House of Commons Health Committee Inquiry on the Governments’ Alcohol Strategy

Response to Call for Evidence from the Medical Research Council (MRC) and the Economic and Social Research Council (ESRC)

Background

The Medical Research Council (MRC) is one of the main agencies through which the UK Government supports biomedical and clinical research. It is dedicated to improving human health through the best scientific research. The MRC’s work ranges from molecular level science to public health medicine and has led to pioneering discoveries in our understanding of the human body and the diseases which affect us all.

The Economic and Social Research Council (ESRC) is the UK’s largest organisation for funding research on economic and social issues. The ESRC supports independent, high quality research which has impact on business, the Public Sector and the Voluntary Sector. At any one time, the ESRC supports more than 4,000 researchers and postgraduate students in academic institutions and independent research institutes.

The MRC and the ESRC are funded by the Department for Business, Innovation and Skills (BIS) and together invest around £953 million per annum (£750m from the MRC and £203m from the ESRC) in research, training and knowledge exchange across a broad spectrum of research areas.

This evidence is submitted by the MRC and ESRC and represents the independent views of these two research councils. It does not include or necessarily reflect the views of Research Councils UK or the Department for Business, Innovation and Skills. It aims to address the areas within the terms of reference of the Committee’s Inquiry which are directly related to the work of the research councils. In preparing this submission evidence was sought from experts funded by both research councils who are leading major research projects and programmes as well as members of both council’s advisory groups and research boards. Some of those consulted will have submitted their own independent submissions to the Committee.

Executive Summary

Both the MRC and the ESRC have provided key impacts across the full range of alcohol research from mechanistic brain science that is providing leads for new treatments, to alcohol related harms and prevention, research into socio-economic factors and contributions to the evidence base for treatment and alcohol policy. In addition to this long-standing and strong tradition of funding high quality research, since 2007 the MRC in partnership with the ESRC, has been leading a strategy to fund multidisciplinary research addressing the biological, medical, social and economic aspects of addiction and substance misuse[1]. A key outcome has been the creation of inter-disciplinary networks of researchers - addiction research clusters- that are providing a step-change in capabilities for developing new treatments and robust scientific appraisal of alcohol policy interventions.

The MRC and the ESRC have concluded that there is an urgent and compelling case for developing the addiction initiative further to understand alcohol use and its harms to inform targeted intervention and cost-effective policy. We welcome the aims of the Government’s strategy, however, we would highlight a broader approach to alcohol
misuse and its consequences across the life-course, rather than just the young and those who binge drink. Further biomedical and social research is required to deal with longer term brain and organ damage and treatments/interventions targeted to chronic use and relapse after detoxification. In consulting our academic community during the assembly of our response, several needs were highlighted:

- New treatments and preventive strategies targeted to the key components of alcohol misuse in an efficient and cost-effective way.
- Protecting existing high quality databases and using these to put in place long-term monitoring studies with strong baseline data collection; this is fundamental to regular monitoring harms and the effects of policy changes as they occur.
- Further research on how drinking harms those other than the drinker.
- Scoping tractable opportunities for research for prophylaxis of alcohol-induced organ damage.
- The effect of drinking in pregnancy and the risk this poses to the fetus, including whether more moderate drinking in pregnancy might harm the brain of the developing child.
- The effects of marketing strategies on promoting and facilitating harmful drinking.
- Further integration of effective delivery of care given recent in depth studies to establish the strength of evidence for existing interventions. It is suggested we bring these much more into real-world settings, such as the workplace.

To summarise, policy makers and the public would benefit significantly from further high quality rigorous research to deliver new treatments and to ensure policy decisions are based on the best evidence.

Introduction

1. Given the scale of harm to both society and individuals, the MRC and the ESRC believe that understanding alcohol misuse and tackling its consequences are major public health priorities. We welcome the aims of the Government’s strategy, however significant gaps remain in our knowledge about the wider harms of alcohol and research is needed to develop new, effective, interventions to minimise these. There are now strong research opportunities to make significant progress which the MRC and the ESRC are pursuing through an addiction and substance misuse research strategy.

2. Both research councils have made important contributions to alcohol research. The MRC annual spend on research projects and programmes that include aims specifically addressing alcohol has increased steadily in the last five years and reached £4.1 m in 2009/10. The ESRC annual spend in this year was £0.5 m.

3. Since 2007, the MRC has been leading an addiction and substance misuse initiative which is funding cross-discipline research addressing the biological, medical, social and economic aspects of addiction and substance misuse[1]. ESRC is a partner. The initiative aims to strengthen the translation of this research into public health benefit. This initiative is led by the MRC in partnership with the ESRC on behalf of the Office for Strategic Coordination of Health Research (OSCHR).

4. The initiative is fundamental to and delivers on the priorities outlined in the MRC’s Strategic Plan, “Research Changes Lives”[2], which emphasises the impact that world-class research has on improving the health and wellbeing of society. This involves developing preventative interventions, new treatments for diseases, producing well-founded policy guidance for research governance and ethics; and delivering excellence in
the basic research that underpins these activities. The ESRC’s Delivery Plan \(^3\) aligns strategic research investment on three priority challenge areas, two of which, *Influencing Behaviour and Informing Interventions*, directly relates to addiction and substance misuse through funding research which aims to better understand how and why people make decisions relating to alcohol consumption, and how these can be managed or influenced through interventions.

5. In this submission we outline what the MRC and ESRC have already achieved in terms of key impacts on the knowledge base, patient benefit and policy, from the research we have supported. We then comment on the knowledge gaps, which the MRC and ESRC are currently considering to see if there are tractable opportunities to address them. We have made little reference to levels of consumption, demographics and harm as these issues have been extensively covered in many other reports. Minimum pricing also has a strong evidence base \(^4,5\).

**The MRC and ESRC Addiction and Substance Misuse Research Initiative**

6. This initiative was a strategic response by the MRC to research needs in the field and was in addition to the ‘normal’ support for alcohol research provided by the MRC and the ESRC which is set out at paragraphs 11 to 22. A key element of the addiction and substance misuse initiative has been to create inter-disciplinary networks of researchers called addiction and substance misuse research clusters (see Annex 1). A major aim of the clusters has been to recruit relevant scientific expertise from outside the addiction field to increase capacity and innovation; and to engage stakeholders to ensure, where possible, relevance to treatment and public health policy needs. Four of these clusters have been awarded substantial grants, including two awards of direct relevance to alcohol misuse. One award was made to the Capacity development for Alcohol Policy Effectiveness Research (CAPER) cluster (£1m) at the University of Sheffield (led by Professor Petra Meier); and another £1.6m to the Imperial College, Cambridge and Manchester (ICCAM) cluster which is evaluating the mechanistic basis of potential new drugs for addiction (led by Professor David Nutt).

7. The significant funding from the MRC and the ESRC at the University of Sheffield has enabled the assembly of a multidisciplinary research team involving epidemiologists, health economists and statisticians, who together are building a sophisticated model of alcohol consumption that considers taxation, minimum pricing, outlet density and other available policy options. This involves data and evidence analyses in areas such as market response to pricing policy, relationships between heavy episodic drinking, and harms in different settings and the variability in individuals’ consumption patterns over time. This model will be dynamic and not assume ‘steady’ baseline level of consumption and harms.

**Key outcomes**

8. The MRC and the ESRC funding at Sheffield has facilitated various pieces of work connected with pricing policy; some of which have clearly identifiable policy impact including work for the Scottish Government \(^6\), a report to the Home Office on pricing and crime \(^7\), and several papers on the effectiveness of pricing policies \(^8,9\). Work published during the cluster’s lifespan also underpins policy recommendations by the BMA and Alcohol Concern. MRC funding and support has allowed the Sheffield team to continue disseminating the findings of the work - which started with the Department of Health report - continue engagement with key stakeholders within and outside government; and continue development of the model that we envisage should be able to develop a step-change in capabilities for robust scientific appraisal of alcohol policy interventions.
9. ICCAM is a complementary translational preclinical and clinical brain imaging study which is investigating medicines that may help in preventing alcohol and drug relapse in humans. Studies focus on people who have recently stopped using alcohol, cocaine or heroin and focus on processes affecting relapse such stress and craving. In addition, drugs with potential to dampen down these brain processes are being studied. Given that 50% of those who have stopped using drugs or alcohol relapse within three months, this is an important step in the search for much needed pharmacological therapies to help with relapse, for which no pharmaceutical products are currently available.

**Key outcomes from the MRC and ESRC in addition to the addiction and substance misuse initiative**

10. Outputs matter and the MRC and ESRC continue to support research that is not only of the highest quality but whose outcomes bring benefits to people's health and society – whether through inventing new medicines, changing clinical practice, influencing policy, creating wealth or improving our basic understanding of the human body. Exemplars are provided below.

**Brain science**

11. Brain science is fundamental to understanding how drugs and alcohol affect behaviour. MRC supported research has made a significant contribution to our understanding of how many drugs work at the molecular level and, at least initially, in the brain. For example, funding for over 10 years for Professor David Nutt at Imperial College London has contributed to the UK’s position as a world leader in the understanding of two of the key neurotransmitters involved in the actions of alcohol and to a number of reviews and policy papers [10,11,12,13].

12. Most alcoholic patients undergo cycles of alcohol abuse, followed by detoxification after which the patient may abstain for a period, but the relapse rate is very high. Research supported by the MRC at the University of Sussex over the past 15 years has revealed that repeated episodes of detoxification result in altered brain function leading to both increased pressure to drink, and loss of the ability to control drinking. This emphasises the need for the first detoxification to be successful and has implications for provisions of support of patients following their release from the 'detox clinic' or GP supervision [14,15,16,17].

13. Researchers from the MRC’s Laboratory of Molecular Biology in Cambridge recently described how excess alcohol can cause irreparable damage to our DNA [18]. The effects of alcohol in pregnant mice resembled that in fetal alcohol spectrum disorder, so this may be one of the unwelcome mechanistic explanations for the permanent damage to the unborn child, resulting from excessive drinking by pregnant women.

**Social and Public health Sciences**

14. *Understanding Society* is a world leading study of the socio-economic circumstances and attitudes of 100,000 individuals in 40,000 British households, funded by ESRC, and run by the Institute for Social and Economic Research at the University of Essex. The study includes questions on alcohol consumption in adults and risky behaviour, including alcohol and binge drinking in adolescents. Some examples of outputs include (briefings, working papers and research) which have used the data from the National Child Development Study, the 1970 British Cohort Study and the Millennium Cohort Study parents (MCS). A wide body of research utilising MCS data has been produced by think tanks, particularly in relation to parenting. The Centre for Social
Justice (Family breakdown in the UK: it's NOT about divorce) found that those experiencing family breakdown are 50% more likely to have alcohol problems [19,20,21,22,23].

15. The Whitehall II study was established in 1985 as a longitudinal study to examine the socioeconomic gradient in health and disease among 10,308 civil servants (6,895 men and 3,413 women). The MRC has been a major funder of the cohort study. Studies using its longitudinal data have shown substantial socio-economic variation in alcohol-related harm in the UK. The alcohol-related mortality rate for men in the routine class was 3.5 times greater than the rate among men in higher and managerial occupations, while for women the corresponding figure was 5.7 times [24]. Admissions for alcohol-related conditions in England for 2006-08 were associated with increased levels of deprivation [25]. Alcohol consumption is related to risk of sickness absence due to injury with increased risk seen even at moderate levels of alcohol consumption. 'Binge' drinking and alcohol dependence were also related to absence due to injury [26].

16. Researchers at the MRC’s Social and Public Health Research Unit in Glasgow have published 16 papers over the last 10 years on alcohol-related problems, attitudes to alcohol use and predictors of alcohol use. Findings have contributed to the evidence base for policies. For example the work using data from the Twenty-07 Study found that socio-economic status in early and adult life was related to an increased risk of exceeding 'sensible' drinking guidelines and problem drinking in men at age 58. Understanding precursors for harmful drinking is crucial for prevention and current work in the Unit suggests that estimated exposures to film images of alcohol and drug use are related to young people’s alcohol use in both sexes, in contrast to a lack of association for smoking [27,28,29,30].

17. The Avon Longitudinal Study of Parents and Children [31] is a long-term health research project based at the University of Bristol funded by both the MRC and the ESRC. More than 14,000 mothers were enrolled during pregnancy in 1991 and 1992, and the health and development of their children has been followed in great detail ever since. It has provided a vast amount of genetic and environmental information over the years and this resource is assisting scientists all over the world with research into a wide range of health problems including alcohol use. Recent data shows boys and girls with early persistent or adolescent onset of antisocial behaviour are at three-fold risk of drinking heavily in mid-adolescence and nearly two-fold risk of drinking hazardously at 16-18.

Prevention research

18. The MRC and the ESRC support Professor Gerard Hastings at the University of Stirling through the National Prevention Research Initiative (NPRI) (see Annex 2) to investigate whether advertising encourages consumption. The study has had an impact at a European level through the alcohol platform of the European Commission’s Directorate General for Health and Consumer Affairs (DG Sanco); and in Scotland, through the Holyrood alcohol team and Alcohol Focus. The BMA has commissioned Professor Hastings to report on alcohol marketing.

19. A series of studies led by Dr Simon Moore from the Violence and Society Research Group in Cardiff has examined alcohol-related harm in the night time economy and demonstrated robust relationships between premises servicing practices and violence, and alcohol promotions and violence. Dr Moore has formed a strong collaborative partnership with Environmental Health Officers (EHOs) and expects to deliver a cost-efficient “All-Wales” alcohol-related harm reduction intervention that can be delivered by EHOs in normal practice [32].
Treatment delivery

20. Professor Colin Drummond at King’s College London has informed NICE guidelines on the further development of assertive community treatment based on a literature review and pilot research funded by the MRC.

21. Other on-going MRC and ESRC investments are listed at Annex 2.

Future plans; responding to gaps in knowledge and exploiting scientific opportunity

22. The MRC and the ESRC have concluded that there is a compelling case for developing the addiction initiative further in the area of alcohol and its harms. A workshop will be held in October 2012 which will bring together researchers, funders and key stakeholders to reach a consensus on the tractable priorities for research on alcohol misuse. The following sections highlight some of the gaps and opportunities in this area that have been highlighted by our expert advisors and some of these may be explored at the workshop.

The need for new treatments and enhancing the existing evidence base

New treatments

23. Alcohol misuse and its consequences involve complex, often intertwining psychosocial and biological processes influenced by a range of environmental and economic factors. New treatments and preventive strategies are needed that target the key mechanistic components, such as impulse, relapse and binging. Knowledge of brain mechanisms is offering a way forward and to this end MRC is supporting and encouraging experimental medicine research. We will also continue to support ICCAM as well as explore opportunities to target drugs to the specific aspects of alcohol misuse - there are several drugs of potential promise which require proper mechanistic evaluations. These and other issues, including the broader context of therapies and prophylaxis for alcohol-induced organ damage, will also be explored at the workshop.

Existing treatments – enhancing the evidence base

24. With three sets of NICE guidance on alcohol published in the last five years as well as a series of systematic reviews, there is now a body of evidence on the effectiveness of existing behavioural and cognitive approaches (such as intensive case management, motivational enhancement therapy and social network based therapies) as well as certain pharmacological interventions (e.g. acamprosate and disulfiram). Nevertheless, many of our advisors highlighted the lack of joined-up effective delivery and available appropriate expert services for drinkers, especially in ‘real-world’ settings. This is a key element of support that they felt was not fully addressed in the Government’s alcohol strategy.

Research to inform prevention

25. One area where the UK has world-leading strengths is in epidemiological studies based on high quality and well maintained administrative datasets and patient and population based cohorts. The MRC and the ESRC continue to provide substantial investment into the policy modelling work at the University of Sheffield which uses sensitive and reliable methodology to build on existing evidence. However, there are still gaps in the evidence base where more robust modelling resources would inform future policy. Some of the research objectives advisors have suggested include, protection and continued investment of existing databases and cohorts, the development
of a comprehensive longitudinal dataset recording price paid for alcohol, consumption of alcohol (average and single-occasion) and resulting experiences of harm; as well as better data linking levels of consumption with criminal offences committed.

26. In order to inform future policy decisions it is necessary to maintain the current resources and develop these to ensure that data relevant to alcohol harm is collected as a resource for the ingenuity of the UK science base. Long-term monitoring with strong baseline data collection could also be a more efficient and cost effective way of monitoring responses to policy changes as they occur.

27. In the neurobiological domain, the MRC will continue to fund research on alcohol alongside other forms of impulse control disorders such as gambling. Understanding how ‘impulse’ triggers addiction and longer term use of harmful substances is likely to be particularly helpful for the prevention and treatment of alcohol addiction.

Harm

Secondary effects of drinking.

28. Despite studies of individual areas such as domestic violence and drink driving, there has been little systematic study of how drinking harms those other than the drinker. For example, little is known of the health economics and other impacts of a drinker on family members, workplace absences, work accidents and lower performance. Such research is needed to inform interventions to minimize these.

Adolescent bingeing - behavioural influences and harms

29. It is of paramount importance to understand how drinking and group processes (such as social influence, aggression, competition) combine if we are to design drinking situations and environments that are safer. This requires a focus on the social and behavioural outcomes such as risk-taking, expressions of prejudice, decision making (and subsequent commitment to decisions), that leads to the anti-social behaviour that can arise in groups that are drinking socially. Although there is observational and survey evidence about social drinking there is very little experimental evidence. It is also important to consider the social and behavioural aspects of interventions targeted at groups such as in management strategies in bars and pubs and police management of large groups of drinkers.

Long-term brain and organ damage caused by excessive drinking

30. Liver disease is currently increasing in frequency in the UK due to alcohol while in the rest of Europe chronic liver disease mortality is falling. Evidence is starting to emerge of other longer-term medical problems associated with drinking such as other gastro-intestinal disorders and cancers and an outcome of the work from the MRC 1946 Birth cohort study and others is a demonstrated link with colorectal cancer. A European-wide epidemiological survey indicated that alcohol misuse is now the most common factor underlying brain disorder in men based on harm. The possibility of longer-term brain damage resulting in a range of cognitive impairments is a major concern and little understood. We will explore this in the workshop in October to see if there is a need for further knowledge about these harms and/or any tractable opportunities for research for new therapies for alcohol-induced organ damage.

31. A huge, unresolved question is the effect of drinking in pregnancy and the risk this poses to the fetus. We know that women who drink at above recommended levels, particularly in binges, will consume harmful amounts of alcohol during the pre-pregnancy recognition period. This leads to the Fetal Alcohol Spectrum Disorder recently highlighted
by the European College for Neuropharmacology as possibly the leading cause of brain damage in children. We clearly have to understand this better and also explore whether more moderate drinking in pregnancy might harm the brain of the developing child.

*Drinking in middle age and older people*

32. Public debate understandably focuses on the young and the growth over the long-term in binge drinking amongst young people clearly raise particular health concerns because of the likely link between regular and excessive alcohol use in adolescence and alcohol dependence in adulthood and chronic health problems in later life. However, survey data also suggests that those aged 45-64 are more likely to drink, drink more, and be more likely to suffer health harms from drinking than their younger counterparts[36, 37, 38,]. The scale of harm is unknown and more sophisticated research is needed in this area.

*Marketing strategies and outlet density*

33. A major question is what effects do marketing strategies have on harmful drinking and whether vulnerable groups are being targeted through unregulated media channels such as social networking sites. There is also an increasingly compelling body of evidence demonstrating a relationship between the number of outlets and hours of sale in an area, and factors such as violence [39]. Further exploration of this relationship is warranted so that licensing decisions are evidence-based.

**MRC and ESRC response to Committee’s specific questions**

*Coordination of policy across the UK with the devolved administrations, and the impact of pursuing different approaches to alcohol.*

34. The main government departments responsible for alcohol policy have been co-ordinated for several years – although not as well as in the area of illicit drugs - and the new alcohol strategy shows that the Treasury is now integrated within this, which is welcomed. The MRC has brought stakeholders together from Government departments in England and Scotland on a number of occasions, including the Ministry of Justice, Home Office, Department of Health, National Treatment Agency and Scottish Office (including their Alcohol Evidence Group). Given the significance of the public health and societal problems arising from alcohol misuse, there is case for increasing coordination between England and the devolved administrations, particularly Scotland where there is a major policy drive. Promising results from policy initiatives undertaken in one administration can subsequently be used to guide policy more widely in the UK and reduce duplication.

*The evidence base for, and economic impact of, introducing a fixed price per unit of alcohol of 40p, including the impacts on moderate and harmful drinkers; evidence/arguments for setting a different unit price; the legal complexities of introducing fixed pricing.*

35. There is robust evidence linking changes in the price of alcohol to changes in consumption and harm and detailed modelling by the School of Health and Related Research in Sheffield (ScHARR) and evaluation work in Canada has demonstrated the effectiveness of minimum pricing as an effective and targeted pricing policy. Evaluation of these policies if and when implemented across the UK and Ireland will be crucial in further demonstrating the effectiveness of such policies. Projects are being developed in Scotland for this purpose and similar projects will be needed in the rest of the UK to provide a comprehensive evaluative evidence base. Setting the level is the subject of a
public consultation, but many are calling for impact and the committee will be aware that a 10p difference in value, in the range under discussion is significant in terms of public health benefit (see NICE guidelines). It has been calculated that the impacts of a minimum price of 40p would “….include a reduction in the mean alcohol consumption per drinker of 2.4%, in deaths of 1149 annually, and in hospital admissions of 38,900 annually”[40].

**Concluding remarks**

36. The Government’s strategy highlights the social and crime aspects effectively, however the lack of emphasis on treatment and research means that the strategy does not fully address the complexities of the issue and may underestimate harm and the potential to address it. The introduction of minimum pricing, which will need to be scrupulously evaluated, could have a major impact depending on the value per unit agreed. The MRC and the ESRC support this. However, there is an opportunity to build on the UK’s excellent brain research to develop new treatments and to address the gap in social and psychological research on the very strong role of social norms and group processes that can either elevate or moderate alcohol consumption. Health Services Research is needed to add value to existing knowledge by ensuring delivery of the most effective care. Heavy drinking among the middle-aged - where the real burden of adverse health effects is seen – and the need to study the broader harm to others that arises from the adverse effects of heavy drinking on other family members, remain important issues to address.

37. Biomedical and social research is therefore still urgently needed to deal with longer term brain and organ damage and treatments/interventions targeted to chronic use and relapse after detoxification. The MRC and the ESRC, together with their stakeholders, intend to continue their leading role in scoping research opportunity in some of the most tractable and important scientific questions in this area to help in the key objective of reducing the harm caused by excessive acute and chronic alcohol use.

*Medical Research Council and Economic and Social Research Council*

*8th May 2012*
References


3. ESRC Delivery Plan (2011- 2014) – accessed 19 April


The MRC and ESRC Addiction and Substance Misuse Research Initiative

The aims of the MRC led addiction strategy are to:

- Make better use of existing resources (expertise and infrastructure)
- Build research capacity in the UK within the addiction field
- Increase coordination and connectivity
- Carry out innovative, cross-disciplinary studies that will lead to improved public health
- Take a frontline position in the cross-Government drive to reduce the harm caused by illicit drugs, alcohol, tobacco (nicotine) and problem gambling

In the strategy’s second call, inter-disciplinary networks of researchers were created – called addiction research clusters - to network and hold workshops to develop innovative research proposals that would address explicit public health and research needs as identified by the MRC, ESRC and their stakeholders. The four thematic categories for research clusters in addiction research include cause, harm, treatment and alcohol. Whilst alcohol may feature within all categories, it has been singled out as a theme as it is considered a special case in relation to Government strategies and public health problems. The focus of the research strategy is to investigate the effects of hazardous drinking and support interventions to reduce heavy alcohol consumption.

Clusters set about engaging scientific experts from outside the addiction field to work with existing addiction researchers to increase capacity and innovation. In the third phase of the initiative (March 2010) four clusters were awarded substantial grants, including two significant awards to the CAPER and ICCAM clusters.

Funding

The initiative has involved three calls for funding supported by an initial budget outlay of £6.5m. The grants awarded under this initiative of particular relevance to research into alcohol misuse are listed in the table below.

Table 1: Major awards relating to alcohol funded under the initiative

<table>
<thead>
<tr>
<th>Principal Investigator(s) (Research Organisation)</th>
<th>Project title</th>
<th>Amount (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor T Duka (University of Sussex)</td>
<td>Understanding alcohol’s effects on inhibition of behaviour; implications for treatment.</td>
<td>£201,416</td>
</tr>
<tr>
<td>Dr S Husbands (University of Bath)</td>
<td>Transdermal delivery of a buprenorphine/naltrexone combination for the treatment of polydrug abuse.</td>
<td>£202,480</td>
</tr>
<tr>
<td>Professor A Lingford-Hughes (Imperial College London)</td>
<td>Imaging D3 receptors in alcoholism.</td>
<td>£215,592</td>
</tr>
<tr>
<td>Professors David Nutt and Trevor Robbins (Imperial College London and the University of Cambridge)</td>
<td>New drugs for addiction: focus on attenuating core behavioural components of heroin, cocaine and alcohol addiction and relapse prevention.</td>
<td>£1,566,514</td>
</tr>
<tr>
<td>Dr Petra Meier (University of Sheffield)</td>
<td>Interdisciplinary Alcohol policy effectiveness Research Programme.</td>
<td>£1,002,605</td>
</tr>
</tbody>
</table>
The following addiction and substance misuse research clusters have also been established with modest seed-corn funding of between £5,000 and £10,000.

**Table 2: Cluster development awards relating to alcohol funded under the initiative**

<table>
<thead>
<tr>
<th>Principal Investigator /Research Organisation</th>
<th>Project title</th>
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</thead>
<tbody>
<tr>
<td>Professor Charles Abraham (University of Sussex)</td>
<td>Developing evidence-based behaviour change interventions and policies to reduce alcohol use and misuse among young people</td>
</tr>
<tr>
<td>Professor W. Miles Cox (University of Bangor)</td>
<td>Applied Cognitive Neuroscience Cluster: Developing Innovative Cognitive-Motivational and Neuroscientific Interventions for Alcohol Abuse</td>
</tr>
<tr>
<td>Professor Colin Drummond (Institute of Psychiatry, Kings College London)</td>
<td>Experimental and clinical research on treatment of alcohol misuse and dependence cluster (ECTAD)</td>
</tr>
<tr>
<td>Dr Matthew Hickman (University of Bristol)</td>
<td>Causes, epidemiology and prevention of substance use (and gambling) among young people.</td>
</tr>
<tr>
<td>Dr Petra Meier (University of Sheffield)</td>
<td>Capacity development for Alcohol Policy Effectiveness Research (CAPER)</td>
</tr>
<tr>
<td>Professors David Nutt and Trevor Robbins (Imperial College London and the University of Cambridge)</td>
<td>ICCAM – Imperial College and Cambridge Addiction A two-university cluster for the study of aetiology and translation in addiction with partnerships</td>
</tr>
<tr>
<td>Professor David Stephens (University of Sussex)</td>
<td>GABAA receptors in neurobiology of drug and alcohol addictions (Causes of Addiction and Vulnerability Factors)</td>
</tr>
<tr>
<td>Professor Charles Abraham (University of Sussex)</td>
<td>Developing evidence-based behaviour change interventions and policies to reduce alcohol use and misuse among young people</td>
</tr>
<tr>
<td>Professor W. Miles Cox (University of Bangor)</td>
<td>Applied Cognitive Neuroscience Cluster: Developing Innovative Cognitive-Motivational and Neuroscientific Interventions for Alcohol Abuse</td>
</tr>
</tbody>
</table>
Further key MRC and ESRC investments

The MRC, together with the Wellcome Trust supports the Behavioural and Clinical Neurosciences Institute (BCNI) in Cambridge that brings together several internationally recognised groups to investigate the brain systems underpinning processes of key relevance to addiction such as reward, aversion, mood, stress and arousal. Within BCNI, the MRC funds Professor Barry Everitt FRS. His internationally renowned group has recently moved into alcohol research, partly motivated by the burgeoning problem of alcohol misuse, but also because research shows the acquisition of alcohol seeking habits and compulsions apparently share common neural mechanisms to those engaged during the transition from cocaine use to addiction.

The MRC also administers the National Prevention Research Initiative (NPRI), a national initiative made up of government departments, research councils (including the ESRC) and major medical charities that are working together to encourage and support research into chronic disease prevention. NPRI support for research projects on preventing the harms caused by alcohol.

The major funders of public health research in the UK came together under the UK Clinical Research Collaboration (UKCRC) to commission five UKCRC Public Health Research Centres, a £20million investment based at Newcastle, Cardiff, Belfast, Cambridge and Nottingham. The Centres, funded for 5 years from 2008/9, have researched the underlying reasons for different health-related behaviours and how people and groups might respond to different interventions. The co-funders of the Centres are the MRC, ESRC, the British Heart Foundation, Cancer Research UK, the Welsh Government, the Northern Ireland Public Health agency, the National Institute for Health Research (NIHR) and the Wellcome Trust.

Several members of the MRC Population Health Sciences Research Network undertake research into the effects of alcohol consumption. The research includes a number of broad themes including: predictors and long-term consequences of alcohol use, intervention studies including community and pharmacological interventions, biological and psychological l effects of alcohol consumption, and alcohol misuse and violence.

Heritability estimates for alcoholism range from 50% to 60%, pointing out the importance of genetic and environmental factors in its etiology. Professor Gunter Schumann at the MRC Social and Developmental Psychiatry Centre, in London, is coordinating a longitudinal, multi-centre, pan-European, functional and structural genetic-neuroimaging study of a cohort of 2000+ 14 year old adolescents, which investigates the neurobiological and genetic basis of individual differences in brain responses to reward, punishment and emotional cues in adolescents. This work could therefore lead great opportunities for the identification of those at risk of addiction and for the development of individually targeted treatments.