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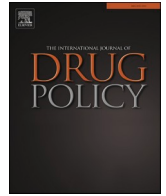
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Research Paper



Mapping alcohol and tobacco tax policy interventions to inform health and economic impact analyses: A United Kingdom based qualitative framework analysis

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ABSTRACT

Background: Alcohol and tobacco have different policy regimes and there is little understanding of how changes to policy on each commodity might combine to affect the same outcomes or to affect people who both drink and smoke. The aim of this study was to deepen understanding of the policy objectives of UK alcohol and tobacco tax options being considered at the time of the interviews with a set of UK policy participants in 2018, and the factors affecting the implementation and outcomes of the policy options discussed.

Methods: Ten tax policy experts were recruited from government arms-length organisations and advocacy groups in England and Scotland (4 alcohol, 4 tobacco, 2 alcohol and tobacco). Alcohol and tobacco experts were interviewed together in pairs and asked to discuss alcohol and tobacco tax policy objectives, options, and the mechanisms of effect. Interviews were semi-structured, supported by a briefing document and topic guide, audio-recorded, transcribed and then analysed deductively using framework analysis.

Results: Alcohol and tobacco tax policy share objectives of health improvement and there is a common set of policy options: increasing duty rates, duty escalators, multi-rate tax structures, industry levies and the hypothecation of tax revenue for investment in societal benefits. However, participants agreed that the harms caused by alcohol and tobacco and their industries are viewed differently, and that this influences the impacts that are prioritised in tax policymaking. Working-out how alcohol and tobacco taxes could work synergistically to reduce health inequalities was seen as desirable. Participants also highlighted the importance of avoiding the combined effects of price increases on alcohol and tobacco widening economic inequalities.

Conclusions: Impact analyses should consider the combined effects of alcohol and tobacco tax policies on health and economic inequalities, and how the effects of changes to the tax on each commodity might trade-off.

Introduction

The focus of non-communicable disease (NCD) prevention is a “5×5” approach: five diseases—cardiovascular diseases, cancer, diabetes, chronic respiratory diseases, and mental health; five modifiable risk factors—tobacco and alcohol use, unhealthy diet, physical inactivity, and air pollution (United Nations General Assembly, 2018). The World Health Organisation recognises tax increases as a “best buy” approach (i.e. a proven a cost-effective policy option) to reduce exposure to the

major NCD risk factors (Sassi & Belloni, 2014; World Health Organisation, 2017). Tax policy, through its effect on decreasing the affordability of unhealthy commodities (or increasing the affordability of healthy commodities), is therefore promoted as a public health policy intervention that can help to achieve the United Nations’ Sustainable Development Goal target of reducing mortality from NCDs by a third by 2030 (Target 3.4) (Nugent, et al., 2018; Sassi, et al., 2018; Stenberg, et al., 2017). Alcoholic beverages and tobacco products have been routinely subject to a variety of excise duties, sales taxes, and value

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added tax in most countries (Chaloupka, Powell, & Warner, 2019; Gelius, et al., 2022). Although such taxation has historically been motivated by revenue generation for governments, the rationale for tax rises is increasingly shifting to its function in encouraging people to reduce their alcohol consumption and to quit tobacco smoking (U.S. National Cancer Institute & World Health Organization, 2016; Wagenaar, Tobler, & Komro, 2010). In the United Kingdom (UK), alcohol and tobacco use lead to over 100,000 preventable deaths from NCDs per annum and there is a shortfall in the order of £21 billion between the estimated costs of alcohol and tobacco consumption to society, e.g. in terms of lost work productivity and costs to the National Health Service (NHS), and the tax revenues to government that are generated from product sales (the evidence at the time of conducting the stakeholder interviews in this study is summarised in Supplementary Table A1 in Appendix A).

Alcohol and tobacco have very different policy regimes and histories of taxation (Hawkins et al., 2018). The tobacco and alcohol fields tend to operate in substance specific research areas which, while acknowledging the links between these two behaviours and their determinants, rarely looks at the two issues together. Considering the tax policy on the two commodities together could therefore help to bridge this gap. To support a move towards a coordinated non-communicable disease approach in public health policy, it is important to conceptualise changes to policy on alcohol and tobacco as affecting a single interlinked system, e.g. acknowledging that there are relationships between alcohol and tobacco in policy formation and the outcomes of policy change for consumers, the economy and society (Gillespie et al., 2021). Modelling the effects of policies that target alcohol and/or tobacco consumption in common terms allows fair comparisons between the effects of changes to alcohol policy and tobacco policy and supports understanding of how changes to alcohol policy and tobacco policy might combine to affect the same outcomes. Furthermore, to understand the effects of policy changes on socio-economic or health inequalities, it is important to understand how changes to alcohol and tobacco policy might affect individuals differently, thinking particularly of the characteristics of people who both drink to harmful levels and smoke.

It is expected that a tax increase that raises the price of an alcohol or tobacco product will reduce consumption of that product, but that the response of consumers to price rises is “inelastic”, i.e., that a given percentage change in price causes a smaller percentage change in consumption (Gallet, 2007; Gallet & List, 2003). This means that we expect tax increases to both reduce product consumption and raise tax revenue. It is also expected that individual consumers will vary in their responses to price changes, e.g., by characteristics such as age, income, alcohol and tobacco product preferences, and the amounts of alcohol and tobacco typically consumed (Cruces, Falcone, & Puig, 2022; Pryce, Hollingsworth, & Walker, 2019). Computer simulations that model the mechanisms of effect of tax policy changes can help policymakers to understand the potential health and economic effects of changing the tax on alcohol and tobacco products, and the differences in the size and societal distribution of these health and economic effects according to whether tax is changed on alcohol or tobacco products (Gillespie, Hatchard, Squires, Gilmore, & Brennan, 2021; Meier, Purshouse, & Brennan, 2010).

This study was conducted as part of the UK National Institute for Health and Care Research (NIHR) funded project: “Integrated Evidence Synthesis for Joint Appraisal of Tobacco and Alcohol Tax Interventions for Harm Reduction in England (SYNTAX)” (Brennan, et al., 2018). The goal of the project was to model the potential joint health and economic effects of changes to alcohol and tobacco tax policies (Gillespie, et al., 2021). The final part of the project developed computer simulation modelling to estimate the health and economic effects of alternative options for changes to the tax on alcohol and tobacco products (Morris, et al., 2023). The project began by reviewing the literature on UK tax interventions, which provided an initial understanding of the relevant tax policy options and their underlying objectives (Hatchard, Buykx, Brennan, & Gillespie, 2023). The review identified four policy themes:

changes to excise duty within existing tax structures, structural reforms, industry measures, and hypothecation of tax revenue for public benefits. For alcohol, policy options focused on raising the price of cheap, high-strength alcohol. For tobacco, policy options focused on raising the price of all tobacco products, especially the cheapest products, which are hand-rolling tobacco. Some tax policy options, such as fully ‘specific’ or equivalent tax structures – e.g., per unit or per gram – are discussed across alcohol and tobacco. Others, such as multi-rate structural reforms and industry subsidies relate mainly to alcohol, while industry levies, price caps and minimum excise taxes are mainly discussed in relation to tobacco. The explanation for this difference is likely to lie in the different configuration of objectives and mediating factors for alcohol versus tobacco tax policy in the UK. The qualitative research presented in this study was designed to fill this gap in understanding identified by the review; the review findings were used to produce a briefing on alcohol and tobacco tax policy options that was given to policy stakeholders ahead of the interviews conducted (Buykx & Hatchard, 2019).

The aim of this study was to deepen understanding of the policy objectives of UK alcohol and tobacco tax options being considered at the time of the interviews with a set of UK policy participants in 2018, and the factors (e.g. evidence, effects, mediators) affecting the implementation and outcomes of the policy options discussed. To bridge the gap between the commodity-specific research and policy development in the alcohol and tobacco fields, we designed the study as a series of interviews in which an alcohol expert and a tobacco expert had a conversation across alcohol and tobacco tax policy. Participants were also aware that taking part in this study was an opportunity for policy co-ordination in terms of the sharing of expertise across the alcohol and tobacco fields. Framework analysis was then used deductively to conduct comparative analysis across alcohol and tobacco tax policy (Hatchard, Gillespie, & Buykx, 2019).

Methods

Academic and policy stakeholder participants

Ten tax policy experts from seven organisations were recruited purposively during May and June 2018 (4 alcohol, 4 tobacco, 2 both). These participant organisations were from government arms-length organisations or advocacy organisations and were selected purposively on the basis of their influence over and/or demonstrated expertise in tobacco and/or alcohol taxation. We aimed to interview 2 or 3 people from each organisation. These participants were not connected to the alcohol or tobacco industries. Inclusion criteria were: expert knowledge of UK alcohol and/or tobacco tax policy; active involvement in policy decision-making and/or debates. Following recruitment, participants were asked to read a policy briefing covering policy objectives, options and evidence of effects, based on a rapid review of the UK literature (Buykx & Hatchard, 2019; Hatchard, et al., 2023). The policy briefing was also used to structure the data collection protocol (see Appendix B in the Supplementary Material). Participants did not receive any form of reimbursement for their time.

Data collection

Five joint interviews were conducted during July and September 2018 by JH and PB, with each interview including one alcohol and one tobacco tax policy expert (Arksey, 1996; Voltelen, Konradsen, & Østergaard, 2018; Zarhin, 2018). At the beginning of each interview, we actively encouraged participants to converse with each other to foster discussion of the differences and similarities between alcohol and tobacco tax and the potential for common policy frameworks. Participants were positive about this opportunity and engaged with the process fully. Then, following the protocol, participants were, first, asked to discuss their objectives, or rationales, for alcohol and/or tobacco tax policy and to give an indication of importance where more than one objective was

identified. Second, participants were invited to discuss the policy options described in the briefing and to raise any of their own. Interviewers interjected in the discussion to probe participants' views on policy technical specification, likely effect, cross-effects between alcohol and tobacco, mediators and evidence gaps. Finally, participants were asked about the potential for more joined-up thinking across alcohol and tobacco tax policymaking (Cejudo & Michel, 2017; Hill, Johns, Nakkash, & Collin, 2022), including whether and how this might work, the desirability of integrated policymaking across alcohol and tobacco tax, what the objectives might be, and the potential for added value from a joint approach. We chose to interview jointly to open up a new space for dialogue about alcohol and tobacco between policy experts. Our novel approach created space for new ideas and sharing of different perspectives. It also allowed "jointness" to be considered from both perspectives in a shared space perhaps for the first time. A risk here was that we would hinder the candour of participants. However, interviewees were comfortable sharing their views as evidenced by the depth of their responses and the frankness of interactions. Each interview lasted approximately 90 minutes and was digitally recorded and transcribed.

Ethics

Ethical approval was obtained from the Sheffield Centre for Health and Related Research Ethics Committee at the University of Sheffield (ref. 017409, 2018) and confirmed by the REACH Committee at the University of Bath. During the recruitment process, the joint nature of the proposed interviews was made explicit to participants so that all understood that they would be interviewed alongside a second participant. Written consent was obtained from participants at the start of each interview, including acknowledgement that participants would respect the anonymity of their co-interviewee outside the interview itself.

Analytical approach

Data were analysed using framework analysis in which data are coded and then "charted" in a matrix, where columns are codes, rows are cases, and fields are populated with summarised data abstracted systematically from coded interview transcripts (Gale, Heath, Cameron, Rashid, & Redwood, 2013). Analysis and interpretation were then undertaken by comparing cases in the matrix. Participant ideas about tobacco and alcohol tax policy were grouped into sub-themes/factors, each of which was ultimately nested within policy logic models. A detailed account of the development of our analytical framework and of the coding and charting processes used is published in peer-reviewed conference proceedings (Hatchard, et al., 2019). See Appendix B in the Supplementary Material for further information.

Data coding

Data were coded in word processing software using a deductive codebook developed from the rapid review briefing, interview protocol and initial reading of the interview transcripts (Appendix B in the Supplementary Material). The codebook had three main components. First, we coded overarching policy objectives. Second, policy options and factors affecting policy debates, implementation and outcomes were coded. Factors can be understood as the "moving parts" in policy decision making and consequences. Third, "jointness", which covered the processes of "policy coordination"—information sharing, "policy coherence"—minimising conflicts and maximising synergies, and "policy integration"—changing organisational agendas so that alcohol and tobacco tax policy is set to optimise common criteria, e.g., to raise government revenue, or reduce NCD mortality (Cejudo & Michel, 2017; Hill, et al., 2022). This structure was based initially on the rapid review undertaken prior to the interviews (Hatchard, et al., 2023) and developed inductively following data collection. JH and PB independently tested the coding structure on a single interview, refined it, and then

coded all transcripts in a word processing programme (two each).

Concept identification

Emergent concepts and the characteristics of the participant who voiced the comment (e.g. whether they were an expert in alcohol or tobacco tax policy) were recorded inductively in a matrix during the process of data abstraction. Illustrative quotes were flagged in the matrix and recorded separately in a table. To reach a final consistent set of concepts, recorded concepts (61 policy options, 199 associated factors) were reviewed independently by JH and PB for similarity, a small number of differences were resolved through discussion, and concepts were collapsed accordingly (11 policy options, 70 associated factors).

Data analysis

Data were analysed comparatively, supported by constant referral to the framework chart and the quotes reference document (Gale, et al., 2013). For overarching policy objectives and "jointness", this comparative analysis was used to produce a descriptive synthesis of participants' views. For policy options and associated factors, we first created "thick" descriptions of each policy option (provided in Appendix C in the Supplementary Material). Each description of a policy option included: a single-sentence "sketch" of the policy option; a summary of participant interest; text on the likely effect of tax changes; a logic model diagram depicting associated factors (Langley, et al., 2020); text describing factors affecting policy development, implementation, joint policymaking across alcohol and tobacco, and outcomes; participant quotations; and a table of evidence and evidence gaps. Second, thick descriptions were synthesised to summarise policy options and the factors affecting their development, implementation, joint policymaking and outcomes as described in the results.

Use of public perspectives to support interpretation of the findings

To guide the process of interpreting the findings, three public panels were involved: the Sheffield Addiction Recovery Research Panel, the Tobacco and Nicotine Discussion Group in Nottingham, and the Alcohol and Food Discussion Group in Stirling (see Appendix D in the Supplementary Material). The members of each panel were experienced in discussing research projects from the perspective of their lived experience. SYNTAX project researchers visited each panel and initiated a discussion of alcohol and tobacco consumption behaviours, how consumption depends on product prices and available income, and panel members' views on tax policy changes and its potential effects. The discussions were informed by brief details of the current rates of and revenues from alcohol and tobacco tax in the UK.

Data presentation

We present our analysis, followed by quotes selected for their illustrative capacity/quality. Quotes are not necessarily intended to be representative, but rather reflect the policy expertise of the speaker, i.e. a quote may have been used even if the idea it expressed pertained to just one person, though oftentimes ideas were expressed by more than one. Where we present multiple quotes that flow from each other as part of a conversation between the participants in our joint interviews, we have added a "conversation marker" to these quotes to allow the reader to identify them as being part of a discussion between participants.

Results

From the data, we identified 20 overarching policy objectives, 11 policy options and 7 groups of factors affecting those policy options (comprising 70 factors in total). The twenty policy objectives are presented in Table 1. The policy options identified all fitted within the 4-

Table 1
Twenty Policy Objectives of alcohol and tobacco tax-related policies.

Objectives	Both alcohol and tobacco taxes	Alcohol tax only	Tobacco tax only
Most important objectives	1. Reduce harm	12. Reduce consumption of particular groups (e.g., middle aged, middle class, heavy drinkers, children, young people)	16. Reduce smoking prevalence
	2. Improve health		17. Increase price
	3. Reduce consumption		
Secondary objectives	4. Meet externalities (health/non-health)	13. Encourage industry product reformulation	18. Encourage industry investment in other products
	5. Change consumer behaviour (e.g., harm reduction products; consumption venues)		19. Reduce industry profits
	6. Change affordability		
	7. Reduce health inequalities ^a		
Third party	8. Raise revenue ^{a β}		
	9. Reduce working life-years lost, absenteeism, presenteeism	14. Prevent negative impacts on economic development and competitiveness	
Outcomes to avoid	10. Increasing health inequalities	15. Undermining industry	20. Supporting industry
	11. Passing on costs to consumers that negatively affect living standards		

α – One participant proposed this as among the most important objectives, but this was not the consensus across participants.

β – Also suggested as a third-party objective.

element typology which had emerged from the rapid review (Buykx & Hatchard, 2019; Hatchard, et al., 2023): excise duty rates, tax structures, industry measures, hypothecation interventions (Table 2). Quotations and more information on each of the 11 options are included in Appendix C in the Supplementary Material. Other options suggested by participants fell outside the scope of SYNTAX research project’s focus on tax policies; these were minimum unit pricing, below cost selling ban, state ownership and embedding treatment services in the NHS.

Policy objectives

Policy objectives comprise the rationales that participants assigned to tax policy for alcohol and/or tobacco products and industries. Of the 20 identified, 11 were common to alcohol and tobacco and 10 were specific to either alcohol or tobacco (Table 1).

Participants identified three objectives common to alcohol and tobacco tax policy as being the “most important”. These were: reduce harm, improve health and reduce consumption (Objectives 1–3). An additional five supporting objectives (Objectives 4–8) were to use tax to: meet externalities of use (e.g. costs of acute and long-term care, police, fires, courts, litter); incentivise consumers to change their behaviour (e.g. switch to lower strength alcohol products and/or e-cigarettes, smoke and drink less at home); change product affordability; reduce health inequalities; and raise revenue. These secondary objectives reflect a distinction we observed in the data between participants’ overarching important goals for tax – changing consumption, harm and health – and the specific objectives which will contribute to that goal if achieved via tax policy. The exchanges below reflect this understanding among participants that there is a hierarchy within the objectives shared across alcohol and tobacco tax.

“The most important thing is to reduce the harm caused by tobacco. And changing industry behaviour, changing consumer behaviour, reducing

Table 2
Eleven categories of alcohol and tobacco tax policy options for the UK.

#	Policy	Description	Alcohol	Tobacco
Change Excise Duty rates				
1	Large increase in duty by >10 %	Ad hoc duty increase of up to 20 % for all alcohol and tobacco products	✓	✓
2	Moderate increase in duty by up to 10 %	Ad hoc duty increase of up to 10 % for all alcohol and tobacco products.	✓	✓
3	Reinstate/raise duty escalators	Annual duty increase of 2–5 % above inflation on alcohol and/or tobacco products	✓	✓
4	Minimum Excise Tax (MET)	Minimum total excise duty threshold, rising 2 % annually above inflation (RPI). Minimum consumption tax (including VAT element also discussed)	✓	✓
Change Tax Structure				
5	Multi-rate duty structure based on strength/harm	Tiered or scaled duty structure across all alcohol and/or tobacco products to reflect relative harm or strength of products	✓	✓
6	Fully specific tax structure for tobacco	Retain specific excise duties (per stick or gram) and remove ad valorem excise duties (% of retail price)	×	✓
7	Tax on- and off-trade alcohol differently	Change the structure of the tax system so that on- and off-trade alcohol purchases incur different total taxes	✓	×
8	Change international duty structures	Change international tax structures to ensure harmony of duty rates across borders	✓	✓
Industry Measures				
9	Industry levy	Levy on the alcohol and/or tobacco industries, retail and/or manufacturing	✓	✓
10	Wholesale price cap - tobacco	Price cap measure for tobacco products restricting the price at which manufacturers can sell to wholesalers and bridging the gap with a duty increase	×	✓
Hypothecation				
11	Hypothecate revenue from taxes/levies	Hypothecate alcohol and/or tobacco duty and/or levy revenue for funding specific health and non-health services	✓	✓

health inequalities all go under that...” [Participant B4 – tobacco, conversation 2]

“Exactly the same for alcohol. You can delete tobacco and replace alcohol from what B4’s just said; I imagine we’ll be doing a lot of that.” [Participant B3 – alcohol, conversation 2]

“(U)ltimately we’re trying to impact on consumption, which in turn will impact on harm. We’re particularly interested in doing so in a way that doesn’t increase health inequalities.” [Participant D7 – alcohol, conversation 4]

“Most smoking cessation interventions tend to aggravate inequalities, taxation has the potential for not doing that...we see tax as one of the few things that buck that trend.” [Participant D8 – tobacco, conversation 4]

The last of these common supporting objectives, raising revenue (Objective 8), attracted mixed views from participants. It was identified as a secondary objective, as in the exchange below. However, one participant asserted it would be judged to be important by fiscal policymakers and another, contradictorily, indicated that, even for HM Treasury, health objectives are more important. This was due to their

understanding that revenue raised from tobacco tax, at least, was “relatively small beer” now that smoking rates are so low. A third participant suggested that fiscal policymakers might instead perceive the objective of alcohol and tobacco tax as being to increase economic productivity by reducing working life-years lost, absenteeism and presenteeism. Thus, linking health and economics would help attract support for alcohol and tobacco taxes from fiscal policymakers (Objective 9).

“So, there are clearly other things that come with taxation, of raising revenue and I respect that reason, but that’s not my own primary perspective on it. It’s really as a health improvement tool. Alcohol as with tobacco are products which cause harm and so the purpose of taxation is to limit that harm and, as I said, also raises revenue.” [Participant C5 – alcohol]

“If you spoke to the Department of Health, I’m sure they would be much more around influencing consumption and tackling, as we would say tackling alcohol-related harm. I’m not sure that’s where Treasury start from: first and foremost it’s an economic, it is revenue raising.” [Participant E9 – alcohol/tobacco]

“So I think it is more of a health focus [for HM Treasury] now, because it’s relatively, in terms of the tax take, it’s relatively small beer.” [Participant A2 – tobacco]

“(W)hat would be useful is to think well who owns this policy? The HM Treasury own this policy, what are they interested in? They’re interested in working life lost, absenteeism, presenteeism, all those kind of economic development, competitiveness, that kind of thing, they’re the outcomes they care about.” [Participant D7 – alcohol]

Common outcomes to avoid (Objectives 10–11) were increasing health inequalities and passing on costs to consumers that negatively affect living standards. These are linked to Objective 7: reduce health inequalities. However, they set a slightly different agenda, which is that tax policy should avoid making life more difficult for the most vulnerable members of society – i.e. avoid making things worse.

Differences were also observed in the data between the policy objectives articulated for alcohol tax compared to those for tobacco tax. First, on consumption, for alcohol, the objective of tax policy was described as being to reduce harmful use, particularly among at-risk groups in the population (e.g. middle aged, middle class, heavy drinkers, or children and young people) (Objective 12). In contrast, for tobacco, tax was understood as aiming to reduce smoking prevalence, with an emphasis on increasing price of all tobacco products (Objectives 16–17).

“So alcohol and tobacco products are looked upon quite differently...one is lethal to 50 % of its regular long-term users and the other is regarded as, it’s not risk free, but as long as you keep within moderate usage levels, it’s an important part of social life...So we are looking to do various things including using fiscal measures to get more people to stop smoking. Whereas in alcohol there’s a general view that we want to reduce alcohol-related harms, but we’re not out to increase the number of teetotallers or anything like that.” [Participant A1 – alcohol/tobacco]

“...on tobacco...we would want to change people’s consumption I think...and one of the means by which we would do that would be to make it less affordable, and our best understanding, although it’s very difficult to determine precisely, is that around about half the drop in smoking prevalence overall is a function of the price increasing and around about 50 % of the reduction in consumption is all the other things that we’ve put in place.” [Participant A2 – tobacco]

Second, on industry, for alcohol, participants expressed an awareness of a political, social and economic need to avoid undermining the alcohol industry’s economic competitiveness, with the artisanal cider industry frequently cited as a pertinent case (Objectives 12, 14–15). In contrast, for tobacco, the emphasis was on reducing industry profits and

avoiding providing support to the industry (Objectives 19–20). For both, incentivising product reformulation was flagged as an objective (Objectives 13, 18), although the emphasis was different – for alcohol, investment in lower alcohol content products, and, for tobacco, diversification into non-tobacco or non-combustible products.

“(T)he degree to which government is willing to take fairly stringent measures is very, very different in tobacco as opposed to alcohol...I think we as far as possible obviously, as I said, we’re out to tackle alcohol harms, not alcohol per se, so a test, say, of these policies would be, is it going to help us tackle alcohol harms or is it going to undermine the alcohol industry in general. And obviously if it was deemed to be very effective at reducing alcohol harms then that would be more acceptable in principle than if it was deemed to be just undermining the industry.” [Participant A1 – alcohol/tobacco]

Policy options – influencing factors

Seventy factors influencing policy development, implementation and outcomes were identified from the data. These were grouped thematically into seven sets. These were:

- Evidence (6 factors);
- Evidence gaps (8 factors);
- Pre-implementation mediators (10 factors);
- Intended effects (21 factors);
- Effects to avoid (13 factors);
- Consumer switching behaviours (6 factors);
- Other post-implementation mediators (6 factors).

Interviewees’ discussions of these factors are summarised in Figs. 1–4 by policy type and by commodity (alcohol, tobacco, both). A detailed list and descriptions of the factors relevant to each of the 11 policy options is provided in Appendix C in the Supplementary Material with accompanying illustrative quotations.

Tax policy coordination and “Jointness”

Conversations in interviews regarding potential links between alcohol and tobacco tax policies reflected participants’ uncertainty about the idea of “jointness” in the tax policy sphere. They raised three sets of issues detailed below: perception of policy; policymaker motivation; and effect on inequalities. These make a start on filling the evidence gap identified in the rapid review regarding the consideration of alcohol and tobacco tax together.

Perception of policy

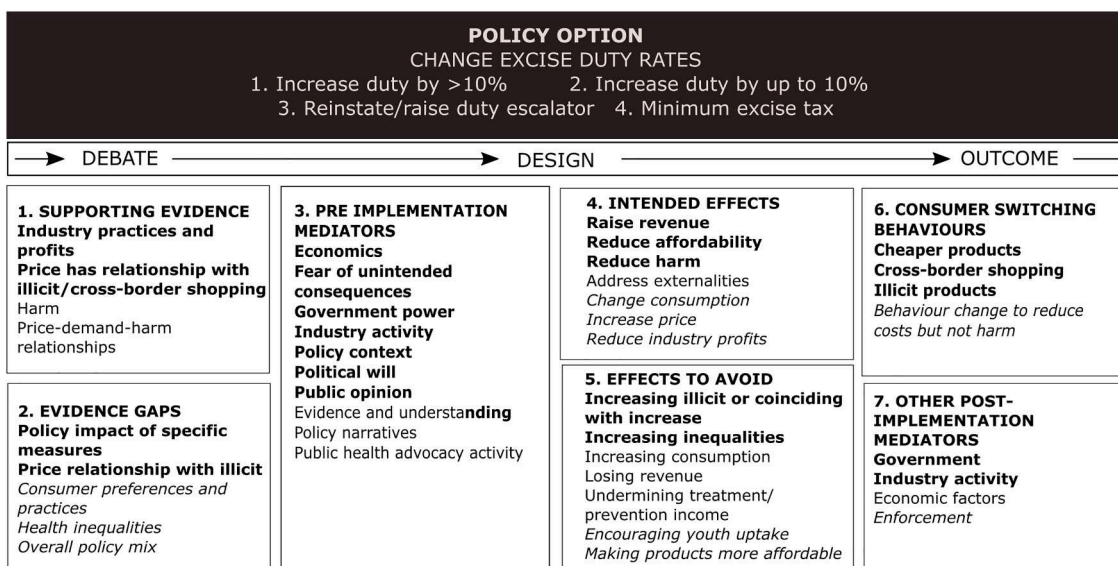
Participants agreed that alcohol and tobacco products and industries were perceived differently with regard to harm. As already noted, they also have different policy objectives – reducing risky consumption of alcohol versus reducing prevalence of smoking. Thus, alcohol control policy might be enhanced and strengthened if policymakers and the public associated alcohol consumption, harms and the industry more closely with those of tobacco. However, tobacco’s uniquely controlled status might be undermined by such an association.

“(A)ligning alcohol with tobacco would be helpful in terms of changing social norms...But it might not be necessarily the answer; it’s just one piece of the jigsaw.” (Participant B3, alcohol, conversation 2)

“There are (risks) for tobacco, because tobacco being unique we’ve been able to carve it out.” (Participant B4 – tobacco, conversation 2)

Policymaker motivation

Participants asserted policymakers might be motivated to focus on alcohol and tobacco tax together by the opportunities for cross-learning



KEY: **bold**-both alcohol and tobacco; normal-alcohol only; *italics*-tobacco only

Fig. 1. Logic model of factors relevant to changes to excise duty rates for alcohol and/or tobacco.



KEY: **bold**-both alcohol and tobacco; normal-alcohol only; *italics*-tobacco only

Fig. 2. Logic model of factors relevant to changes to tax structures for alcohol and/or tobacco.

between the policy areas. However, there was uncertainty regarding whether policymakers would seek an integrated joint approach given differences between alcohol and tobacco. These include differences in: the prevalence of harmful consumption, price elasticities of demand, product diversity, product harm, and political acceptance of fiscal regulation. Concern was also expressed that a joint tax policy approach might lead consumers to substitute alcohol and tobacco consumption with other harmful behaviours.

“I guess it didn’t appear to be immediately obvious why you would want to do that, for me... if you’re doing alcohol and tobacco, why not add food into the mix as well.” (Participant C6, conversation 3)

“...the cross-learning is very important...but I think when we’re tying them together I just think that the politics of that are probably too problematic.” (Participant C5, conversation 3)

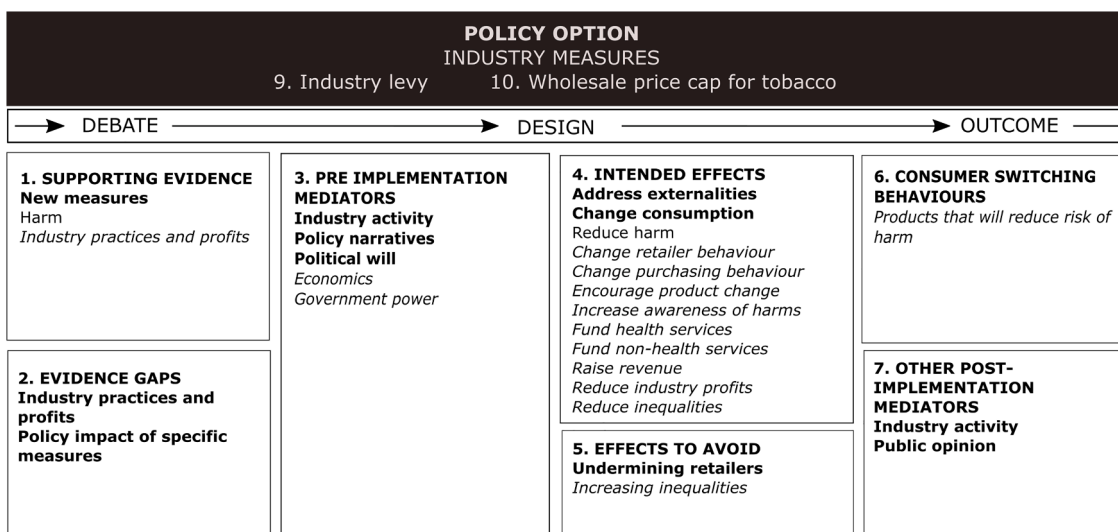
Inequalities

There was uncertainty and genuine concern among participants regarding the additional effect of a joint approach on economic inequalities. Participants worried that linking alcohol and tobacco tax policy would put additional pressure on low-income household budgets.

“...the main mechanism in my head from my rough economics about how you would be achieving these synergies is basically by making poor people poorer, which is not a great policy objective.” (Participant D8, conversation 4)

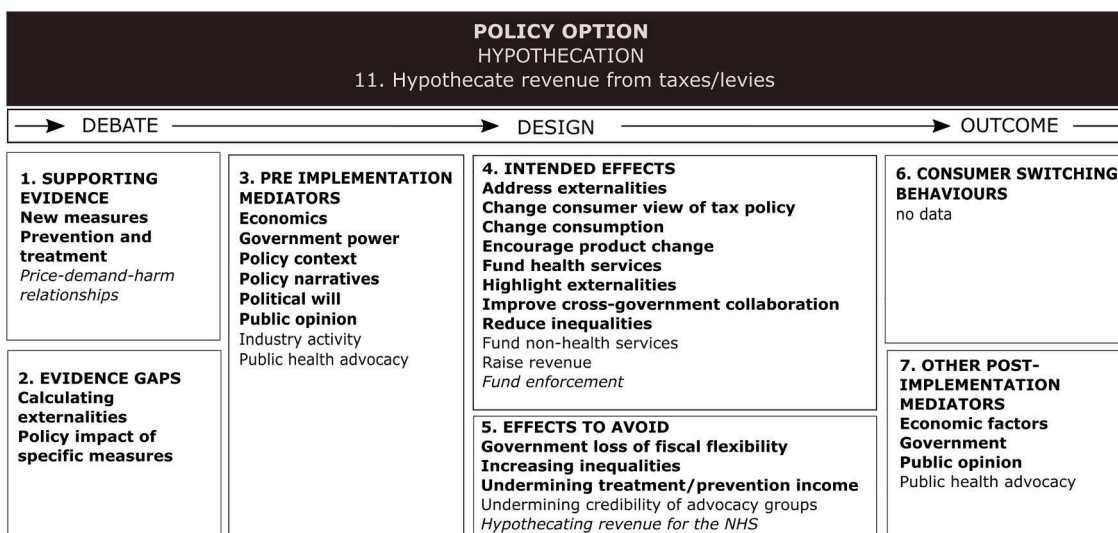
“But we don’t frame it like that ... We frame it as the less affluent achieve more health gains than their more affluent counterparts. Therefore, it’s beneficial.” (Participant D7, conversation 4)

“And I think that definitely works if we’re looking at them individually. But when you’re trying to see how they work synergistically I’m not sure how to conceptualise it other than just by putting more pressure on that



KEY: **bold**-both alcohol and tobacco; normal-alcohol only; *italics*-tobacco only

Fig. 3. Logic model of factors relevant to industry measures for alcohol and/or tobacco.



KEY: **bold**-both alcohol and tobacco; normal-alcohol only; *italics*-tobacco only

Fig. 4. Logic model of factors relevant to hypothecation interventions for alcohol and/or tobacco government revenue.

part of the household budget, which is about alcohol and tobacco.” (Participant D8, conversation 4)

Discussion

This study combined a novel joint interview data collection method with structured framework analysis to develop a joint perspective on alcohol and tobacco tax policy options and objectives. It has progressed our previous conceptual modelling and review work (Gillespie, et al., 2021; Hatchard, et al., 2023), beyond a list of possible mediators, to a fuller and policy-specific description of the system of influencing factors in which alcohol and tobacco tax reside. In addition, we articulated the uncertainty felt by participants in relation to joined-up thinking across changes to tax policy on alcohol and tobacco. This uncertainty was related to perceived differences between the harms of alcohol and tobacco, which is related to the concept of “tobacco exceptionalism” (Collin, 2012), and leads to differences in the stated health and economic objectives of tax policy for alcohol and tobacco.

The UK’s system of tax on alcohol and tobacco at the time of this study is presented in Supplementary Table A2 in Appendix A. At that time, UK alcohol and tobacco tax options were constrained by shared European Union directives on alcohol and tobacco tax, which have since been passed across into UK law. Since conducting this study, on 1st August 2023, the UK Government introduced a major reform of the duty structure for alcohol products, by moving to a system of “scaled volumetric taxation” in which the tax applied to alcohol products is based on alcohol concentration (HM Revenue and Customs, 2022). As part of these changes, the Government has also introduced tax relief for small producers and on products sold in the on-trade venues, such as pubs. Time series of UK alcohol and tobacco duty rates are available on the UK Government’s website (HM Revenue and Customs, 2023a, HM Revenue and Customs, 2023b). In term of our results in this study, the 2023 alcohol duty policy change might be interpreted as mostly focussed on a simplifying of the duty system with new rates set so that there is little change to the expected revenues and burden on industry. There was little mention of tobacco in the consultations and there appeared to be little consideration by Government at this stage of the jointness of

policies or their effects. For tobacco tax, departure from the European Union gives the UK more freedom to change the level and structure of tax on tobacco products, e.g. the UK could move to a fully specific system of taxation, and there is also the possibility that the UK could directly regulate tobacco pricing by the use of policies such as minimum unit pricing (Branston et al, 2021).

A strength of this study is its strong methodological foundations based on examples of good practice in qualitative framework analysis (Gale, et al., 2013). Added to this, our bespoke joint interview data collection methodology ensured that we elicited a cross-commodity conversation about how the alcohol and tobacco markets, their associated industries and tax policies relate to each other (Hatchard, et al., 2019). The study was grounded firmly in the evidence base through the participants' expertise in the alcohol and tobacco policy fields and our underpinning rapid review (Hatchard, et al., 2023). The evidence reflects the shared sense among participants that radical change to tax policy is less likely than are incremental increases in duty rates and piecemeal modifications to tax structures. Comparison with a 2019 global review of the use of excise taxes to reduce tobacco, alcohol and sugary beverage consumption suggests the same (Chaloupka, et al., 2019). However, the recent introduction in the UK of "scaled volumetric taxation" for alcohol is a major policy change (HM Revenue and Customs, 2022), and a large "more than 30 %" increase to tobacco duties was recently proposed by an independent review of tobacco policy commissioned by the UK Government (Kahn, 2022). It is important to note that because the evidence base reflects the past history of small incremental changes to alcohol and tobacco tax, it does not necessarily provide a good basis for predicting the effects of more radical changes. Furthermore, to understand the wider societal implications of tax policy change, this study could have benefitted from involving experts with a broader range of expertise, e.g., from the field of poverty reduction.

The implications of this study for health and economic impact analysis of changes to alcohol and tobacco tax policy stem from its development of the conceptual understanding of the system complexity likely to affect policy deliberation and the outcomes of policy change (i.e. the mechanisms of effect) (Brennan, et al., 2016; Squires, Chilcott, Akehurst, Burr, & Kelly, 2016). This conceptual understanding can help to inform both the design of computer simulation models to estimate the impacts of policy change, and the technical specification of the policy options investigated. The study highlights three primary questions that impact analysis should address:

- What is the combined effect of alcohol and tobacco tax policy change on health outcomes, including on health inequalities, due to the combined effect of tax changes on the consumption of alcohol and tobacco?
- What is the combined effect on the tax revenue to government from alcohol and tobacco products?
- What is the combined effect on economic inequalities in society due to the effects of tax changes on the prices of alcohol and tobacco products?

Plus two secondary questions:

- What are the knock-on effects to tax revenue and economic inequalities that stem from any changes to health, e.g., due to healthier people being better able to work and be economically productive?
- What are the knock-on effects to the viability of local businesses and the prosperity of local communities of which those businesses are a part, e.g., due to the importance of alcohol and tobacco sales to business revenues?

The policy outcome that participants in our study were concerned to avoid was tax rises on alcohol and tobacco products combining to increase the financial burden on consumers who are already economically poor (Nyakutsikwa, Britton, & Langley, 2021). The discussions that we

held with our public involvement panels helped us to understand what this possibility of "increasing economic inequalities" meant in the context of raising tax on alcohol and tobacco products. The panel members emphasised the importance of considering the effects that the existing systems of tax on alcohol and tobacco are already placing on certain people in society. Against this background, increased tax on alcohol and tobacco could particularly increase the financial burden on families and children (Belvin, Britton, Holmes, & Langley, 2015) and people with mental health conditions (Langley, 2016), e.g., because healthy eating might be foregone to afford tobacco and/or alcohol. This understanding is consistent with the findings of a qualitative analysis of low-income smokers' responses to tobacco tax increases in New Zealand (Hoek & Smith, 2016). The study found that whilst people who smoke might wish to quit, they can find it difficult to quit or want to quit on their own terms and felt punished by the increased financial burden of tobacco price rises.

The outcome of these tax changes would also be to raise revenue for government, which could be hypothecated (or "ringfenced") to help address these social justice issues by: (a) Promoting and supporting people to quit or reduce their alcohol and/or tobacco consumption when they might not do so due to tax effects alone; (b) Mitigating the economic impacts on low income individuals by using tax revenue to support social policies that reduce community deprivation and fund specialist support services. Furthermore, there is evidence to suggest that doing so would increase public support for taxation (Somerville, Marteau, Kinmonth, & Cohn, 2015; Thomas-Meyer, Mytton, & Adams, 2017).

The wider literature on the commercial determinants of health emphasises the need for cross-industry comparative analysis and systems-based approaches within this (see Knai et al (2018) for example). The systems approach starts with understanding the context into which an intervention is introduced (Hawe et al 2009), e.g. the complexities of tobacco and alcohol consumption behaviours, of government interactions with the tobacco and alcohol industries, of the role of the health service and of the community context. System change is then the creation of new contexts through interventions that combine and interact with the existing context. Our findings provide a comparative context for changes to alcohol and tobacco tax policy, which will support common-terms policy deliberations about the combined systemic effects of alcohol and tobacco policy. This is particularly relevant given the similarities between the tobacco and alcohol industries in market structure and strategy, and political strategy, and hence the potential for a common regulatory approach (Hawkins et al. 2018).

In conclusion, by engaging alcohol and tobacco tax policy experts together, this study has established clear details to guide modelling of the potential effects of changes to alcohol and tobacco tax in terms of the health and economic outcomes of interest, the technical specification of policy options and relevant mechanisms of effect. More broadly, the study delivers a rich and complex picture of the similarities and differences between alcohol and tobacco tax which has relevance both for the UK and for other jurisdictions aiming to use tax policy to raise revenue, improve population health and reduce societal inequalities.

Ethics approval

Ethical approval was obtained from the Sheffield Centre for Health and Related Research Ethics Committee at the University of Sheffield (ref. 017409, 2018) and confirmed by the REACH Committee at the University of Bath. During the recruitment process, the joint nature of the proposed interviews was made explicit to participants so that all understood they would be interviewed alongside a second participant. Written consent was obtained from participants at the start of each interview, including acknowledgement that participants would respect the anonymity of their co-interviewee outside the interview itself.

CRedit authorship contribution statement

Jenny Hatchard: Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization. **Penny Buykx:** Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization. **Luke Wilson:** Writing – review & editing, Visualization. **Alan Brennan:** Writing – review & editing, Supervision, Project administration, Funding acquisition, Conceptualization. **Duncan Gillespie:** .

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

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