

MICHAEL FROWEN MEMORIAL ESSAY PRIZE COMPETITION 2010

“Can government, drinks industry and the medical profession collaborate to reduce the health risks associated with alcohol?”

By Adam J. Walton

Contents

Abbreviations.....	2
Essay.....	4
References.....	17

Figure Index

Fig. 1.	Comparative bar graph to show BAC: prevalence by Y90 coding. DSH, deliberate self-harm; GI, gastrointestinal; NCCP, non-cardiac chest pain.	6
Fig. 2.	Diagram providing a basic structural overview of the NHS in England	7
Fig. 3.	Line graph to show the proportion of men drinking above 21 units per week, and women drinking above 14 units per week: Great Britain 1988 to 2006.	14

Table Index

Table.1.	Table to compare alcohol consumption per capita in Europe. Data from BBPA.	10
Table. 2.	Table to compare average weekly alcohol consumption (units) by sex and age. Data from the Office of National Statistics.	10

Abbreviations

A&E	Accident and Emergency
BAC	Blood alcohol concentration
BBPA	British Beer and Pub Association
BMA	British Medical Association
CMO	Chief Medical Officer
DoH	Department of Health
DSH	Deliberate self-harm
GMC	General Medical Council
NCCP	Non-cardiac chest pain
NHS	National Health Service
RCGP	Royal College of General Practitioners
RCN	Royal College of Nursing
RCP	Royal College of Physicians
RCPsych	Royal College of Psychiatrists
UK	United Kingdom
VAT	Value Added Tax

1. Introduction

In the UK mass alcohol misuse is a prevalent, brutal phenomenon. In 2006 annual ethanol consumption stood at 8.3 litres per capita, with 5.9 million people drinking twice the recommended guidelines.^{1 2} Consequently considerable pressure has been exerted upon national resources and NHS infrastructure, with 180,000 alcohol-related hospital admissions occurring in 2009 and costing the government £20-25 billion annually.¹ Current efforts to purge alcohol abuse consists of both government and drinks industry-led initiatives, with government policies influenced in turn by professional medical opinion. The three camps therefore theoretically strive for the same outcome, yet paradoxically remain estranged over future alcohol strategies.³

This essay will examine the medical profession, drinks industry, and government, and evaluate their contributions towards current and proposed anti-alcohol policies. Crucially the financial motives of the drinks industry will also be discussed, and its ability to act in a socially responsible manner questioned. A conclusion will then be drawn as to whether the present scenario of cooperation is effective, and whether it remains a viable approach towards halting the epidemic of alcohol misuse in the future.

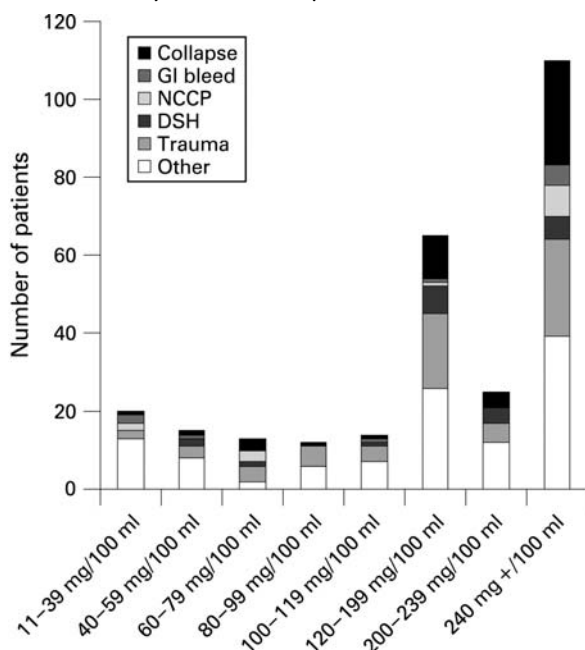
2. Medical Profession Overview and Concerns Regarding Alcohol Misuse

2.1. Medical Profession Overview

As from October 2008 there have been 250,000 fully and provisionally GMC-registered medical practitioners, representing approximately 4.1 doctors per 1,000 of the UK population.^{4 5} In contrast to the nursing profession, doctors enjoy substantial autonomy, orchestrated through self-governing institutions responsible for education, licensing, and control of clinical standards.⁶ However such independent regulation has been increasingly scrutinised by political-interest groups, with patients, NHS trusts and other healthcare professionals becoming directly involved in policy-making.^{6 7} Furthermore a growing rift between the state and the medical associations has intensified current hostilities, undermining the implicit compact which has historically underpinned medicine since the founding of the NHS.⁷

Arguably the main representative organisation for British doctors is the BMA, of which three quarters of medical professionals are members. Whereas the GMC is primarily concerned with the regulation of medical education and professional conduct, the BMA focuses upon sectional issues such as working conditions and pay.⁶ However the BMA also lobbies on public health issues such as alcohol misuse. Other pressure groups include the craft committees, each of which conducts negotiations in the interests of their specific professional branch.⁶ Additionally the medical specialties are politically represented through the Royal Colleges, who energetically challenge the DoH over both occupational and public health contentions.^{6 8}

The diversity of medical specialties and the ensuring conflict of interests has led many sociologists to question the profession’s unity. Health policy researcher Juan Baeza for instance emphasises a lack of homogeneity between general practitioners and hospital consultants.⁹ However others argue that the interests of doctors are harmonious. Indeed there are numerous relevant examples of intraprofessional collaboration; for instance the RCPsych and RCGP’s combined call for action against alcohol misuse.⁶ Furthermore the high socioeconomic class doctors typically occupy, coupled with their fundamental purpose of treating illness, have served to galvanise professional interests and foster political solidarity.⁷ Consequently the medical profession, regardless of all its imperfections and recent limiting of self-regulation, remains a crucial driving force in public health policy, and a key player in the struggle against alcohol misuse.



profession’s unity. Health policy researcher Juan Baeza for instance emphasises a lack of homogeneity between general practitioners and hospital consultants.⁹ However others argue that the interests of doctors are harmonious. Indeed there are numerous relevant examples of intraprofessional collaboration; for instance the RCPsych and RCGP’s combined call for action against alcohol misuse.⁶ Furthermore the high socioeconomic class doctors typically occupy, coupled with their fundamental purpose of treating illness, have served to galvanise professional interests and foster political solidarity.⁷ Consequently the medical profession, regardless of all its imperfections and recent limiting of self-regulation, remains a crucial driving force in public health policy, and a key player in the struggle against alcohol misuse.

2.2. Professional Concerns Regarding Alcohol Misuse

To the doctor on the front line of patient care, alcohol is the scourge of innumerable patients, a destructive agent of morbidity and mortality. Over sixty different physiological and neuropsychopharmaceutical pathologies result from alcohol abuse, and its effects are encountered by doctors irrespective of specialty. Emergency physicians for example are routinely exposed to the acute effects of bingeing. A recent cohort study at a London A&E department found 15% of patients to have a BAC of >10mg/100ml, with presenting complaints varying from gastrointestinal bleeding to NCCP (see figure 1).¹⁰ Perhaps more alarmingly, 10% of trauma and half of DSH patients had positive BACs.¹⁰ Nationally 40-55% of assaults are also alcohol-related, and in 2006 44% of patients with maxillofacial deformity had consumed alcohol prior to sustaining injury.^{11 12}

Fig. 1. Comparative bar graph to show BAC: prevalence by Y90 coding. DSH, deliberate self-harm; GI, gastrointestinal; NCCP, non-cardiac chest pain.

The harms of alcohol are not confined to emergency departments. Hepatologists know all too well ethanol is the most common cause of chronic liver disease, with cirrhosis morbidity among alcoholics being between 10-30%.¹³ Acute alcoholic hepatitis has a mortality rate of 35%, progressing to cirrhosis in over 25% of cases.¹³ For psychiatrists the situation is equally bleak: 10% of psychoses are attributable to ethanol, with Wernicke’s encephalopathy having a 20% mortality rate and typically degenerating into Korsakoff psychosis.^{14 15} Such concerns have resulted in the formation of the Alcohol Health Alliance under the RCP; a coalition striving to prevent the rise in alcohol related diseases by encouraging public health strategies.⁸ Although under medical leadership, the Alcohol Health Alliance also contains other professional bodies and research groups, including the British Liver Trust and RCN.⁸ Additionally to the Alcohol Health Alliance, the BMA has reviewed the UK alcohol misuse epidemic, liaising with the Cabinet Office Prime Minister’s Strategy Unit to reduce alcohol-related harms.^{1 16} It is here, on the interface between medical profession and government, where progress can be made, providing politicians are willing to act in accordance with the advice offered.

3. Government Overview and Concerns Regarding Alcohol Misuse

Her Majesty’s Government exercises legislative and executive power, with the Prime Minister being the de facto head of state through the Royal Prerogative. Governmental departments are headed by Ministers selected from the House of Commons, with Andy Burnham appointed Secretary of Health in June 2009.¹⁷ The DoH holds responsibility for supervising the NHS through managing the Strategic Health Authorities (SHAs). The DoH also works with arms-length bodies, thus providing a contact point for the BMA, Alcohol Health Association, and other lobbying groups.¹⁸

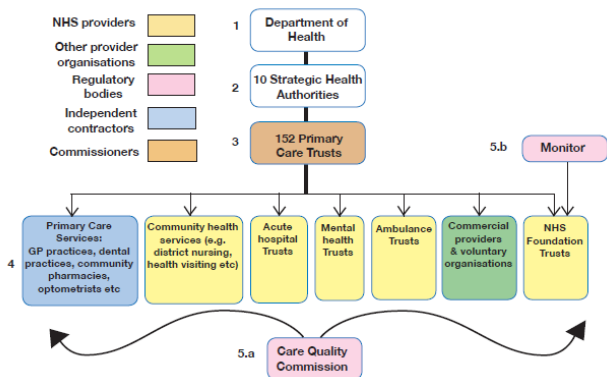


Fig. 2. Diagram providing a basic structural overview of the NHS in England.

Alcohol results in 8,500 UK deaths annually, and is a grievous concern for the government.^{8 16} The DoH consequently welcomes insight from the medical profession regarding alcohol-related strategies.¹⁸ However the government has also identified the drinks industry as a key partner in combating alcohol misuse, a move hotly criticised due to the industry’s obvious commercial interest.¹⁹ Yet the drinks industry remains a prime player in the development of public health policy and, for better or worse, holds considerable influence over the implementation of the government’s alcohol strategy.

1. The Department of Health enacts the will of Parliament through policy development
2. Strategic Health Authorities (SHAs) manage the NHS locally. They occupy the middle tier between Primary Care Trusts and the Department of Health. They do not manage NHS Foundation Trusts.
3. Commissioners are responsible for ensuring adequate services are available for their local population by assessing needs and purchasing services.
4. NHS providers, independent contractors and other provider organisations are responsible for actually providing these services.
5. Regulatory bodies ensure they run appropriately, are well managed (including financially), and that they provide a safe, quality service.
 - a. The Care Quality Commission (CQC) regulates and inspects providers of health and adult social care in both the public and independent sectors.
 - b. Monitor regulates the finances and governance of NHS Foundation Trusts.

4. Drinks Industry Overview and Perception of Alcohol Misuse

4.1. Drinks Industry Overview

The drinks industry is an economic colossus, an assortment of enterprises commanding 6% of UK Gross Domestic Product.^{3 8 12} Members of this £40 billion market range from global production corporations such as Scottish and Newcastle to niche 'microbreweries', from multinational supermarkets and pubcos to independent corner shops.^{3 19} Such variety is reflected in the industry's vast assortment of representative organisations, the two most prominent being the BBPA and the Portman Group. Other notable trade associations include the British Retail Consortium, the Scotch Whiskey Association, the Association of Multiple Retailers, and the Advertising Association.²⁰ The BBPA represents 50% of pubs and all large breweries, and has helped to address numerous social responsibility issues, particularly regarding point of sale promotions.³ However it is the Portman Group which is chiefly concerned with alcohol misuse, outlining a code of practice on the naming and promotion of alcoholic drinks.^{20 21} The Portman Group has also been commended for its educational initiatives and has encouraged many consumers to drink responsibly.

Alcohol Industry representatives depict the Portman Group to be independent from commercial interests, with many of its stakeholders belonging to academic, charitable and health-related organisations. However this ignores the fact that the Portman Group is financed and governed by multinational drink producers, who collectively control over 60% of total UK alcohol production.^{19 21} Furthermore the Portman Group is often accused of being a lobbyist for the drinks industry; an allegation which the group vehemently denies.³ Therefore despite reassurances from the group's Head of Communications that alcohol misuse does not serve as a long-term financial advantage for the drinks industry, the motives of the Portman Group are, at best, dubious.²¹ The recent disagreement between drinks industry, medical profession and indeed government over alcohol pricing has intensified such distrust, and raises into question whether the Portman Group is as dedicated to social welfare as it claims.

4.2. Drinks Industry Perception of Alcohol Misuse

To the drinks industry, alcohol misuse is a cultural as opposed to socioeconomic phenomenon. Indeed historically references to bingeing in Britain date as far back as the seventh century, resulting in alehouse regulation laws under the Anglo-Saxon King Ethelbert.¹ Furthermore societies derived from Nordic peoples such as ours are believed to have a penchant for strong drinking.¹ The Portman Group's Head of Communications Michael Thompson for example claims Scandinavians are the heaviest drinkers in Europe: research conducted by the BBPA however demonstrates this is incorrect, with Germany, France, and Romania holding higher alcohol consumption per capita than Finland or Norway (see table 1).^{1 21}

Country	Litres per head of 100% Alcohol					
	1970	1980	1990	2000	2001	2006
Europe						
Austria	10.3	11.0	11.9	10.9	10.2	10.5
Belgium & Luxembourg (a)	9.0	10.9	11.1	9.0	9.2	9.0
Bulgaria, Rep of.	6.7	8.7	9.4	..	..	..
Denmark	6.8	9.3	9.8	9.5	9.4	9.3
Finland	4.3	6.1	7.8	6.4	6.6	7.5
France	17.2	15.6	12.6	10.9	11.0	10.0
Germany (b)	12	13.3	12.3	10.7	10.7	10.2
Greece	..	..	7.5	6.9	7.0	7.4
Hungary	9.9	12.9	12.1	11.0	11.0	10.4
Ireland, Rep of.	5.9	7.4	7.3	9.9	10.1	8.6
Italy	16.0	13.9	9.5	8.0	7.8	8.1
Netherlands	5.5	8.6	8.1	8.1	8.0	7.8
Norway	3.6	4.6	4.1	4.4	4.4	4.9
Poland	5.1	8.4	6.7	6.7	6.4	8.3
Romania	5.8	7.6	8.5	10.0	9.8	10.5
Russian Federation	..	..	..	8.6	9.0	10.3
Slovak Republic	..	..	..	9.3	9.5	9.3
Switzerland	10.8	11.1	11.4	9.6	9.6	9.0
United Kingdom	5.3	7.3	7.6	7.6	7.9	8.3

Incidentally Thompson's statement may have more to do with financial insight than proto-ethnic conviction: Scandinavia has high alcohol prices so depicting its peoples as excessive drinkers discourages alcohol tax raises, a move which the drinks industry fervently opposes.^{21 22}

Table 1. Table to compare alcohol consumption per capita in Europe. Data from BBPA.

The drinks industry also depicts the UK population to be responsible drinkers overall, with certain sections of society

indulging in alcohol misuse.³ Although true to some extent, the reality is certainly more complex. Young males are often depicted as the heaviest drinkers, yet statistics suggest most people drink similar amounts irrespective of age (see table 2).^{8 11} Again such a belief ostracizes any approbation of raising alcohol prices, as this would affect responsible drinkers also.³ Therefore the drinks industry's perception of alcohol misuse is oversimplified, and may be utilised to support commercial gain as opposed to fostering social welfare.

Age	1998	2000	2001	2002	2005*	2006	2006 (Improved method)
Men							
16-24	25.5	25.9	24.8	21.5	18.2	16.4	18.6
25-44	17.1	17.7	18.4	18.7	16.2	15.6	19.7
45-64	17.4	16.8	16.1	17.5	17.7	16.0	20.8
65 & over	10.6	11.0	10.8	10.7	10.4	10.4	13.5
Total	17.1	17.4	17.2	17.2	15.8	14.8	18.7
Women							
16-24	11.0	12.6	14.1	14.1	10.9	9.0	10.8
25-44	7.1	8.1	8.3	8.4	7.1	6.8	10.1
45-64	6.4	6.2	6.8	6.7	6.3	6.2	9.8
65 & over	3.2	3.5	3.6	3.8	3.5	3.5	5.1
Total	6.5	7.1	7.5	7.6	6.5	6.2	9.0

* 2005 data include last quarter of 2004/5 due to survey change from financial to calendar year

Table 2. Table to compare average weekly alcohol consumption (units) by sex and age. Data from the Office of National Statistics.

5. Current Strategies for Combating Alcohol Associated Health Risks

In light of the growing menace of alcohol abuse, many strategies have been implemented both a national and local scale, each enjoying mixed success.^{1 8 16 20} The viewpoints of the medical profession, drinks industry and government regarding such strategies will be discussed, and an

evaluation of overall strategy effectiveness provided.

5.1. Marketing Restrictions

There is much debate over whether drinks marketing increases consumption, with many econometric studies finding no significant correlation between alcohol advertising and levels of consumer spending.²⁰ Regardless the government regulates alcohol marketing and labelling under the 1990 Food Safety Act, enforced by Trading Standards officers. Indeed numerous advertisements have been banned, for example Dooleys, WKD, and 'Viagra pop' Roxoff.²⁰ The alcohol industry itself is compliant, and even introduced additional regulation under the Portman Group Code.^{23 24} For the medical profession however more can be done, the Alcohol Health Alliance campaigning for a ban on drinks advertising before 9.00pm and in cinemas apart from 18 rated films.⁸ Such a stance, although founded upon noble intentions, is questionable considering the subjectivity surrounding advertising effectiveness and the drink industry's willingness to respect current regulations.^{20 23 24} Therefore the issue of marketing regulations remains controversial, and is unlikely to be resolved until definitive research into consumer behaviour has been accomplished.^{1 20}

5.2. Responsible Drinking Campaigns

It is an established scientific consensus that media campaigns only have a limited impact upon drinking behaviours.¹ In spite of this anti-alcohol campaigns are continuously implemented by Her Majesty's government, the most recent of which costing £100 million.^{25 26} The campaign, dubbed "Know Your Limits", specially targets a younger audience, so may yield results considering this age group are believed to be most likely to binge.^{2 11 12} The medical profession appears wholly supportive, the BMA commending government campaigning efforts.¹⁶ The alcohol industry is also complaisant, with Fullers, Tesco and Spar providing financial backing for the campaign.²⁶ Thus responsible drinking campaigns enjoys mutual approval, although the overall effectiveness of campaigning is questionable.¹

5.3. Proof-of-Age Scheme

The proof-of-age scheme is again an area of little contention, with each camp recognising the necessity of preventing underage drinking. Ethanol consumption during growth irrefutably impairs physiological development, culminating in shorter stature and diminished neurological function.^{14 27 28} Proof-of-age is required to be shown when purchasing

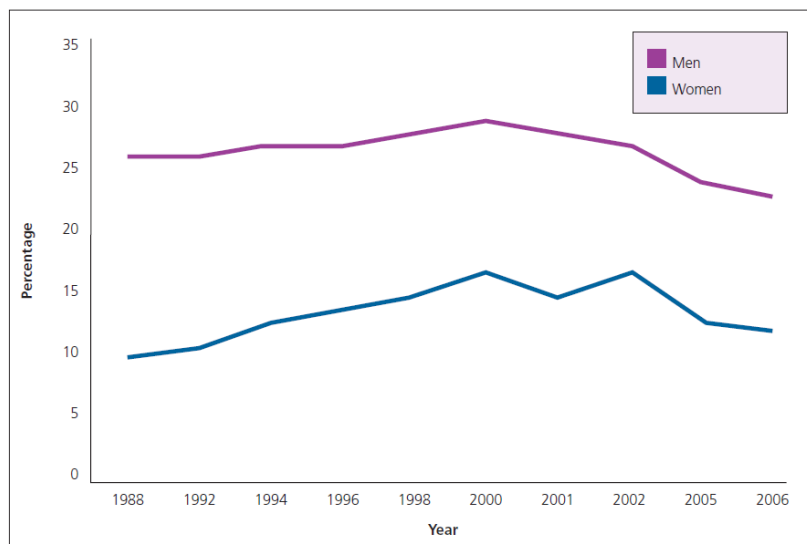
alcohol or entering on-license venues, with operators complying or facing legal consequences.¹² The Portman Group did support the proof-of-age strategy by issuing identity cards, though this was axed in 2007 due to adequate means of identification already existing.²⁹ However the industry is cooperative, and will hopefully continue to liaise with the government over this strategy.¹²

5.4. Taxation

In addition to VAT, excise duties are also paid for alcohol in the UK. This is in accordance with the WHO's European Charter on Alcohol, which proposes nation states should maximise alcohol pricing to promote public health.³⁰ Such a policy is supported by substantial evidence that increased price discourages alcohol misuse.³¹ Currently the medical profession believe existent excise duties are unacceptably low, the BMA advising the government to raise taxation on alcoholic beverages at higher than inflation rates.¹⁶ Likewise the Alcohol Health Alliance demand increased excise duties on alcohol.⁸ The drinks industry however refuses to acknowledge the association between alcohol misuse and low pricing, and unsurprisingly challenges raised excise duties.³²¹ Thus the disagreement over alcohol tax increases remains unsolved, and is one of the most important issues to address in determining future public health policy.

6. Proposed Strategies for Combating Alcohol Associated Health Risks

The medical profession, alcohol industry and government have agreed and collaborated over numerous initiatives to reduce alcohol associated harms, crucially launching responsible drinking campaigns, imposing restrictions on drink marketing, and upholding current excise duties on alcoholic beverages.^{20 25 31} Indeed there is evidence that excessive ethanol consumption is less prevalent, with the proportion of people drinking above the recommended weekly unit intake decreasing slightly between 1988 and 2006 (see figure 3).¹⁶ Yet in defiance of such efforts alcohol abuse levels still remains hazardous high, the Cabinet Office Prime Minister's Strategy Unit recently reporting that over 70% of late night hospital admissions are alcohol related.¹ Therefore it is apparent that current public health strategies are inadequate, and that new, more radical policies are required if alcohol associated health risks are to be tackled. The main emphasis from the medical profession is to raise alcohol pricing, although the drinks industry opposes such a move as already discussed.^{3 8 30} Such conflict in opinion has resulted in substantial debate regarding the relationship



Source: General household survey 2006 (Office for National Statistics, 2008)

between alcohol costs and consumption levels, and the government itself appears overall undecided.

6.1. The Sheffield Report and the Relationship between Alcohol Pricing and Consumption

Substantial evidence exists of correlation between alcohol pricing and drinking rates. The affordability of alcohol increased by 65% between 1980 and 2006, and the BMA believe this to be a major contributing factor in the rise in alcohol misuse.¹⁶ Arguably the most momentous study into costs and consumption is the 2008 Sheffield Report, which after investigation estimated that 3,393 deaths could be prevented annually should a 50p minimum price per unit be introduced.³¹ This conclusion impelled Portman Group Chief Executive David Poley to speak at the House of Commons; an unusual move considering the group's denial of lobbyist activities.³ Poley, despite acknowledging the relationship between alcohol misuse and low price, stressed that high alcohol pricing penalises responsible drinkers also.²² Although Poley's argument irrefutably champions the financial interests

of the alcohol industry, his point regarding moderate drinkers being affected does bear weight. Therefore the government remains undecided whether to increase alcohol pricing as advocated by the medical profession, or sticking to targeted measures which the drinks industry champions.^{8 16 20}

6.2. Proposed Methods of Increasing Alcohol Pricing

The idea of minimum price per unit was originally suggested by CMO Sir Liam Donaldson, and provides a relatively simple approach to controlling alcoholic beverage consumption in relation to alcoholic strength.³² Furthermore this method would specifically target alcohol sold at a loss by supermarkets, thereby not having a significant impact upon responsible drinkers.¹ Alternatively raising excise duties is another viable means of controlling drink price.³⁰

7. Conclusion

In conclusion the alcohol industry, medical profession and government have worked together with limited success, and have supported numerous public health initiatives including drink awareness campaigns, proof-of-age schemes and numerous marketing restrictions.^{3 25} Despite not all demands of the medical profession being met regarding the above strategies, the drinks industry has nonetheless made a commendable effort in adhering to such policies, and has even introduced its own regulations to demonstrate social responsibility.^{8 12 21} However it is pricing which will determine the course of future alcohol policy, with current strategies being inadequate to halt the detrimental effects of alcohol associated morbidity and mortality.^{16 30 31} It is over this issue where the drinks industry chooses to betray responsible conduct for financial greed, callously contradicting the overwhelming evidence that high alcohol pricing saves lives and deliberately undermining the WHO's European Charter on Alcohol.^{3 16 31} Such behaviour draws into question the motives of the drinks industry, and whether the terms of future cooperation with government need to be revised.

Presently the UK government remains undecided over future policy, although crucially Scotland now has minimum alcohol pricing legislation in place.³² Should the rest of Britain follow Scotland's lead, and act in accordance with the medical profession's advice, then lives will be saved. How many exactly is questionable. Regardless the current scenario of both the government and drinks industry deciding and implementing public health strategies is not sufficient, and new policies need to be implemented irrespective of the consequences they have on the pockets of the alcohol industry and drinkers.^{1 2 16 30} Whether such steps will be taken is indeed questionable, although alcohol misuse will continue to afflict our nation if we follow our current course of action.

Word Count: 2909

References

1. M. Plant. *Factsheet: Alcohol Concern's Information and Statistical Digest: Drinking Patterns*. London: Alcohol Concern, 2009.
2. Institute of Alcohol Studies. *IAS Factsheet: Drinking in Great Britain*. Cambridge: Institute of Alcohol Studies, 2008. <http://www.ias.org.uk/resources/factsheets/drinkinggb.pdf> (accessed 29th September 2009)
3. R. Baggott. *Alcohol Strategy and the Drinks Industry: A Partnership for Prevention?* York: Joseph Rowntree Foundation, 2006.
4. GMC. *GMC Annual Report and Accounts: Regulating Doctors, Ensuring Good Medical Practice*. London: GMC, 2008. http://www.gmc-uk.org/publications/annual_reports/Annual_Report_and_Accounts_2008.pdf (accessed 4th September 2009)
5. S. Mayor. *Doctor-Population Ratio Grows but is Still Short of that in France and Germany*. *BMJ* 2008;336: 353 <http://www.bmj.com/cgi/content/full/336/7640/353-a> (accessed 4th September 2009)
6. B. Baggott. *Health and Health Care in Britain*. 3rd ed. Hampshire: Palgrave Macmillan, 2004.
7. C. Ham, K. G. M. M. Alberti. *The Medical Profession, the Public and the Government*. *BMJ* 2002;324: 838-842 <http://www.bmj.com/cgi/content/full/324/7341/838> (accessed 12th September 2009)
8. Royal College of Physicians. *RCP News: New Coalition calls for Tougher Measures on Alcohol*. London: RCP, 2007 http://www.rcplondon.ac.uk/news/news.asp?PR_id=377 (accessed 12th September 2009)
9. J. Baeza. *Restructuring the Medical Profession: the Interprofessional Relations of GPs and Hospital Consultants*. Berkshire: Open University Press, 2005
10. R. Touquet, E. Csipke, P. Holloway, A. Brown, T. Patel, A. J. Seddon, P. Gulati, H. Moore, N. Batrick, M. J. Crawford. *Resuscitation Room Blood Alcohol Concentrations: One Year Cohort Study*. *Emerg. Med. J.*, Nov 2008;25: 752-756 <http://emj.bmj.com/cgi/content/full/25/11/752?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=1&title=alcohol&andorexacttitle=and&andorexacttitleabs=and&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&fdate=1/1/2008&resourcetype=HWCIT,HWELTR> (accessed 1st September 2009)
11. M. Dempster, G. Newell, G. Cowan, J. Marley. *Facing up to Binge Drinking: Reducing Binge Drinking in Adolescent Males*. *British Dental J.*, 2006; 201: 587-590. <http://www.actiononviolence.com/aov/files/Reducing%20Binge%20Drinking.pdf> (accessed 5th September 2009)
12. Alcohol Concern. *Factsheet: Alcohol and the Night-time Economy*. London: Alcohol Concern, 2004.
13. A. B. R. Thomson, E. A. Shaffer, editors. *First Principles of Gastroenterology: The Basis of Disease and an Approach to Management*. Canada: AstraZeneca, 2000.
14. H. Leidholm, A. BL Linné. *Alcohol Consumption and Risk of Dementia*. *The Lancet* 2002; 360:9331
15. R. C. Baldwin. *Pick's Disease Support Group Booklet 2003: Alcohol-related Dementias*. Pick's Disease Support Group, 2003. <http://www.pdsg.org.uk/Booklet/ard.htm> (accessed 6th September 2009)
16. BMA Science and Education Department, BMA Board of Science. *Alcohol Misuse: Tackling the UK Epidemic*. BMA, February 2009. http://www.bma.org.uk/health_promotion_ethics/alcohol/tacklingalcoholmisuse.jsp (accessed 8th September 2009)
17. http://www.dh.gov.uk/en/Aboutus/MinistersandDepartmentLeaders/Ministers/Ministersbiography/DH_100325 (accessed 30th September 2009)
18. L. McCay, S. Jonas. *NHS Medical Directorate: A Junior Doctor's Guide to the NHS*. London: BMJ Publishing Group and the Department of Health, 2009.
19. <http://www.scottish-newcastle.com/homepage.aspx> (accessed 28th September 2009)
20. Alcohol Concern. *Factsheet: Advertising Alcohol*. London: Alcohol Concern, 2004.
21. M. Thompson. *The Increasing Burden of Harm on People's Health Arising from High Levels of Consumption and the Influence of Price, Availability and Advertising*. The Portman Group, 2007. <http://www.portman-group.org.uk/assets/documents/Duncan%20Society%20speech.pdf> (accessed 28th September 2009)
22. D. Poley. *The Portman Group: the Alcohol Industry's Role in Promoting Responsible Drinking*. The Portman Group, 2007.

- <http://www.portman-group.org.uk/?pid=27&level=2> (accessed 30th September 2009)
23. The Advertising Standards Authority. *Compliance Report: Alcoholic Drinks Compliance Survey 2008*. London: The Advertising Standards Authority, 2008.
24. The Portman Group. *The Portman Group Code of Practice on the Naming, Packaging and Promotion of Alcoholic Drinks*. 3rd ed. The Portman Group, 2002.
- http://www.norfolk.gov.uk/consumption/groups/public/documents/general_resources/NCC048378.pdf (accessed 1st October 2009)
25. Department of Health, Home Office, Department for Education and Skills and Department for Culture, Media and Sport. *Safe. Sensible. Social. The next steps in the National Alcohol Strategy*. London: Department of Health, 2008.
- http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_075219.pdf (accessed 1st October 2009)
26. The Guardian. *Responsible Drinking Campaign Targets Younger People*. The Guardian.co.uk, July 2009.
- <http://www.guardian.co.uk/society/2009/jul/16/responsible-drinking-campaign-young-people> (accessed 1st October 2009)
27. E. González-Reimers, A. Pérez-Ramírez, F. Santolaria-Fernández, E. Rodríguez-Rodríguez, A. Martínez-Riera, M. C. Durán-Castellón, M. R. Alemán-Valls and M. R. Gaspar. *Association of Harris Lines and Shorter Stature with Ethanol Consumption during Growth*. *Alcohol*, June 2007; 41:511-515
28. G. Pocock, C. D. Richards. *Human Physiology – The Basis of Medicine*. 3rd ed. USA: Oxford University Press, 2006.
29. Proof of Age Standards Scheme. *Pass: The National Proof of Age Standards Scheme*. The Portman Group, 2007.
- <http://www.portman-group.org.uk/assets/documents/PASS%20leaflet%20Aug%202005.pdf> (accessed 1st October 2009)
30. Institute of Alcohol Studies. *IAS Factsheet: Alcohol Tax, Price and Public Health*. Institute of Alcohol Studies, 2007.
- <http://www.ias.org.uk/resources/factsheets/tax.pdf> (accessed 1st October 2009)
31. University of Sheffield. *Independent Review of the Effects of Alcohol Pricing and Promotion: Part A – Systemic Reviews*. Department of Health, 2008.
- http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_091366.pdf (accessed 12th September 2009)
32. <http://www.nhs.uk/news/2009/03March/Pages/MinimalalcoholpriceQA.aspx> (accessed 1st October 2009)