based Family Nurse Partnership (FNP) programme” [NR]	Family Nurse Partnership programme FNP aims to aggressively intervene early for at-risk mothers to improve future life chances of mother and baby [+]	Olds et al, 1986 ² [<+], Kitzman et al ³ 1997 [++], Olds et al ⁴ 2002 [++] 3 American RCTs	Varying beneficial effects of intervention reported – reduced smoking, pre-eclampsia, reduced injuries. No effects on behavioural problems or maternal employment.	Intervention targeted at most deprived therefore likely to reduce inequalities.	High quality evidence. US-based evidence where the role of health visitor is not well established compared with the UK therefore low applicability.	
Pg 33 3.11: “potentially through intensive intervention models such as Family Intervention Projects” [NR]	Family Intervention Projects Intervention aiming to reduce causes of anti-social behaviour by working with whole family to address root causes [0]	White et al 2008 ⁵ [-] Process evaluation with ‘before and after’ comparison of intervention. No control group.	78% of those families referred were eligible and participated in the programme. For 90 families who completed the intervention, ASB, crime, child educational problems and housing problems reduced. No long-term follow-up reported.	Intervention targeted at deprived population including families who are or at risk of homelessness.		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of available evidence	Notes
Pg 33 3.11: “and group parenting programmes” [NR]	Group parenting programmes [+]	Woolfenden et al 2001 ⁶ [C SR]	“The evidence suggests that family and parenting interventions for juvenile delinquents and their families have beneficial effects on reducing time spent in institutions”	Not specifically reported.	High quality evidence primarily from the US	

Topic: Physical Activity

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 35 3.20: "Olympic and Paralympic-style school sports competition" [NR]	Sports competitions for kids [0]	Dobbins et al, 2009 ⁷ [C SR]	No specific evidence found for sports competitions for physical activity. Some convincing evidence school-based interventions are effective in increasing duration of physical activity.	Generally, included articles studied all SEC groups and a diverse range of ethnicities in urban centres.	No specific evidence but school-based interventions generally effective. Evidence derived from US, European and Australian countries.	
Pg 35 3.20: "Living Street's 'Walk Once A Week' initiative" [NR]	School-based interventions to promote walking [++]	Wavehill Consulting, 2009 ⁸ [-]	Evaluation using a 'before and after' design with self-reported outcome measures found increased walking	No differential effect observed by gender. Greater uptake in London where intervention did not result in cost to schools. No information reported on effects by SEC.		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		NICE PH17, 2009 ⁹	Generally supportive evidence for school-based interventions promoting walking. Studies generally graded by NICE as [+]	No specific evidence identified but NICE guidance does note potential for physical activity to reduce inequalities e.g. positive diversion for those at-risk of offending		
		Chillon et al, 2011 ¹⁰ [++]	Small positive effect towards active travel observed with interventions promoting walking to school.	No reporting by subgroups	Overall supportive evidence that is largely applicable to UK urban context	
Pg 35 3.20: "Department of Transport's (DfT) funding for Bikeability cycle training" [NR]	Cycle training [+]	Ipsos MORI 2010 ¹¹ [+] No outcome measures	Evaluation of users' (parents+ kids) views on intervention which were overwhelmingly positive.	Need for formal cycle training expressed across all social groups.		
		NICE PH17, 2009 ⁹	Evidence from uncontrolled before-and-after UK studies of increased cycling rates.	No specific evidence.	Some supportive evidence but further evaluations needed to confirm effectiveness. Medium applicability.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 36 3.22: “offered incentives to walk to school through Step2Get, using new near field communication (NFC) technology” [Website with no public evaluation] ¹²	Incentives to promote walking [-]	Murray 2010 (Step2Get Feasibility Report) ¹³ [-]	Two pilot projects described with about one-third at one school and one-quarter at the other registering with the scheme. Participation was around half of this.	No specific evidence.		Formal evaluation requested on multiple occasions but not received.
		EPPI 2006 ¹⁴ [++]	Overall, some evidence that incentives do work for health behaviours in young people. However, evidence suggests do not work for long-term behaviour change.	For EMA in UK, incentives were more effective for young men in urban deprived areas. Little other evidence identified.	Existing evidence suggests ineffective for achieving long-term changes but may be helpful for one-off behaviours. Most studies conducted in N America with some UK-based.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 41: "running club called Run Dem Crew (RDC), partnering with sportswear company Nike. RDC is based at Nike's 1948 Brand Space in Shoreditch and combines running and creative arts workshops to turn regular running into a trendy social activity" [Website – no evaluation or contact available] ¹⁵	Community running for young people [0]		No evaluation found			
		Van Sluijs et al 2007 ¹⁶ [++]	Some evidence for potentially effective interventions inc. environmental interventions. For adolescents, multi-component interventions and those that include family, school and community are most likely to be effective.	Evidence suggestive that targeting interventions at lower SEC groups has a beneficial effect.	Evidence (based mostly on US and UK studies) suggests intervention not optimal [++].	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 39 3.32: "sharing learning from the experiences of the nine 'Healthy Towns' " [NR]	Healthy Towns [+]	Romon et al 2008 ¹⁷ (FLVS, precursor of EPODE) and the inspiration for Healthy Towns [+]	Repeated cross-sectional study of 2 intervention towns with 2 control towns. Initial rise in obesity and subsequent fall in intervention vs control areas.	Greater reductions in overweight and obesity observed in lower social classes.	Some supportive evidence that may be applicable.	National process evaluation currently occurring. Some local evaluations inc. impacts.
Pg 39 3.32: "Initial evidence from the first round of cycle towns showed that there was an increase in cycling across all social groups combined with a reduction in sedentary behaviour and single car use, when compared with people in similar towns"	Cycle Demonstration Towns [++]	Cavill N et al 2009 ¹⁸ [+]	In the first three years of the CDT programme, there have been encouraging increases in cycling observed at a population level in the CDTs, that were not seen in other (non-CDT) towns. The CDTs have also seen significant and important reductions in sedentary behaviour, that are likely to be associated with benefits to public health.	Improvements observed seem to occur across all social groups, both sexes and for both white and non-white groups. All age groups except 75+ years increased cycling.		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Yang et al 2010 ¹⁹ [++]	Community-wide promotional activities and improving infrastructure for cycling have the potential to increase cycling by modest amounts.	No reporting of differential effects for population subgroups found	Supportive highly applicable evidence for intervention. However, not clear necessarily results in increased overall physical activity. Appears likely to have moderate impact on health	
Pg 39 3.34: "Building on the Olympics, DCMS has announced a £100 million Mass Participation and Community Sport legacy programme" [NR]	Olympics legacy programme [+/-]	No evaluation as yet				
		McCartney et al 2010 ²⁰ [++]	Few high quality studies available and no consistent positive effects found.	No reporting of differential effects for population subgroups		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Weed et al 2009 ²¹ [++]	Lack of evidence for impacts on physical activity. Available process-based evidence highlights the importance of community participation (to achieve a 'festival effect').	Some suggestion that children and young people may increase physical activity but note weak available evidence.	Lack of evidence to support intervention from broadly applicable evidence.	
Pg 39 3.34: "The Walking for Health programme of volunteer-led health walks" [NR]	Volunteer-led walks [++]	Dawson et al 2006 ²² [+]	Uncontrolled cohort study evaluating intervention reported respondents had improved social contact and wellbeing.	Participants relatively affluent, older and better educated therefore could potentially exacerbate inequalities.		
		Ogilvie et al 2007 ²³ [++]	Some community interventions and group-based interventions were found to be effective in increasing self-reported walking in RCTs. Greater effects if targeted at motivated individuals.	Men noted to experience greater effects but many studies did not report for subgroups.	Highly applicable evidence suggests intervention is potentially effective	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 39 3.34: "Let's Get Moving will also provide important opportunities for people to be active" [NR]	Primary Care PA screening, motivational interviewing and referral for PA if appropriate [+]		No evaluation found for this specific programme. Bull and Milton 2010 present a process evaluation ²⁴			
		Williams et al 2007 ²⁵ [++]	Physical activity levels in sedentary adults were only slightly improved by primary-care based exercise referral schemes. Further research required.	No reporting on population subgroups identified.		
		NICE PH2 ²⁶	Evidence that brief interventions can be effective in increasing PA. Exercise referral schemes from primary care should only be recommended as part of a well-conducted study.	Suggestion that interventions aimed at older people are more effective. General lack of evidence on differential effectiveness on population subgroups.	Strong largely applicable evidence to support brief interventions [++]. Weak evidence to support exercise referral [-].	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Pavey et al (unpublished – provided from Rod Taylor) ²⁷ [++]	SR finding continuing uncertainty re. health benefits of ERS. Some weak evidence of increased self-reported PA but no increase in moderate/vigorous activity	Suggestion that no interaction with sex and age.	Generally reasonably high quality RCTs included with many conducted in UK.	
Pg 47 3.55: “The Cycle Challenge works by encouraging and supporting existing cyclists to persuade colleagues who rarely or never cycle to give it a try” [Website] ²⁸	Cycle Challenge (i.e. trial of cycling with support) [0]	Bennett and Stokell, 2009 ²⁹ [-]	Before and after self-reported electronic surveys with no control group. 50% F/U at 3/12. Reported increased cycling amongst non-cyclists and occasional cyclists. High participant satisfaction and increased levels of physical activity.	Women were more likely to try cycling in the Challenge. No reporting of SEC or other domains identified.		
		Yang et al 2010 ¹⁹ [++]	No evidence for this specific intervention noted.	No reporting of population subgroups	Overall some supportive evidence highly applicable to UK context.	

Topic: Food

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 38 3.30: "Change4Life 'Great Swapathon', partners will give £250 million of vouchers to make healthy lifestyle choices easier" [NR]	Voucher incentives [+/-]	Great Swapathon Evaluation ³⁰ (requested from Change4Life).	Process evaluation describing uptake of 5 million vouchers based on 10321 website registrations. Of these, 3 367 bookings occurred.	Not described.		
		Wall et al 2006 ³¹ [++]	All four RCTs included in this SR showed a beneficial effect but all had methodological limitations and were conducted in the US.	Studies targeting deprived communities showed positive impacts. No reporting of differential impacts.	US-based evidence found beneficial effects but evidence had methodological limitations. Overall relatively little evidence to support intervention.	
			Unpublished randomised trial of vouchers provided to low-income population found a short-term changes in healthy consumption but effects not sustained		Overall some short-term beneficial effects but does not appear to be effective at achieving long-term change.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 38, 3.30: "This partnership between the Department of Health and the Association of Convenience Stores is aimed at increasing the availability and sales of fresh fruit and vegetables in convenience stores in deprived areas. Work includes the positioning of dedicated fruit and vegetable chiller cabinets in prominent positions and the use of Change4Life branding." [NR]	Fresh fruit and vegetables promotion [-]	Synovate 2009 ³² [-] and Jigsaw Research 2009 ³³ for DoH [-]	Before and after study. Little evidence for intervention having impact on behaviour but improved awareness of need to eat fruit & veg.	No reporting of differential effects on subgroups.		
		Seymour et al 2004 ³⁴ [++]	Most of the environmental studies reviewed in the present article (no policy interventions were found) showed either increased sales of targeted foods or a favourable change in dietary patterns. Interventions in grocery stores appear to be the least effective.	No reporting of differential impacts noted.	Little evidence to support this particular intervention from primarily North American studies.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg38, 3.31: The Department for Environment, Food and Rural Affairs' (Defra) Fruit and Vegetable Task Force has recommended that food containing fruit or vegetables with other types of food should be added to the 5 A DAY licensing scheme. [NR]	Expanding foods counted towards '5 a day' guidelines [0]	No relevant evidence found				
Pg 38, 3.31: In addition, Government Buying Standards for food will support more balanced choices in areas that central government is directly responsible for, such as in its own workplaces. [NR]	Workplace healthy food choices [+]	Steyn et al 2009 ³⁵ [+]	Suggests nutritional interventions that follow good practice show greatest benefits with changes in availability being associated with successful interventions.	No reporting of differential outcomes		
		Pomerleau et al 2005 ³⁶ [++]	Workplace interventions generally appeared effective with multi-component interventions being most effective. Relatively small effect sizes were observed.	Interventions targeted at those at highest risk, most deprived or of specific ethnic groups were effective. No specific comment on differential effects.	Fair evidence to support intervention [+]	

Topic: Alcohol

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
pg 41, 3.38 The Home Office will seek to overhaul the Licensing Act to give local authorities and police stronger powers to remove licences from, or refuse licences to, any clubs, bars and pubs that are causing problems, close any shop or bar found to be persistently selling alcohol to children and charge more for late-night licences. [NR]	Increase stringency of licensing requirements [+]	DCMS 2008 ³⁷ [+]	Following previous Licensing Act reforms, evidence from a no. of eval projects and official statistics assessed. Crime and alcohol consumption reduced overall but alcohol-related violence in early morning increased. Identified that restrictions within the previous Act could potentially be used more.	More stringent rules on availability of alcohol for children. No reporting of differential impacts.		
		Jackson et al 2010 ³⁸ [++]	Enforcement checks have been found to have variable effectiveness. Checks enforced with a 30-day license suspension or a fine may be more effective.	No evidence on differential impacts identified.	UK evidence suggests increased stringency of licensing has the potential to reduce alcohol-related harms.	This may only be applicable if enforcement is not threatened by LA cuts. Personal Communication with Petra Meier: "There is already limited money for test purchases, license reviews and legal action."

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 41 3.38: "The Home Office is committed to implementing the ban on selling alcohol below cost without delay." [NR]	Ban on below cost alcohol [-]	Jackson et al 2010 ³⁸ [++) and Purshouse et al 2010 ³⁹ [++)	"ES 1.3 A limited evidence base was identified that indicated that minimum pricing may be effective in reducing alcohol consumption. Consulted members of the community were supportive of such measures". A minimum suggested unit price was 40p per unit.	Higher unit prices are thought to benefit harmful drinkers and those aged 18-24 years most. A below cost ban would be unlikely to have any marked impact on any population subgroup.	PC, Petra Meier: "Ban on below cost selling roughly equivalent to minimum price of 20p per unit. Purshouse et al show that a min price at this level is ineffective in reducing consumption and harm."	

Topic: Smoking

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and Applicability of overall evidence underpinning intervention	Notes
pg 37, 3.25 The Government will look at whether the plain packaging of tobacco products could be an effective way to reduce the number of young people taking up smoking and to help those who are trying to quit smoking. [NR]	Tobacco plain packaging [+]	NICE PH 14, 2008 ⁴⁰ [Expert opinion]	During expert consultation, the committee was advised that tobacco products are, in effect, being promoted via point-of-sale displays... In addition, plain packaging might be considered to reduce the attractiveness of cigarettes to young people.	Noted that plain packaging may reduce attractiveness for young people.		
		Hamond 2010 ⁴¹ [-]	No jurisdiction yet introduced plain packaging. Recent review suggests 3 benefits: increases effectiveness of health warnings, reduces false beliefs about cigarettes, reduces brand appeal – esp amongst young adults.	None noted	No direct evaluation but growing body of supportive evidence about mechanisms	
Pg 37, 3.26: We are also considering options for the display of tobacco in shops, recognising the need to take action both to reduce tobacco consumption and to reduce burdens on businesses. [NR]	Stop tobacco displays in shops [+]	McNeill et al 2011 ⁴² [++]	Before and after evaluation in Ireland. Good compliance with intervention, reduced recall of displays, less likely to be seen as a social norm but no changes in short-term self-reported use.	Potentially more impact on youths. No other comments related to population subgroups.		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and Applicability of overall evidence underpinning intervention	Notes
		Wakefield et al 2006 ⁴³ [++]	Experimental evidence that children who were exposed to POS advertising had different expectations about access to tobacco products and brand awareness	No reporting by subgroups		
		Lovato et al, 2003 ⁴⁴ [CSR]	Consistent relationship between advertising and smoking uptake across the nine longitudinal studies included.	Possibility raised by evidence that girls may be more influenced by advertising. No other reporting of differential impacts	Large amount of supportive studies from multiple countries (highly applicable).	
pg 37, 3.26 The recent legislation to stop tobacco sales from vending machines will come into effect on 1 October 2011, so removing an easy source of cigarettes from under-age smokers and a source of temptation for adults trying to quit. [NR]	Ban on tobacco vending machines [+]	NICE PH 14, 2008 ⁴⁰ [+]	"Ev 2.5.1 The availability of tobacco vending machines also influences access to tobacco. Two (+) cross-sectional studies based in the US, found that young people were more successful when purchasing tobacco from unlocked vending machines or self-service displays than from locked vending machines or over-the-counter outlets"	Lack of information related to inequalities noted.		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and Applicability of overall evidence underpinning intervention	Notes
		Smoking, drinking and drug use among young people in 2006 ⁴⁵ [+]	A survey of smoking among English children found that 17% of 11-15 year olds who smoked regularly (and 14% overall) said that vending machines were their usual source of cigarettes.	No comments made on population subgroups.		
		Stead et al 2005 ⁴⁶ [CSR]	Fitting locks to vending machines found to reduce underage tobacco use but thought to be less effective than a ban.			

Topic: Primary Care

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequality	Quality and applicability of overall evidence underpinning intervention	Notes
pg 42 “Healthy Living Pharmacies (HLPs) are making a real difference to the health of people in Portsmouth, with 10 pharmacies awarded HLP status by NHS Portsmouth. HLPs have to demonstrate consistent, high-quality delivery of a range of services such as stopping smoking, weight management, emergency hormonal contraception, chlamydia screening, advice on alcohol and reviews of the use of their medicines.” [Website] ⁴⁷	Provision of health promotion advice and services via pharmacies [+]	Bowhill et al 2010 ⁴⁸ [-] Interim report	Non-randomised study comparing participating pharmacies with non-participating. Increased four-week quit rates, alcohol brief interventions and optimisation of respiratory medicines.	No specific reporting on subgroups.		
		NICE PH25 ⁴⁹	“There is evidence from a number of studies that training pharmacies to deliver smoking cessation interventions is important”	“Pharmacies may be a valuable means of reaching disadvantaged individuals and increasing their smoking cessations rates”	Overall supportive evidence that appears applicable to the UK context.	

		Cochrane SR for community pharmacists to provide smoking cessation ⁵⁰	Supportive evidence			
pg 42, 3.40 NHS Health Checks will continue to be offered to men and women aged 40 to 74. Everyone receiving an NHS Health Check will receive individually tailored advice and support to help manage their risk of heart disease, stroke and diabetes. [NR]	Universal cardiovascular health checks to 40-74 year olds [+/-]	NICE PH25 ⁴⁹	Mixed effect of multiple risk factor interventions has been found across different studies.	Evidence for variation in effectiveness is limited and incompletely reported.	Generally more supportive (than negative) evidence for CV risk screening programmes.	
		Chamnan et al 2010 ⁵¹ [++] Single comparative modelling study of different approaches to UK CV risk screening.	A targeted screening strategy (using routinely available clinical information) could be equally effective but less costly.	No evidence on inequalities identified.	Alternative approaches to screening appear to be more appropriate based on UK evidence.	

Topic: Employment

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 46, 3.54: “further development of the Change4Life employee wellness programme” [NR]	Employee wellness programmes [+]	NICE PH 22 ⁵² Graveling et al 2008 ⁵³ [++]	Complex workplace-based programmes are recommended by NICE. Associated SR states that there “might well be tangible benefits from such interventions, although generally speaking the papers are not of sufficient quality or number to be able to make unequivocal evidence statements”.	No reporting of differential impacts identified	Some supportive evidence with high applicability.	
Pg 46 3.54: “the promotion of the Workplace Wellbeing Tool to help organisations assess progress and understand further steps. This important tool can help demonstrate the business case that investing in the health and wellbeing of your workforce will increase productivity as well as staff engagement” [NR]	Tool to stimulate employers to take action to promote health of employees [0]	No evaluation. Dudgill et al 2007 ⁵⁴ [++] NICE PH 13 ⁵⁵	No evidence was identified in a review commissioned by NICE on facilitators for employers. NICE guidance includes a workplace-based tool to ‘make the case’ for intervention.	NA	NICE expert opinion suggests appropriate intervention but no other evidence identified.	
Pg 50, 3.69: “We are committed to phasing out the default retirement age, allowing employers to use retirement ages of 65 or higher. This will allow people who otherwise	Removal of default retirement age [+/-]	Waddell and Burton ⁵⁶ [++]	Evidence to suggest continuing to work until current retirement age is not harmful for health. Mixed health effects of early retirement with improvements in health for some but	Those who face economic insecurity in retirement can experience		

would have been prevented from working longer to do so and means that they will be able to maintain the health and social benefits of working.” [NR]			deterioration in others.	adverse health outcomes.		
		Joyce et al 2010 ⁵⁷ [++]	Limited evidence suggesting increased control over retirement decisions may confer health benefits.	No evidence found by subgroups		
		Maimaris et al 2010 ⁵⁸ [+]	Suggests working till later life may result in improved mental wellbeing for some groups but may not be universal.	No reporting of impacts on population subgroups.	Evidence supportive. Applicability medium (Studies largely from US, Australia and Japan)	

Topic: Welfare

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 45, 3.48: reformed Welfare to Work programme is being developed, ensuring that work always pays by replacing existing means-tested working-age benefits with a single Universal Credit." [NR]	Incentivising welfare payments towards work [0]	Barr et al 2010 ⁵⁹ [++]	Systematic review finding some evidence to suggest that "increased benefit generosity will reduce labour market participation" in countries with well-developed welfare systems.	Limited evidence available with only one study assessing women separately finding no effect		
		Brewer et al 2011 ⁶⁰ [+]	Overall, intervention will tend to act as an incentive to work. Health impacts not modelled	Overall Universal Credit will benefit poorer families and those with children according to IFS modelling. On average lone parents will lose money.	Some supportive evidence from modelling using directly applicable data and inferences from highly applicable SR	
Pg 45, 3.48: "Existing support will be consolidated into a new integrated Work Programme to provide support for people to move into work" [NR]	Welfare-to-work programmes [+/-]	Smedsland 2006 ⁶¹ [++] [Campbell SR]	Welfare-to-work programmes in the USA have shown small, but consistent effects in moving welfare recipients into work, increasing earnings, and lowering welfare payments. Lack of evidence available for health impacts	Possibility that programmes may have been more effective for non-white groups and females.	All studies were US-based and may not be relevant.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Marcia Gibson, Personal Communication ⁶²	US RCTs of welfare to work for lone parents show health impacts in an ongoing systematic review. "Tentatively suggest health impacts vary in direction, possibly dependent on the intervention approach."	Little evidence on differential impacts.	Problems with transferability of evidence due to differing welfare and health entitlements as well as changes in economic conditions. Unclear what the health impacts will be.	
		Clayton et al ⁶³ [++]	Personal advisors and individual case management schemes can help some people with disabilities return to work. Financial incentives to encourage labour market participation can help but need to be set at a high enough level.	'Easier to place' claimants tended to be helped most by individual-based interventions.	Highly applicable UK evidence.	
Pg 45, 3.48: "Work Choice will provide support for severely disabled people entering work" [NR]	Support programmes for severely disabled people [+]	Cowther et al ⁶⁴ [CSR]	"Supported employment is more effective than Pre-vocational Training in helping severely mentally ill people to obtain competitive employment. There is no clear evidence that Pre-vocational Training is effective"	Large numbers of ethnic minorities and women included in the studies. Most common diagnosis of included patients was schizophrenia	All except one trial was conducted in the UK	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Waddell and Burton ⁵⁶ [++]	Little evidence for improvements in health for returning to work for sick/disabled people but expert consensus.	Not commented on.	Absence of evidence for health based on UK evidence.	
Pg 45, 3.48: "existing adult careers advice has been simplified into a single service called NextStep" [NR]	Vocational advice and support services for the general population [0]	Levesley et al ⁶⁵ [+]	Qualitative process evaluation to identify good practice and allow dissemination of lessons. Generally integration of JobCentre Plus and NextStep was perceived positively by claimants and staff. However, some clients perceived benefits of separation if they did not have a good relationship with JobCentre Plus.	Not reported on.	Highly applicable process evidence suggests improved employment rates could potentially result in future health benefits but inadequate evidence to determine if this is likely at present.	
Pg 45, 3.48: "Central government is also helping people to stay in work. Our innovative Fit for Work Service pilots are multi-disciplinary projects delivered by local providers, focusing on early intervention and designed to get workers who are off sick back to work faster and to keep them in work." [NR]	Early work-based interventions for individuals developing health problems. No evaluation as yet [+]	Waddell et al ⁶⁶ [++]	Evidence to support work-based interventions for maintaining employment. Supportive evidence for health outcomes for specific conditions, particularly musculoskeletal problems.	Lack of evidence for small and medium enterprises. No other reporting of differential impacts identified.	Supportive evidence for health.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 45, 3.50: "The new Fit Note was introduced in April 2010, allowing GPs and individuals to focus on how to get people on sick leave back into work." [NR]	Fit Note [0]	Sallis et al 2010 ⁶⁷ [+]	Randomised trial (Zelen's method) compared GP assessments using a trial 'fit note' with current practice. Intervention resulted in GPs being less likely to advise avoidance of work.	GP-level respondents. No reporting of deprivation by catchment area.	Highly applicable supportive evidence for statement. Positive health impacts seem plausible but further evaluation needed for more definitive conclusions.	
Pg 50, 3.69: We will also maintain the value of the state pension through the triple guarantee – the basic state pension will increase by the highest of the growth in average earnings, prices or 2.5%.	Maintain value of state pension [+]	No review-level evidence found. Lundberg et al 2008 modelling study ⁶⁸ [++]	Generosity of basic (but not income) pension rights associated with a reduction in old-age mortality in study across 18 OECD countries.	Public health effects of pensions appear limited to basic rather than income benefits, suggesting they reduce poverty in elderly.	Supportive evidence for health benefits of basic state pension using applicable data.	

Topic: Green space

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
“DCLG is working with Defra to create a new designation to protect green areas of particular importance to local communities and providing practical guidance to support community groups in the ownership of public spaces.” [NR]	Community ownership of greenspace [0]	No evaluation or relevant reviews found				
Pg 40 3.36: “It is intended that, through this new designation, people will have improved access to land, enabling them to grow their own food.” [NR]	Grow your own food [0]	No evaluation or relevant reviews found				
Pg 40, 3.37: “Defra will also lead a national campaign to increase tree-planting throughout England, particularly in areas where increased tree cover would help to improve residents’ quality of life and reduce the negative effects of deprivation, including health inequalities.” [NR]	National tree-planting campaign [0]	No evaluation or relevant reviews found				
Pg 40 3.37: “The charity Campaign for Greener Healthcare has developed a five-year project to improve the health of staff and patients through access to green spaces. It aims to plant one tree per employee – over a million trees – on NHS land.” [NR]	Tree planting on NHS land [0]	No systematic reviews or evaluations found.				

Topic: Housing and Neighbourhoods

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
3.59 pg 48, "Neighbourhoods and houses can be better designed to support people's health, such as by creating Lifetime Homes" [NR]	Lifetime Homes (Building standards to facilitate maintenance of mobility) [+]	Gillespie et al 2009 ⁶⁹ [++]	Cochrane SR looking at environmental modifications to reduce falls in elderly. Lack of statistically significant effect but note that evidence not directly applicable to statement.	No evidence on inequalities with regards to environmental interventions noted.		
		Sopp and Wood 2001 ⁷⁰ [++]	Standardised survey with residents and one-to-one interviews with professionals. Positive feedback from residents but builders see as onerous requirement to help a minority.	Appeared broad support across population subgroups.		
		Critiques of LTH ^{71 72}	Noted that LTH are not mandatory and therefore variably implemented (unlike Part M). Argued that LTH as a programme does not counter social aspects of disability e.g. builders' hostile attitudes to provision for a 'minority'	LTH are focused on mobility (particularly wheelchair use) and therefore do not consider other disabilities.	Little applicable evidence from health domain but broadly supportive literature. Argued that more legislation needed.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 48 3.59: "and by maintaining benefits such as the winter fuel allowance and free bus travel, which keep people active and reduce isolation."	Winter Fuel Payments [+/-]	No evaluation found but IFS modelling study investigates effect of cash labelling ⁷³ [++]	Winter fuel payment is spent largely on fuel costs rather than other purchases.	The fungibility does not appear to differ to a large degree by income or gender		
		El Ansari and El Silimi 2008 ⁷⁴ [+]	ITS comparing excess winter mortality in Newham (pilot area) with other parts of London. No conclusive evidence for effect found.	No reporting on health inequalities	Contradictory findings but appears more likely than not to have health benefits	
Pg 48 3.59: "and by maintaining benefits such as the winter fuel allowance and free bus travel, which keep people active and reduce isolation" [NR]	Free Bus Travel [+/-]	SG Review ⁷⁵ [+] Halcrow evaluation 2009 ⁷⁶ [+].	"There was insufficient evidence to determine the precise extent to which the National Concessionary Travel (NCT) scheme had directly contributed to the promotion of social inclusion." [SG Review] The scheme appears to have been effective in promoting modal shift. However, many journeys appear likely to have taken place anyway, therefore arguing against a large effect on isolation	Largest take up in those aged 60-69 years, most deprived and without a car.	Little available evidence to determine effects on health or social inclusion. (Bus use may increase PA, reduce car use)	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 48 3.60: "For example, the Department of Energy and Climate Change will develop a Green Deal across sectors to improve the energy efficiency and warmth of homes from 2012, alongside the new Energy Company Obligation" [NR]	Improved energy efficiency and warmth of homes [++]	Thomson et al ⁷⁷ [++]	Housing improvements (especially interventions aimed at improving warmth) can generate health improvements, but potential for health improvements depended on the baseline housing conditions and needed to be targeted carefully.		Highly applicable Evidence to support heating interventions provided houses are poorly heated prior to intervention. Less certainty about interventions linked to rehousing	
Pg 49, 3.62: "The Warm Front scheme will also continue until 2012/13, providing grants to improve housing warmth and sustainability" [NR]		Warm Front - Better Health: Heath Impact Evaluation of the Warm Front Scheme ⁷⁸ [+]	Mixed methods: surveys, data logging, interviews, modelling (mortality). Repeat measures of cohort, some of whom were pre-and post. No control as deemed unethical. Positive impacts on mental health, children's respiratory health and older people's mortality.	Not directly commented on.	Applicable evidence found that is consistent with wider literature on heating and health	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
Pg 49, 3.63: "We are committed to keeping older people in their homes longer through funding home adaptations and are maintaining programmes such as Supporting People, the Disabled Facilities Grant and Decent Homes, which keep homes safe and in good condition." [NR]	Home adaptations [+/-]	Clemson et al ⁷⁹ [C SR]	Clemson et al: The authors concluded home assessment interventions that were comprehensive, well-focused and incorporated an environmental-fit perspective with adequate follow-up can successfully reduce falls with significant effects. The highest effects were associated with interventions that were conducted with high-risk groups.	No evidence on inequalities	Applicable evidence suggests well designed and implemented interventions are effective. Success is greatest with high-risk patients	
		Martin et al ⁸⁰ [++]	This review highlights the current lack of empirical evidence to support or refute the use of smart home technologies within health and social care, which is significant for practitioners and healthcare consumers.	No evidence on inequalities		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Turner et al 2011 ⁸¹ [++]	"This review suggest that there is little high-level scientific evidence for modification of the built home environment as a method of reducing the risk of injury." However, acknowledged that this may be due to studies being underpowered for this outcome.	None reported		
	Decent Homes Aims to improve the condition of homes for social housing tenants and vulnerable households in private sector accommodation in England [0]	No evaluations or review-level evidence found.	National Audit Office report states that the proportion of non-decent homes has reduced to 14.5%. ⁸²	None reported		

Topic: Community Interventions

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
pg 43 “Altogether Better started out as a BIG Lottery-funded regional collaborative and has grown to become a movement with a network that reaches beyond its original Yorkshire and the Humber region to as far away as China. Altogether Better aims to build capacity to empower individuals and communities to improve their own health and wellbeing through a flexible, locally tailored Community Health Champions approach.”	Community Health Champions [+/-]	White et al ⁸³ [+] Qualitative process evaluation using interviews with staff and Champions.	Positive impacts reported for wellbeing and social contact. Final evaluation report not currently available. Will include pre- and post-questionnaires from recipients, satisfaction measures and case studies. No outcome evaluation planned.	Champions aimed to reach out to deprived and minority populations.	Currently poor quality evidence (that is highly applicable)	
		Swainston et al 2008 ⁸⁴ [++]	The effectiveness of peer agents in achieving behaviour change appears to depend on behaviour being targeted with positive effects for e.g. safe sex and vaccination uptake. Improved social contact and use of services noted.	Suggestion from one [-] case study that bringing together people from different deprived areas can dispel prejudices. Overall, insufficient evidence to determine impact on inequalities.	Lack of high quality primary studies available to synthesise. Studies informing this review were largely US- and UK-based.	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Fleury et al 2009 ⁸⁵ [-]	According to CRD, poor quality SR that finds lay health advisers targeting CV risk led to improved health outcomes.	Most included studies were targeted at deprived communities. No reporting of differential outcomes or impact on inequalities.	Lack of available evidence to support this intervention and further rigorous evaluation needed.	
Pg 45, 3.47: “supporting the training of volunteer Community Learning Champions to engage local people in learning activities, acquiring new skills and embarking on new career routes”	Community Learning Champions [0]	NIACE 2011 ⁸⁶ [-]	2000 Community Learning Champions have been trained and reached over 100 000 people. No specific health impacts reported.	Stated that projects reach out to underserved populations including ethnic minorities, homeless individuals and older people.	No available evidence on health impacts	
		No review-level evidence identified.			Lack of available evidence to support health impacts of intervention	
pg 48, 3.61: Gloucestershire Village Agents – a rural volunteer network addressing exclusion	Community agents to promote uptake of services [+]	Callinan 2008 ⁸⁷ [-]	Increased knowledge of services but well-being and self-reported health declined more than comparison data.	Targeted at older people. No differential impacts reported.	Highly applicable but low quality evidence	

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Swainston et al 2008 ⁸⁴ [++] Popay et al 2008 ⁸⁸ [++]	Evidence largely supportive for community agents improving uptake of services but lack of high quality studies	Lack of evidence on inequalities.	Intervention in keeping with evidence that is applicable to the UK setting	
Pg 50, 3.67: For example, Older People's Day on 1 October aims to change attitudes to ageing. This has become a real community movement which celebrates later life and this year included over 3,000 events across the country.	Celebratory event day for specific population groups [0]	No evaluations or review-level evidence found.				
Pg 50, 3.68: The Department for Work and Pensions will provide Active@60 grants to voluntary and community groups to establish Community Agents in their area. Volunteers will work with people typically in their 60s to help them make a good start to their later life.	Community volunteers to work with older people [-]	Cattan et al 2005 ⁸⁹ [++]	One RCT (conducted in the US in 1991) and one controlled study (US 1977) showed no effect of one-to-one interventions providing social support in this SR of health promotion ints to reduce social isolation.	No differential impacts reported.		

Statement	Intervention	Evidence and quality assessment	Summary of findings	Evidence on Inequalities	Quality and applicability of overall evidence underpinning intervention	Notes
		Dickens et al 2011 ⁹⁰ [+]	Controlled prospective study finds no effect of a community mentoring programme in reducing social isolation.	No differential impacts reported.	Available evidence suggests that the proposed intervention is unlikely to reduce social isolation.	

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Appendix 2: Quality appraisal of research used to assess the evidence base underpinning ‘Healthy Lives, Healthy People’

The quality appraisal process was conducted based on the methods for the development of NICE public health guidelines. The original quality appraisals were carried out in Microsoft Excel 2007. These tables are large and therefore difficult to present within this appendix (but are available in Excel format from the author). However, the criteria used to assess each of the different types of studies are reproduced below. For quantitative studies, one of five responses was possible for each criterion:

- ‘++’ low risk of bias
- ‘+’ potential source of bias
- ‘-’ significant source of bias
- Not reported
- Not applicable

For qualitative studies, economic studies and reviews, each criterion was rated as ‘yes’, ‘no’ or ‘unclear’.

Based on the criteria assessments, each study then received an overall grading for internal validity and also for external validity as follows:

- ‘++’ all or most criteria fulfilled, and where not fulfilled conclusions are unlikely to alter as a result
- ‘+’ some of the criteria fulfilled, and where not fulfilled conclusions are unlikely to alter as a result
- ‘-’ few or no criteria fulfilled and conclusions are likely to alter if study more robust

Quantitative intervention studies

- Population
 - Is the source population or source area well described?
 - Is the eligible population or area representative of the source population or area?
 - Do the selected participants or areas represent the eligible population or area?
- Method of allocation to intervention (or comparison)
 - Allocation to intervention (or comparison). How was the selection bias minimised?
 - Were interventions (and comparisons) well described and appropriate?
 - Was the allocation concealed?
 - Were participants and/or investigators blind to exposure and comparison?
 - Was the exposure to the intervention and comparison adequate?
 - Was contamination acceptably low?
 - Were other interventions similar in both groups?
 - Were all participants accounted for at study conclusion?
 - Did the study reflect usual UK practice?
 - Did the intervention or control comparison reflect usual UK practice?
- Outcomes
 - Were outcome measures reliable?
 - Were all outcome measurements complete?
 - Were all important outcomes assessed?
 - Were outcomes relevant?
 - Were there similar follow-up times in exposure and comparison groups?
 - Was follow-up time meaningful?
- Analyses
 - Were exposure and comparison groups similar at baseline? If not, were these adjusted?
 - Was intention to treat (ITT) analysis conducted?
 - Was the study sufficiently powered to detect an intervention effect (if one exists)?
 - Were the estimates of effect size given or calculable?
 - Were the analytical methods appropriate?
 - Was the precision of intervention effects given or calculable? Were they meaningful?
- Summary
 - Are the study results internally valid (i.e. unbiased)?
 - Are the findings generalisable to the source population (i.e. externally valid)?

Quantitative studies reporting correlations and associations

- Population
 - Is the source population or source area well described?
 - Is the eligible population or area representative of the source population or area?
 - Do the selected participants or areas represent the eligible population or area?
- Method of allocation to intervention (or comparison)
 - Selection of exposure (and comparison) group. How was the selection bias minimised?
 - Was the selection of explanatory variables based on a sound theoretical basis?

- Was contamination acceptably low?
 - How well were likely confounding factors identified and controlled?
 - Is the setting applicable to the UK?
- Outcomes
 - Were outcome measures and procedures reliable?
 - Were the outcome measurements complete?
 - Were all the important outcomes assessed?
 - Was there a similar follow-up time in exposure and comparison groups?
 - Was follow-up time meaningful?
- Analyses
 - Was the study sufficiently powered to detect an intervention effect (if one exists)?
 - Were multiple explanatory variables considered in the analyses?
 - Were the analytical methods appropriate?
 - Was the precision of association given or calculable? Is association meaningful?
- Summary
 - Are the study results internally valid (i.e. unbiased)?
 - Are the findings generalisable to the source population (i.e. externally valid)?

Qualitative studies

- Is a qualitative approach appropriate?
- Is the study clear in what it seeks to do?
- How defensible/rigorous is the research design/methodology?
- How well was the data collection carried out?
- Is the role of the researcher clearly described?
- Is the context clearly described?
- Were the methods reliable?
- Is the data analysis sufficiently rigorous?
- Is the data 'rich'?
- Is the analysis reliable?
- Are the findings convincing?
- Are the findings relevant to the aims of the study?
- Is there adequate discussion of any limitations considered?
- How clear and coherent is the reporting of ethics?
- Overall, how well was the study conducted?

Economic evaluations

- Applicability
 - Is the study population appropriate for the topic being evaluated?
 - Are the interventions appropriate for the topic being evaluated?
 - Is the system in which the study was conducted sufficiently similar to the current UK context?
 - Was/were the perspective(s) clearly stated and what were they?
 - Are all direct health effects on individuals included, and are all the other effects included where they are material?
 - Are all future costs and outcomes discounted appropriately?
 - Is the value of health effects expressed in terms of quality-adjusted life-years?
 - Are costs and outcomes from other sectors fully and appropriately measured and valued?
- Study limitations
 - Does the model structure adequately reflect the nature of the topic under evaluation?
 - Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?
 - Are all important and relevant outcomes included?
 - Are the estimates of baseline outcomes from the best available source?
 - Are the estimates of relative ‘treatment’ effects from the best available source?
 - Are all important and relevant costs included?
 - Are the estimates of resource use from the best available evidence source?
 - Are the unit costs of resources from the best available evidence source?
 - Is an appropriate incremental analysis presented or can it be calculated from the data?
 - Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?
 - Is there any potential conflict of interest?
 - Overall assessment

Reviews

- Does the review address an appropriate and clearly-focused question that is relevant to the topic’s key research questions?
- Does the review include the types of the study/s relevant to the key research question?
- Is the literature search sufficiently rigorous to identify all the relevant studies?
- Is the study quality of included studies appropriately assessed and reported?
- Is an adequate description of the analytical methodology included, and are the methods used appropriate?

Appendix 3: Stakeholder mapping using evidence submission documents

The below table summarises the stakeholders which responded to the Health and Sport Committee's first call for evidence in relation to minimum unit pricing of alcohol. For each stakeholder, an assessment has been made based on manifest content analysis. Since manifest content analysis requires explicitly stating support or hostility to minimum unit pricing, there are occasions when stakeholders have been classified in a manner that may not be expected based on other public statements they have made. In general, some stakeholders who are supportive (when examining other public statements) have been classified as unclear or neutral since they do not explicitly state their support within the document submitted to the Committee. This approach has been taken to ensure consistency across assessments and because a similar approach to classification appears to be used by the Scottish Parliamentary Information Centre (SPICe) reports, which were available to MSPs to help inform their debates about the measure.

Key

Stakeholders have been classified into the following groups: academic, health, voluntary, Civil Servant, government, public sector, trade rep(resentative), producer, off-trade, on-trade, supermarket and individual. The position with respect to minimum unit pricing was assessed based on the following categories:

Supportive = explicitly states that stakeholder is in favour of minimum unit pricing.

Against = explicitly states that stakeholder is against minimum unit pricing.

Neutral = both positive and negative statements presented in relation to minimum unit pricing and no explicit statement made about supportiveness.

Unclear = no explicit statements regarding supportiveness and therefore unable to determine position with respect to minimum unit pricing.

Exempt = stakeholder's organisation precludes them from expressing an explicit opinion regarding supportiveness for minimum unit pricing.

Ref.	Stakeholder	Stakeholder type	Position
1	School of Health And Related Research, Sheffield	Academic	Neutral
2	SPICe	Civil Service	Exempt
3	Peter Anderson	Academic	Supportive
4	Anne Ludbrook	Academic	Uncertain
5	Scottish Government Overview	Civil Service	Exempt
6	Centre for Economics and Business Research	Academic	Against
7	Royal Society of Edinburgh	Academic	Supportive
8	Salvation Army	Voluntary	Supportive
9	Children in Scotland	Voluntary	Supportive
10	Aberlour Child Care Trust	Voluntary	Supportive
11	NUS Scotland	Trade rep	Supportive
12	Youth Link Scotland	Voluntary	Supportive
13	BMA Scotland	Trade rep	Supportive
14	SHAAP	Health	Supportive
15	Faculty of Public Health	Health	Supportive
16	Alcohol Focus Scotland	Voluntary	Supportive
17	Scottish Association for Mental Health	Health	Supportive
18	Whyte & Mackay	Producer	Against
19	Tennents Caledonian Breweries Ltd	Producer	Supportive
20	Scotch Whisky Association	Producer	Against
21	NACM (cider)	Producer	Against
22	Portman Group	Producer	Against
23	SIBA (independent brewers)	Producer	Against
24	Scottish Grocers' Federation	Off-trade	Against
25	Scottish Beer and Pub Association	Trade rep	Against
26	Scottish Licensed Trade Association	On-trade	Supportive
27	NOCTIS	On-trade	Supportive
28	Consumer Focus Scotland	Voluntary	Supportive
29	Asda	Supermarket	Against
30	Sainsbury	Supermarket	Against
31	Cooperative supermarket	Supermarket	Against
32	Morrisons	Supermarket	Against
33	Tesco	Supermarket	Unclear
34	Association of the Chief Police Officers of Scotland	Trade rep	Supportive
35	City of Edinburgh Council Licensing Standards	Public sector	Unclear
36	West Dunbartonshire Licensing Forum	Public sector	Supportive
37	Glasgow City Council Licensing Board	Public sector	Unclear
38	Law Society of Scotland	Academic	Neutral
39	Office of Fair Trading	Civil Service	Neutral
40	Canadian Centre for Substance Abuse	Health	Neutral
41	BAC Canada Brewers	Trade rep	Neutral
42	Alcohol and Gaming Commission of Ontario	Public sector	Neutral
43	Liquor Control Board of Ontario	Public sector	Neutral
44	Centre for Addictions Research of British Columbia	Academic	Supportive
45	Alberta Gaming and Liquor Commission	Public sector	Neutral
46	Molson Coors UK	Producer	Supportive
47	Scottish Government, Nicola Sturgeon	Government	Supportive
48	Aberdeen City Alcohol & Drugs	Public sector	Supportive
49	Aberdeen City Council	Public sector	Neutral

Ref.	Stakeholder	Stakeholder type	Position
50	North Aberdeenshire Licensing Board	Public sector	Supportive
51	Aberdeenshire Alcohol Drugs Partnership	Health	Supportive
52	Academy of Royal Medical Colleges	Health	Supportive
53	Action for Children Scotland	Voluntary	Neutral
54	Addiction Recovery Training Services	Health	Against
55	Association of Directors of Social Work	Public sector	Supportive
56	Alcohol Concern	Voluntary	Supportive
57	Alcohol Health Alliance	Health	Supportive
58	Angus Alcohol and Drugs Partnership	Public sector	Supportive
59	Dr E M Armstrong (former CMO)	Health	Supportive
60	Barnados Scotland	Voluntary	Supportive
61	British Institute of Innkeeping	On-trade	Unclear
62	Broadway Convenience Store	Off-trade	Supportive
63	Breakthrough Breast Cancer	Voluntary	Supportive
64	British Hospitality Association	Trade rep	Unclear
65	Campaign for Real Ale	Trade rep	Supportive
66	Castle Leisure Group	On-trade	Supportive
67	CBI Scotland	Trade rep	Against
68	Children in Scotland	Voluntary	Supportive
69	Chivas Brothers Ltd	Producer	Supportive
70	Church of Scotland	Voluntary	Supportive
71	City of Edinburgh Licensing Board	Public sector	Supportive
72	Clackmannshire Licensing Board	Public sector	Against
73	Dr. Forrester Cockburn	Health	Unclear
74	Comhairle Nan Eilean Siar (Western Isles Council)	Public sector	Supportive
75	Counselling and Psychotherapy in Scotland	Trade rep	Neutral
76	Convention of Scottish Local Authorities	Public sector	Unclear
77	Diageo	Producer	Against
78	Hugh Donnelly	Individual	Against
79	Dumbarton East and Central Community Council	Public sector	Supportive
80	Dumfries and Galloway Alcohol and Drugs Partnership	Health	Supportive
81	Dundee City Licensing Board	Public sector	Supportive
82	East Ayrshire Alcohol and Drugs Partnership	Health	Supportive
83	East Ayrshire Licensing Board	Public sector	Supportive
84	East Dunbartonshire Alcohol and Drugs Partnership	Health	Supportive
85	East Lothian Licensing Board	Public sector	Unclear
86	East Renfrewshire Licensing Board	Public sector	Against
87	Edrington Group	Producer	Against
88	Falkirk Council	Public sector	Supportive
89	Fife Council	Public sector	Supportive
90	Federation of Small Businesses	Trade rep	Unclear
91	Gin and Vodka Association	Producer	Against
92	General Medical Council	Trade rep	Neutral
93	David Harrell	Individual	Supportive
94	Health Protection Scotland	Health	Neutral
95	Heineken	Producer	Against
96	Highland Alcohol and Drugs Partnership	Health	Supportive
97	Highland Licensing Board	Public sector	Neutral
98	Home Safety Scotland	Voluntary	Unclear

Ref.	Stakeholder	Stakeholder type	Position
99	Institute for Alcohol Studies	Voluntary	Supportive
100	The International Coalition Against Prohibition	Voluntary	Against
101	Inverclyde Council	Public sector	Supportive
102	James Kelly	Individual	Against
103	Lanarkshire Alcohol and Drugs Partnership	Health	Supportive
104	Leslie Logan	Individual	Supportive
105	Dr Macleod	Health	Unclear
106	Mohamed Mashaal	Individual	Supportive
107	Medical Research Council	Academic	Neutral
108	Mid Lothian Alcohol and Drugs Partnership	Health	Unclear
109	Mitchell's & Butlers	On-trade	Unclear
110	Moray Alcohol and Drugs Partnership	Health	Supportive
111	Moray Licensing Board	Public sector	Unclear
112	Colin Murray	Individual	Against
113	NHS Ayrshire & Arran	Health	Supportive
114	NHS Ayrshire Clinical Forum	Health	Supportive
115	NHS Borders	Health	Supportive
116	NHS Borders & South Borders Council	Health	Supportive
117	NHS Borders Health Improvement Team	Health	Supportive
118	NHS Forth Valley	Health	Supportive
119	NHS Grampian	Health	Supportive
120	NHS Greater Glasgow and Clyde	Health	Supportive
121	NHS Health Scotland	Health	Supportive
122	NHS Highland	Health	Supportive
123	NHS Lanarkshire	Health	Supportive
124	NHS Lothian Alcohol and Drugs Partnership	Health	Supportive
125	NHS Lothian	Health	Supportive
126	NHS Orkney	Health	Supportive
127	NHS Orkney Chair	Health	Unclear
128	NHS Tayside	Health	Supportive
129	NHS Western Isles	Health	Supportive
130	NOCTIS *	Trade rep	Supportive
131	North Aberdeenshire Licensing Forum	Health	Supportive
132	North Ayrshire Alcohol and Drugs Partnership	Health	Supportive
133	North Lanarkshire Council, Sports	Public sector	Unclear
134	Orkney Islands Licensing Board	Public sector	Supportive
135	Perth & Kinross Alcohol and Drugs Partnership	Health	Supportive
136	Perth & Kinross Council	Public sector	Supportive
137	Prevention Research Centre	Academic	Unclear
138	Poverty Truth Commission	Voluntary	Supportive
139	Church of Scotland, Presbytery of Edinburgh	Voluntary	Supportive
140	Queen Margaret University	Academic	Unclear
141	Chris Record	Health	Unclear
142	Renfrewshire Council	Public sector	Supportive
143	Renfrewshire Licensing Forum	Public sector	Unclear
144	Royal College of General Practitioners Scotland	Health	Supportive
145	Royal College of Nurses	Health	Supportive
146	Royal College of Physicians	Health	Supportive
147	Royal College of Physicians and Surgeons of Glasgow	Health	Unclear

Ref.	Stakeholder	Stakeholder type	Position
148	Royal College of Physicians of Edinburgh	Health	Supportive
149	Royal College of Psychiatrists Scotland	Health	Supportive
150	Royal College of Surgeons of Edinburgh	Health	Supportive
151	Royal Infirmary of Edinburgh	Health	Supportive
152	SabMiller	Producer	Against
153	Scottish Patients' Association	Health	Supportive
154	Scottish Commissioner for Children and Young People	Public sector	Supportive
155	Scottish Ambulance Service	Health	Supportive
156	Scottish Association of Alcohol and Drug Teams	Health	Supportive
157	Glasgow Centre for Study of Violence	Academic	Unclear
158	Scottish Centre for Development and Industry	Trade rep	Against
159	Scottish Episcopal Church	Voluntary	Supportive
160	Scottish Police Federation	Trade rep	Supportive
161	Scottish Retail Consortium	Off-trade	Against
162	Scottish Women's Convention	Voluntary	Unclear
163	Scottish Youth Commission on Alcohol	Voluntary	Supportive
164	Scottish Youth Parliament	Voluntary	Supportive
165	Elizabeth Shelby	Individual	Supportive
166	Nick Sheron	Health	Unclear
167	Silverton and Overtoun Community Council	Public sector	Supportive
168	South Aberdeenshire Licensing Forum	Public sector	Supportive
169	South Ayrshire Alcohol and Drugs Partnership	Health	Supportive
170	South Ayrshire Licensing Board	Public sector	Supportive
171	John and Ann Steer	Individual	Supportive
172	Eleanor Steiner	Individual	Supportive
173	Jonathan Stewart	Individual	Supportive
174	UK Advertising Standards Agency	Civil Service	Neutral
175	Unison Scotland	Trade rep	Neutral
176	University of Aberdeen	Academic	Supportive
177	University of Stirling	Academic	Supportive
178	University of the West of England	Academic	Supportive
179	University of the West of Scotland	Academic	Unclear
180	Violence Reduction Unit Scotland	Academic	Unclear
181	West Dunbartonshire Council	Public sector	Unclear
182	West Lothian Council	Public sector	Supportive
183	West Lothian Licensing Board	Public sector	Neutral
184	West Lothian Tobacco Alcohol and Drugs Partnership	Health	Supportive
185	West Isles Licensing Board	Public sector	Supportive
186	Gillian Wray	Individual	Neutral

* duplicate submission by stakeholder

Appendix 4: Ethics documentation

Initial ethical approval



Dr. Srinivasa Vittal Katikireddi
4 Lilybank Gardens
Glasgow
G12 8RZ

19 August 2011

Dear Dr Katikireddi,

Medical Faculty Ethics Committee

Project Title: A Qualitative Study of Stakeholders' and Policymakers' Perspectives of Alcohol Minimum Pricing

Project No: FM08120

The Faculty Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. They are happy therefore to approve the project, subject to the following conditions

- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- If the study does not start within three years of the date of this letter, the project should be resubmitted.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely

A handwritten signature in black ink.

 Dr David Shaw
Faculty Ethics Officer

Dr D Shaw
Lecturer in Ethics & Ethics Officer

School of Medicine, University of Glasgow, 378 Sauchiehall Street, Glasgow, G2 3JZ

Tel: 0141 211 9755
E-mail: david.shaw@glasgow.ac.uk

Approval for amendment to ethics application

Dr. S Vittal Katikireddi

MRC Social and Public Health Sci
4 Lilybank Gardens
Hillhead

23 December 2011

Dear Dr.Katikireddi

**«Principal_Investigator»
MVLS College Ethics Committee**

**Project Title: A Qualitative Study of Stakeholders' and Policymakers' Perspectives of Alcohol Minimum Pricing
Project No: FM08120**

The College Ethics Committee has reviewed your application for amendments to the study, whereby the research data will be used after data collection has been completed and the withdrawal process will be amended, and has agreed that there is no objection on ethical grounds to these amendments. They are happy therefore to approve the project, as amended, subject to the following conditions

- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- If the study does not start within three years of the date of this letter, the project should be resubmitted.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely



Professor William Martin
College Ethics Officer

Appendix 5: Fieldwork documentation

Participant information leaflet



Participant Information Sheet

A Qualitative Study of Stakeholders' and Policymakers' Perspectives of Alcohol Pricing Policies

What is the purpose of the study?

This study aims to investigate the perceptions of policymakers, industry representatives and health advocates on issues related to alcohol use, potential control measures such as minimum unit pricing and the role research evidence plays in developing alcohol policy.

Why have I been asked to take part?

You have been asked to take part because the study researchers believe you may have an interest in this area. Please do let us know if you believe that you are not an appropriate individual to take part in this study. We would be particularly grateful if you are able to recommend an alternative individual to participate.

Do I have to take part?

Participation is entirely voluntary. If you do decide to take part you will be asked to sign a consent form stating that you have read this information sheet and agree to be interviewed. If you decide to take part you are still free to withdraw at any time during the data collection without giving a reason.

What will happen if I agree to take part?

You will be contacted by a member of the study research team to arrange a suitable time for an interview. Prior to taking part, the research team will ensure that you have had any questions regarding the study answered.

You will be interviewed by a researcher from the Medical Research Council Social & Public Health Sciences Unit (either Dr. Vittal Katikireddi or Dr. Shona Hilton). Interviews will last approximately 30-45 minutes and you will be offered a telephone or face-to-face interview. We will seek your permission to record the interview. Recording of the interview will mean we are able to more accurately use the information you provide us with but if you are not willing to be recorded, we can take notes instead.

Will my taking part in the study be kept confidential?

All the information we collect during the course of the research will be kept strictly confidential and we will work with you to ensure your confidentiality is not breached at any stage.

To do this, the research team will separate your name and other personal identifiers from the interview recording and any future transcripts immediately



MRC/CSO Social and Public Health Sciences Unit, 4 Lilybank Gardens, Glasgow, G12 8RZ
Tel: 0141 337 2949 Fax: 0141 337 2389 www.sphsu.mrc.ac.uk

A Research Unit supported by the Medical Research Council and the Chief Scientist Office of the Scottish Government Health Directorate, at the University of Glasgow

after the interview. The interviewer will then anonymise the transcript by removing anything that clearly identifies you and will highlight text that is not to be quoted as it may make you identifiable. A copy of the transcript will be sent for you to review to ensure that you are happy that your anonymity will be maintained. The transcripts will then be analysed by the research team and will not be made publicly available but selected quotations that do not disclose your identity may be used to illustrate the findings of the research.

In order to make best use of the data you have contributed, it is possible that future research may make use of these transcripts. However, any such use would be directly overseen by either Dr. Vittal Katikireddi or Dr. Shona Hilton who would be responsible for ensuring your ongoing anonymity throughout this process.

What will the data be used for?

The data will be analysed confidentially to learn how research is used by policymakers and other stakeholders by looking at alcohol policy as a case study. The research team hope that the study can help researchers understand what role they play in the policymaking process so that the research community can improve the relevance of research that is produced in the future.

Who is organising the research and why?

This study is being organised by Dr. Vittal Katikireddi (Public Health Clinical Research Fellow) and Dr. Shona Hilton (Programme Leader of the Public Understandings of Health Research programme) at the Medical Research Council Social & Public Health Sciences Unit. Both researchers have an interest in exploring the barriers and facilitators to implementing alcohol control policies.

The research is being funded from within the Unit's core resources provided by the Medical Research Council and the Chief Scientist's Office of Scotland.

Who has reviewed the study?

The study proposal has been reviewed by the University of Glasgow College of Medicine Research Ethics Committee.

If you have any further questions about the study please telephone 0141 357 3949 and ask for Vittal Katikireddi or e-mail vkatikireddi@sphsu.mrc.ac.uk

If you want to speak to someone else about this study who is not directly involved, please contact:

Catherine Ferrell
MRC Social & Public Health Sciences Unit
4 Lilybank Gardens
Glasgow
G12 8RZ

Tel: 0141 357 7561
E-mail: c.ferrell@sphsu.mrc.ac.uk

Interviewee consent form



Full title of Project: A qualitative study of stakeholders' and policymakers' perspectives of alcohol pricing policies

Name, position and contact address of researcher:

Dr. Vittal Katikireddi, Clinical Research Fellow

Dr. Shona Hilton, Programme Leader (Track) – Understandings and Use of Public Health Research

MRC Social & Public Health Sciences Unit, 4 Lilybank Gardens, G12 8RZ

Please initial box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time during the data collection, without giving a reason.
3. I agree to take part in the above study.

Please tick box

Yes No

4. I agree to the interview being audio recorded
5. I agree to the use of quotations in the study – interviewees will not be named and quotes will only be used anonymously. I understand I will have the opportunity to review a transcript of the interview to help ensure my anonymity.
6. I agree that the sector (eg. academic, industry, civil service) I represent can be identified in this study

Name of Participant

Date

Signature

Name of Researcher

Date

Signature



Example topic guide for interviews

Interview guide for policymakers

Section 1 – Alcohol

1. Could we start with you telling me a bit about how your work relates to alcohol?

2. How would you describe alcohol use in Scotland/UK? Why do you think it is used that way?

3. Do you think alcohol has become a particular focus for policymakers recently? Why?
 - a. What do you think are the most important factors for policymakers to consider? E.g. Economic / Health / Crime etc.
 - b. Have there been any changes in how alcohol is considered as a policy issue recently? E.g. Its framing as a trade / crime / health issue
 - c. Why do you think alcohol has become a focus rather than other issues related to health (e.g. obesity)?
 - d. What have been the main events or factors that have led to health being on the alcohol policy agenda?
 - e. Who have been the main people and groups whose actions have resulted in trade / health being on the policy agenda?
 - f. What was the role of research in getting these issues on the agenda?

4. What do you think **should** be the role of... in policymaking?
 - a. Government
 - b. Industry (Producers, Licensed trade, Supermarkets/Off-licenses)
 - c. Research community
 - d. Health advocates/lobby

5. What actions (if any) are needed to address alcohol? What are the issues that might prevent action to tackle alcohol problems?

Section 2 – Alcohol Pricing

1. What do you think about using price (in any way) as a mechanism to influence people's consumption of alcohol?

2. What do you think about alcohol minimum pricing in particular and why? Do you think it has been difficult to get political consensus on this policy and if so, why?

3. Who do you think **has** been (in real life) most important in influencing alcohol pricing policy? What do you think of...
 - a. Media
 - b. Public opinion
 - c. Alcohol industry
 - d. Other industry e.g. supermarkets, licensed premises, small shop owners etc.
4. What do you think the influence of alcohol minimum pricing would be?
 - a. On alcohol consumption
 - b. On public health
 - c. On social problems / crime
 - d. On the NHS / emergency services
 - e. On deprived populations / young people / excessive drinkers
 - f. On the economy / jobs / industry
5. Do you think minimum unit pricing policies for alcohol are likely to be used internationally? Do you think that pricing policies, in general, are likely to be more widely used for other public health problems in the future?

Section 3 – The Role of Evidence

1. How have you drawn upon evidence to inform your views?
 - a. What types of evidence have you looked at?
 - b. What do you think about the role of modelling studies compared to traditional evaluations?
2. What role do you think research evidence has played in influencing the policy on minimum unit pricing?
3. What do you think the role of researchers has been? What should it be?
4. What have been the limitations of the evidence on minimum pricing? What more research needs to be done?

Section 4 – Scotland vs UK

1. Do you think there are substantial differences between Scotland and the UK in terms of..
 - a. the policymaking process
 - b. the benefits resulting from alcohol
 - c. the problems associated with alcohol
2. What do you think would be the impact of Scotland pursuing a different policy from the rest of the UK?

Section 5 – Concluding Questions

1. We're almost at the end of the interview and I'd like to ask you whether you feel there is anything important we haven't spoken about yet. Is there anything you would like to say?
2. Is there anyone you think I ought to contact in relation to this research?

Thank you very much for participating in this research.

Appendix 6: Illustration of the major codes used in NVivo for analysis of the minimum unit pricing of alcohol case study

The codes used in NVivo for the evidence submission documents (prior to the creation of frameworks) are first presented. Following this, two sets of coding for the interview data are presented. The first are largely more descriptive, inductive codes while the latter smaller set of codes are derived from political science theory.

Evidence submission document coding categories used in NVivo

- Approach
 - Population-based
 - Targeted
- Economic and business
 - Adverse economic effects
 - Adverse job effects
 - Beneficial economic effects
- Evidence
 - Country context
 - Canada
 - Scotland
 - UK
 - Effectiveness of other solutions
 - Other solutions effective
 - Other solutions ineffective
 - MUP effectiveness
 - MUP not supported
 - Supports MUP
 - Need for ex ante evidence
 - Problem description
 - Alcohol effects
 - Epidemiology
 - Sales and consumption
 - Quality of evidence base
 - Strong evidence
 - Weak evidence
 - Type
 - Comparative
 - Evaluation
 - Expert opinion
 - Modelling and economic analysis

- Political and public support
 - Price-alcohol relationship
 - Surveys
- Health
 - Adverse health impacts
 - Beneficial health impacts
- Ideology/Ethical
 - Ethical need for MUP
 - MUP is unethical
- Impact by drinking status
- Impact on state revenue
 - No adverse impact or benefits
 - Revenue loss
- Impact on young people and families
 - Adverse impact
 - Beneficial impact
- Inequalities
 - Addresses inequalities
 - Exacerbates inequalities
- Legal position
 - MUP is legal
 - MUP is illegal
- MUP position
 - Against
 - Favour
- Other solutions
 - Age control
 - Ban below-cost sales
 - Best practice
 - Culture change
 - Diversionary activities
 - Education
 - Encourage alcohol sellers
 - Healthcare or services
 - Labelling alcohol products
 - Licensing and training
 - Local initiatives
 - Low strength products
 - Marketing control
 - Multi-pronged approach
 - Other regulation or legislation
 - Personal responsibility
 - Promotional offers
 - Pubs and licensed use
 - Taxation
- Risks of MUP
 - Cross-border, home brew and Internet

- Displacement to other substances
- Implementation issues
- Increased consumption or harms
- Smuggling and illicit alcohol
- Social and crime
 - MUP benefits
 - MUP harms
- Views on other stakeholders

Descriptive interview coding categories

- Actors
 - Advocates
 - Civil Servants
 - Industry
 - Media and public
 - Politicians
 - Research
- Background
 - Length of experience
 - Other sector
- Comparisons
 - Other public health areas
- EBP
 - Evaluations
 - External validity
 - Internal validity
 - Modelling
 - Other examples
 - Views
- Evidence
 - Alcohol price
 - Econometric
 - CEBR
 - IFS
 - Scharr
 - Epidemiology
 - Experts
 - Health Select Committee
 - WHO
 - Other places
 - Canada
 - Personal experience
 - Price-harm relationship
 - Public opinion

- Theory/Logic modelling
- Framing
 - Minority
 - Population
 - Scale of problem
 - Sector
 - Disorder/Binge
 - Economic
 - Positive
 - Negative
 - Health
 - Multi-sector
 - Subgroup
 - Women
 - Young people
 - Time trend
 - Why problem exists
 - Availability
 - Culture
 - Marketing
 - Price
- Ideal world
 - Advocates
 - Government
 - Industry
 - Media/Public
 - Research
- Institutions
 - Europe
 - Scotland
 - UK
- MUP agenda
 - Barriers
 - Culture
 - Evidence
 - Industry
 - Facilitators
 - Disorder
 - Evidence
 - History of legislation
 - Individuals/Organisations
 - Institutional
 - Media/Public
 - Political
 - Post-smoking ban
 - Policy priority
 - No
 - Yes

- MUP effects
 - Advantages
 - Alternatives
 - Disadvantages
 - Economic
 - Health
 - Inequalities
 - Legal
 - Novelty
 - Specific groups
- MUP future
 - Cross-UK impact
 - Other countries
 - Other sectors
 - Sunset clause
- Non-price actions
 - Availability
 - Education
 - Family/Community
 - Marketing
 - Partnership
 - Responsibility Deal
 - Treatment

Political science theory coding categories

- Country differences
 - Burden
 - Political
 - Powers
 - Small country
 - Style
- Entrepreneurs
- Ideas
- Kingdon
- MLG
- Networks
- PET
- Policy transfer
- Two communities

Appendix 7: Illustration of codes used to create frameworks for the analysis of evidence submission documents

Two separate frameworks were created to summarise the descriptive coding of the evidence submission documents in Microsoft Excel 2007. As these frameworks are large and therefore difficult to reproduce here, the codes used for each framework are reproduced in two tables below (alongside abridged example quotations). Each of these codes formed a vertical column of the framework, with a separate row used for each actor's submission. The coding of the frameworks was checked by Dr. Shona Hilton.

The arguments framework used for descriptive analysis of evidence submission documents

Name of code	Explanation of statements fitting code	Abridged illustrative example quotations
Approach	Appraisals of the broad approach required for alcohol policy	We need efficient policies to target alcohol harm without punishing responsible consumer (Molson Coors)
Health	Consequences for health of alcohol use and/or minimum unit pricing	The advantages in terms of the health of the nation include fewer violent crimes and hospital admissions, improved community safety and increased productivity with less days lost to alcohol (Salvation Army)
Subgroups	Referrals to any specific subgroups of the population	major 'collateral damage' to the health, education, behaviour and well-being of children affected by adult alcohol use/misuse (Children First)
Economy	Economic impacts (both positive and negative)	in total consumers would end up paying over £154 million per year more for alcohol products – the equivalent of £67 per household per year for the average household (CEBR)
Social/crime	Impacts on society and/or crime	help towards reducing the incidence of domestic violence (W Dunbartonshire Licensing Forum)
Legal	Legality of minimum unit pricing	There are clearly competition law issues that question whether the Scottish Executive can take action in this area as it may be a reserved power (Co-operative supermarket)

Name of code	Explanation of statements fitting code	Abridged illustrative example quotations
Ideology/ethics	Ideological, ethical or other explicitly normative arguments	We believe passionately that responsible adults have the right to enjoy drinking sensibly (Tenants alcohol producer)
Implementation	Appraisals of issues arising from implementation (including their ease or difficulty)	Some retailers may also seek to reward their customers for alcohol purchases through loyalty schemes that give cash back on other purchases – effectively circumventing the impact of minimum pricing (Morrisons supermarket)
Minimum unit pricing risks/secondary benefits	Secondary impacts of the policy (which could be beneficial or negative)	higher revenues increase incentives for retailers to sell more alcohol (relatively higher returns) (Office for Fair Trading)
Other solutions	Alternative or additional solutions suggested	We strongly believe that there needs to be a greater place for educational policies designed to tackle the culture of excessive drinking (Sainsbury's supermarket)
Miscellaneous	Miscellaneous category to allow other noteworthy arguments to be captured and facilitate the addition of new themes	We are concerned that the Bill appears to assume that it is both desirable and necessary to attempt to close the gap in pricing between the on-trade and the off-trade (Co-operative supermarket)

*The arguments presented relate to the impacts of alcohol use and/or the effects of minimum unit pricing since both sets of arguments were closely intertwined in their presentation.

The evidence framework used for descriptive analysis of evidence submission documents

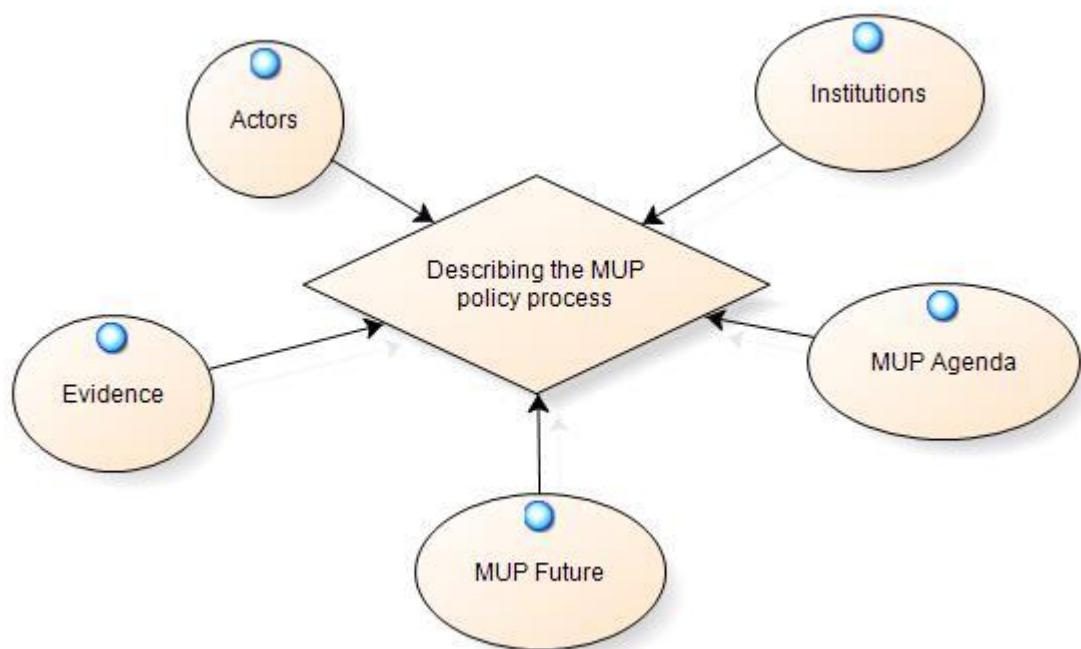
Name of code	Explanation of statements fitting code	Abridged illustrative example quotations
Minimum unit pricing effectiveness	Appraisals of the effectiveness of minimum unit pricing	Tackling price and availability are the most effective alcohol policies. A minimum price per unit of alcohol sold would have a significant impact (Faculty of Public Health)
Other solutions effective	Appraisals of the effectiveness of other interventions	it is clear that educating young people about alcohol, and improving education levels overall, is key to reducing alcohol misuse in later life (NUS Scotland)

Problem description	How alcohol is described as an issue for policy debate	Strong links between poverty, deprivation, widening inequalities and problem alcohol use but the picture is complex. It may involve factors such as housing, mental health problems and poor employment opportunities (SAMH)
Expert opinion	Views of experts	Researchers from the Institute of Social Marketing at the University of Stirling have argued that changes in social and personal attitudes to alcohol will need to look beyond traditional public health responses to approaches in other fields (Consumer Focus Scotland)
Evaluation	Evaluation-based evidence or comments of a lack thereof (includes any evidence based on post-hoc assessments of similar interventions)	Unfortunately, no Canadian jurisdiction that we are aware of has systematically evaluated effectiveness of their minimum pricing policies in reducing problem drinking (National Alcohol Strategy Advisory Committee, Canada)
Public/Consulted opinion	Opinion of the public or other relevant consultees (including based on formal exercises e.g. surveys as well as unsubstantiated assertions)	Our customers have made their opposition clear. A survey of 10,109 face-to-face interviews conducted with Asda shoppers in 30 stores throughout Scotland showed that 61% of respondents disagreed with the proposal (Asda)
Comparative	Comparisons between countries e.g. drawing on experiences in Canada, Russia etc.	It is a matter of fact that the UK and Scotland already have some of the highest taxes and prices in Europe. Any comparison between the drinking cultures of low cost Spain and France and high cost Britain and Sweden offers clear evidence that high taxes and prices don't solve misuse (Scottish Beer and Pub Association)
Price-alcohol relationship	Appraisals of the relationship between price, alcohol consumption and harm (only requiring two of three factors to be alluded to)	There is little empirical evidence of a direct correlation between the price of alcohol in a country and the level of alcohol-related harm (The Portman Group)
Modelling	Modelling-based evidence e.g. Sheffield model, critiques, other modelling studies	An independent study conducted by researchers at Sheffield University states that "as the minimum price threshold increases, healthcare costs are reduced" (BMA Scotland)
Country	Evidence (including experiential) drawn from a specific country	that other countries have successfully set a minimum sales price for alcohol including Russia (W Dunbartonshire Licensing Forum)
Miscellaneous	Miscellaneous category to allow other noteworthy arguments to be captured and facilitate the addition of new themes	it is essential to base solutions on the facts and robust evidence of what works (National Association of Cider Manufacturers)

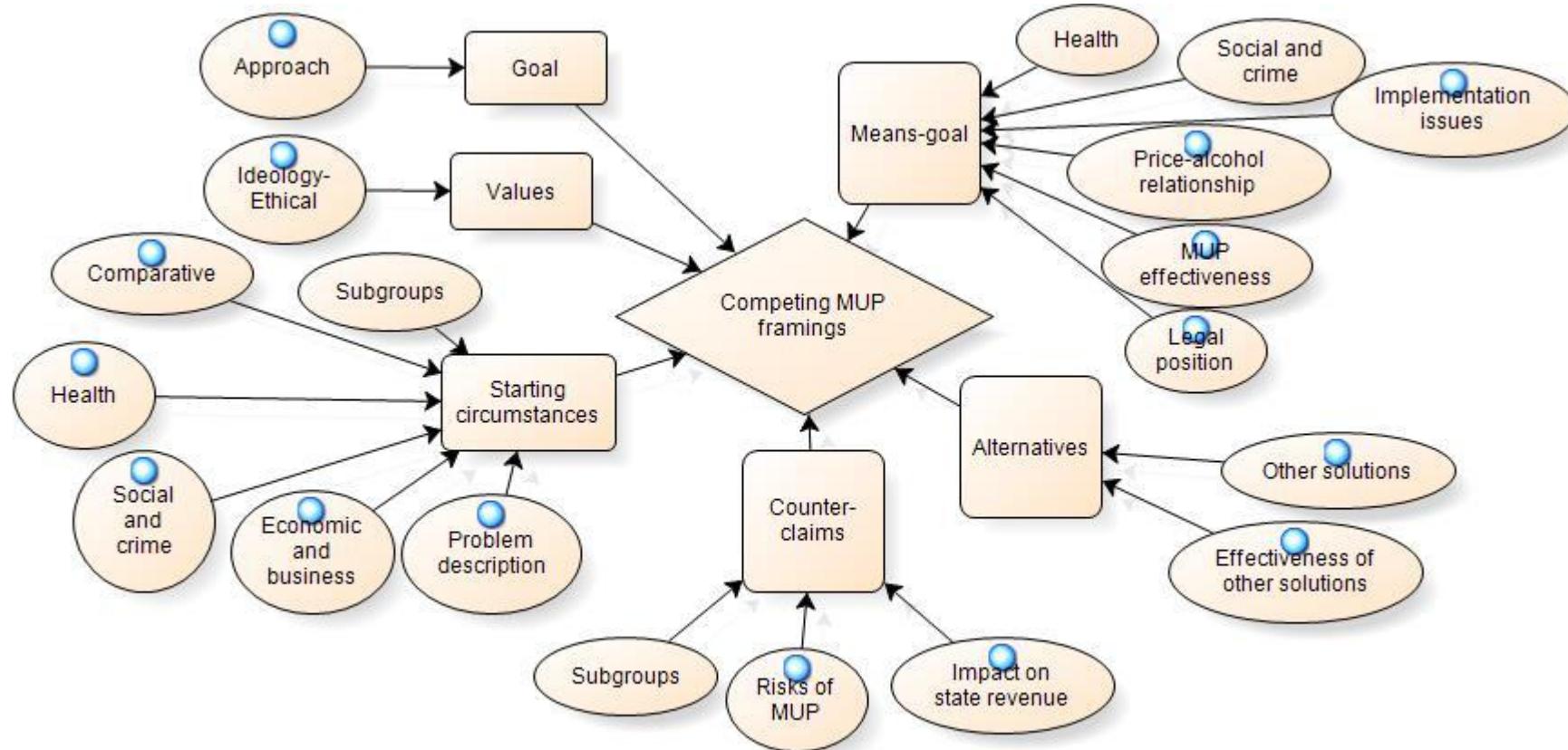
Appendix 8: Models illustrating the relationship between the major codes used for analysis and the research aims for the minimum unit pricing of alcohol case study

The following models illustrate the relationship between the descriptive codes and the different research aims presented in the results chapters.

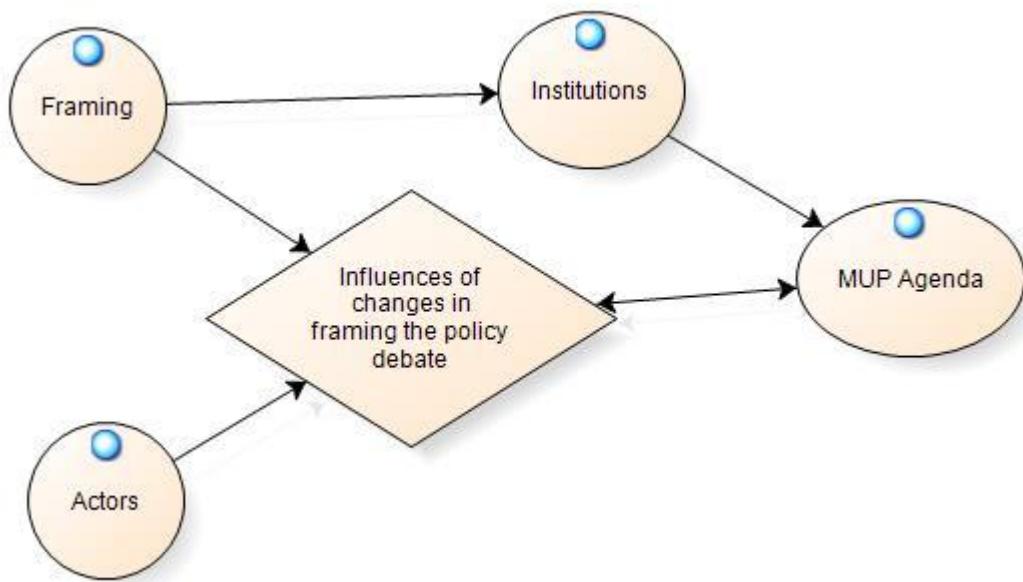
Description of the development of minimum unit pricing



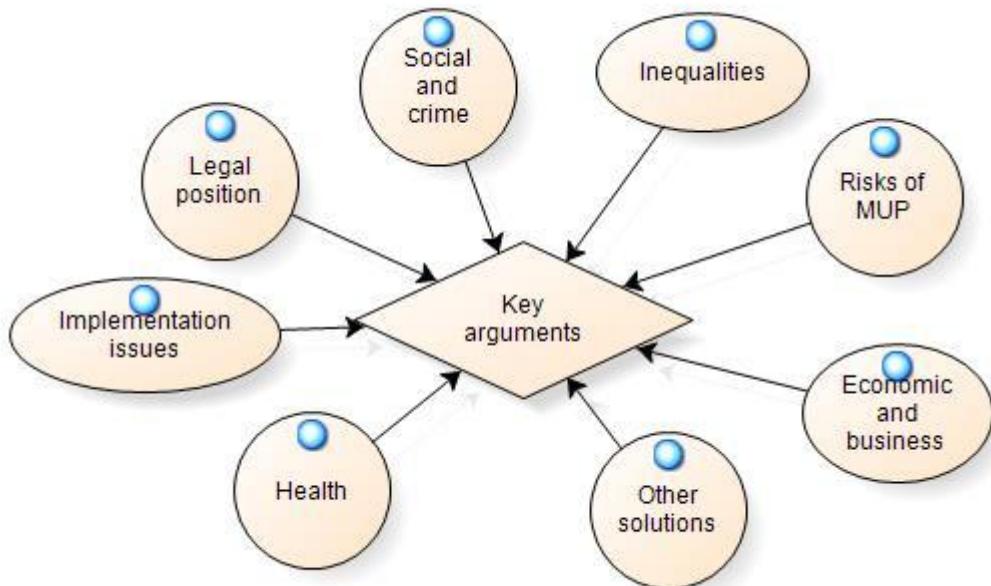
The different framings of minimum unit pricing



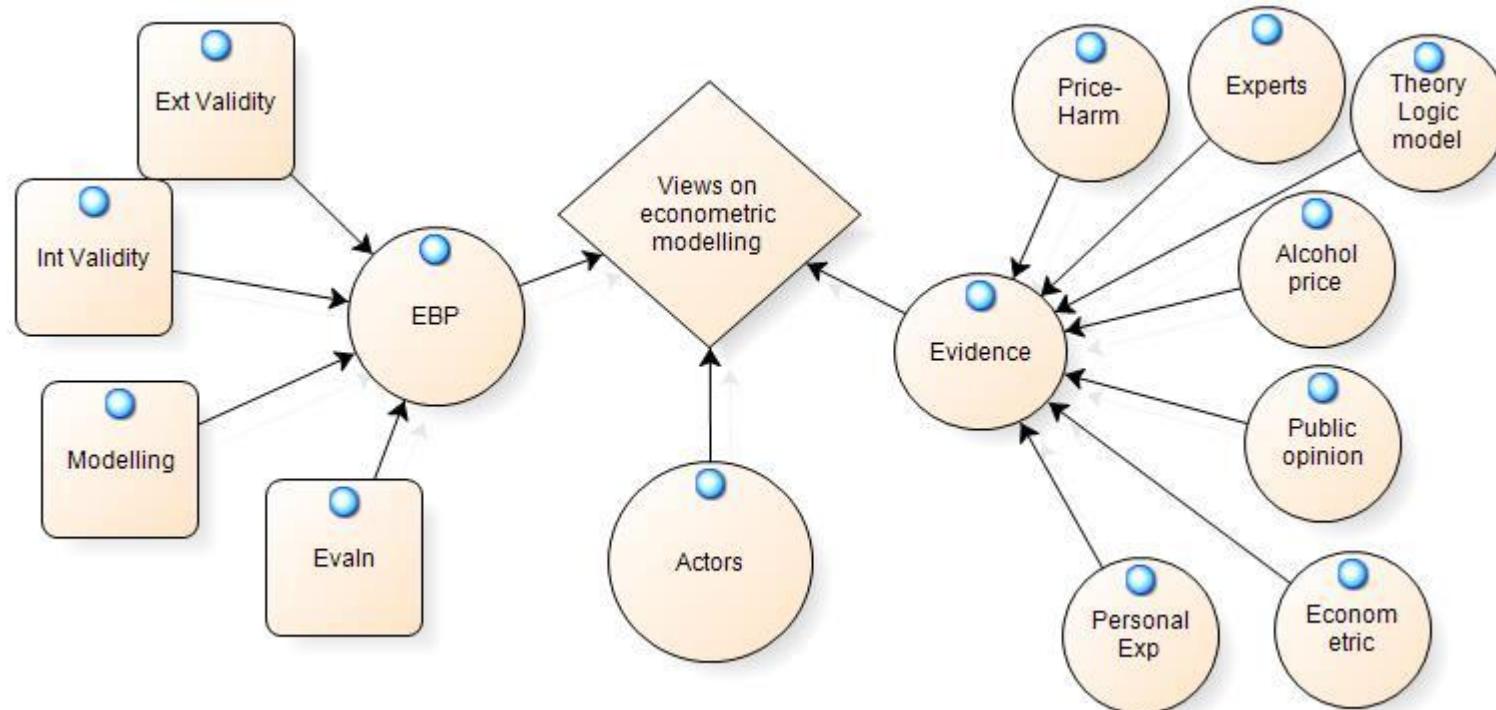
Changes in the framing of minimum unit pricing



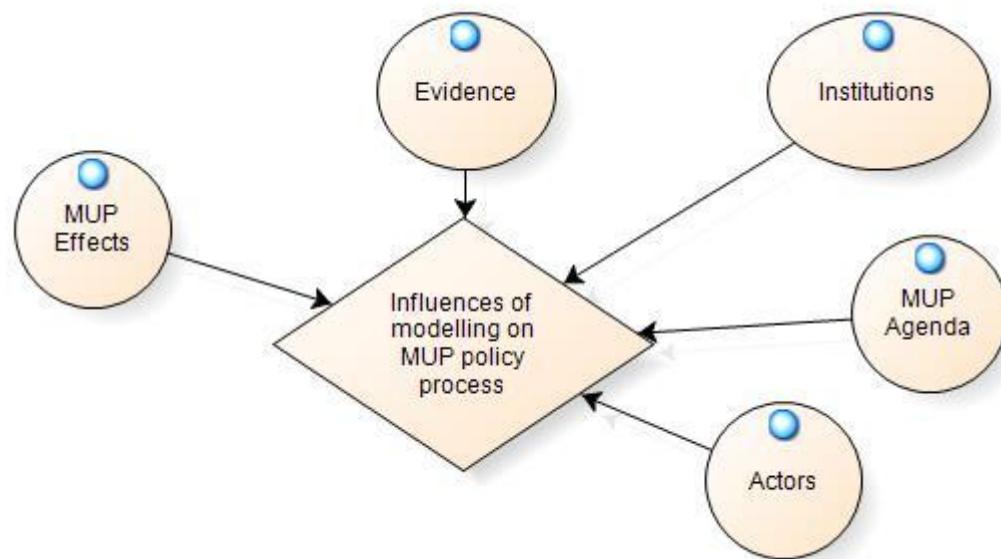
Key arguments for and against minimum unit pricing



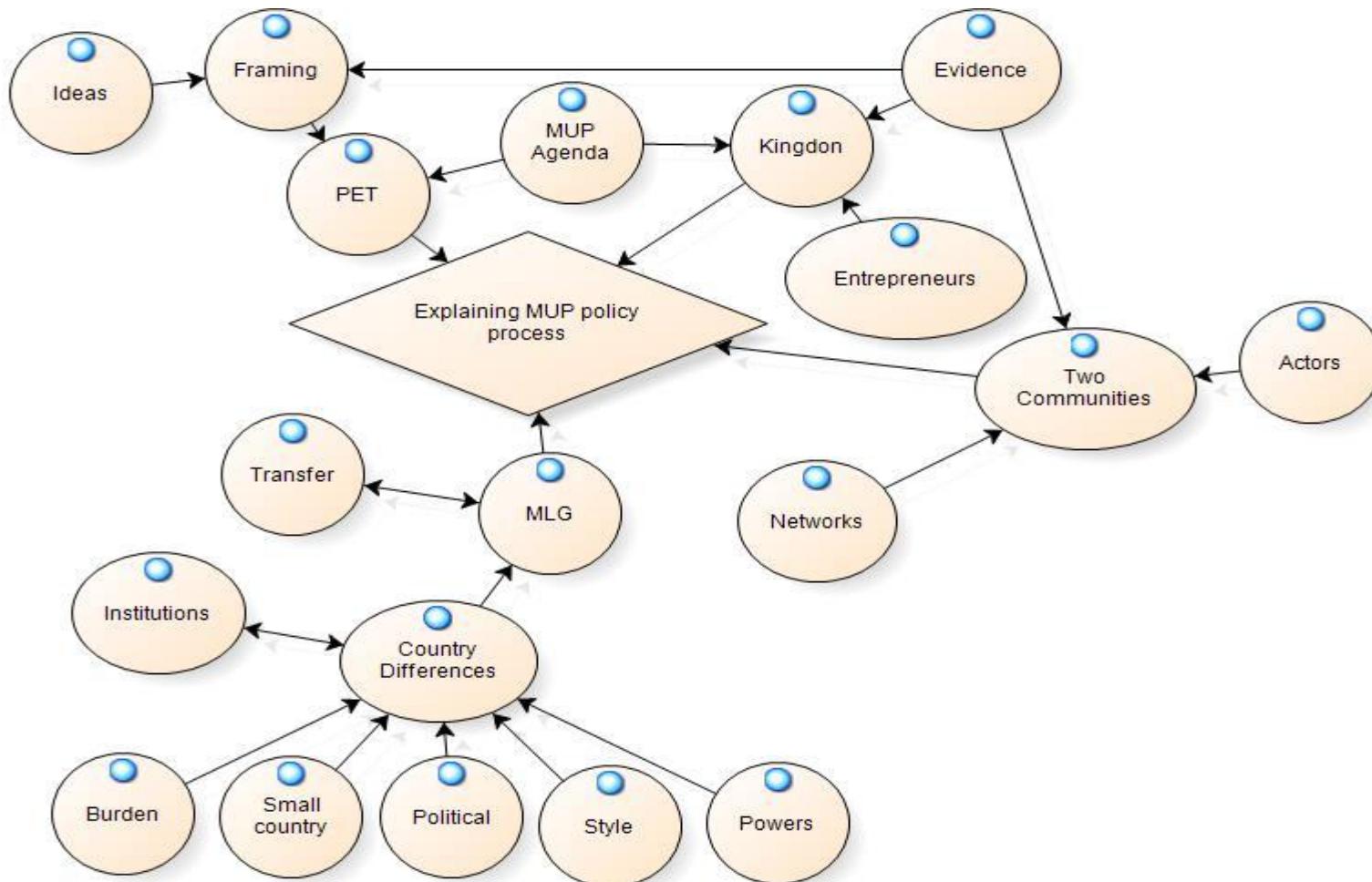
Views on econometric modelling



Influences of econometric modelling on the minimum unit pricing policy process



Explaining the minimum unit pricing policy process



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