Expert Panel on Drug Driving – approved minutes of 26th October 2012 meeting, 11:30 – 16:00

Venue: Department for Transport

Attendees:

Dr. Kim Wolff, Chair (King's College London)
Professor Robert Forrest (Sheffield University)
Professor Atholl Johnston (Barts & London School of Medicine, Queen Mary University)
Professor David Osselton (Bournemouth University)
Professor David Taylor (South London and Maudsley NHS Foundation Trust)
Honorary Professor Eilish Gilvarry (Newcastle University)
Dr. Lily Read (Northampton Healthcare NHS Trust)
Dr. Judith Morgan (DVLA)
Dr. Roger Brimblecombe (ACMD representative)

Xxxxxx Xxxxxxx (Centre of Applied Science & Technology)
Xxxxx Xxxxxxx (DfT)
Xxxxxx Xxxxx (DfT)
Xxxxxxx Xxxxxxxxxxx (DfT)
Xxxxxxxx Xxxxxxxxx (DfT)

Dr. Mark Prunty (DoH) - Observer

Apologies:

Dr. J. Colin Forfar (CHM representative)
Xxxxxxxx Xxxxxx (DfT)

1. Minutes from the previous meetings

Agreed: The draft minutes of the meeting of 9th October, subject to some minor amendments.

Xxx Xxxxxx told the panel that the DVLA would be rewriting its methadone user guidelines to emphasise that no alcohol should be taken whilst using the drug.

Xxx Xxxxxxxxxxxx updated the panel that the ACMD were considering whether other z-drugs (Zopiclone) should be controlled under the Misuse of Drugs Act.

2. Matters arising

a) Progress so far

Xxxxx Xxxxxxxxxxx presented a note on the Panel's progress so far. It was noted that relative risk on page 1 would be better expressed as risk estimates as this was a more accurate term for the data.
It was noted that the 'limit of detection' (mentioned on page 2) would vary between laboratories.

b) Warnings on medicine labels

Xxxxxxxx Xxxxxx presented a list compiled from the British National Formulary (BNF) of what warnings about driving and/ or the use of alcohol were included for the drugs the panel were considering. There were two standard warnings (label 2 and label 19):

Label 2 contains this warning: "This medicine may make you sleepy. If this happens, do not drive or use tools or machines. Do not drink alcohol". This warning applied to most opiates and benzodiazepines.

Label 19 states "This medicine makes you sleepy. If you still feel sleepy the next day, do not drive or use tools or machines. Do not drink alcohol". This applied to most benzodiazepines and Zolpidem and Zopiclone.

The panel discussed the warning 'Do not drink alcohol' and agreed that this was clear and applied in any case, irrespective of the advice about sleepiness and driving in the first part of the warning.

However, the Panel was unclear to what extent doctors would reflect on driving since they were not currently required to warn patients about drinking alcohol. The panel considered that it would be beneficial if doctors gave advice to patients about the risk of drinking any amount of alcohol with prescribed medication when driving, as for some medications it was clear that combining the two increased the traffic accident risk. It was noted that there were mechanisms (GMC, Royal Colleges etc) to bring in such guidelines.

The MHRA have advised that the BNF warnings are not statutory. These warnings are put on dispensary labels attached to medicines guided by the advice obtained in the BNF. These are added at the Pharmacy by the dispensing pharmacist, who themselves are guided by the good dispensing guidelines issued by the Royal Pharmaceutical Society. Following the consolidation of the Medicines Act earlier this year, there are no statutory warnings concerning sleepiness and driving.

c) Statutory defence

The Panel discussed the statutory defence for drivers who take their medication in line with medical advice. It was noted that the defence had to be raised on credible grounds (e.g. a doctor's letter), but the prosecution would then have to disprove the defence.

For instance, the statutory defence would not be valid if a driver had taken more than the prescribed dose of medication and had been driving against the

instructions on the label and against clinical advice (which could include advice from a pharmacist or nurse, as the Road Traffic Act 1988 included a reference to “prescriber or supplier”).
The relevant Extract from the Crime and Courts Bill was considered*:*

> It is a defence for a person (“D”) charged with an offence under this section to show that—
> (a) the specified controlled drug had been prescribed or supplied to D for medical or dental purposes,
> (b) took the drug in accordance with any directions given by the person by whom the drug was prescribed or supplied, and with any accompanying instructions (so far as consistent with any such directions) given by the manufacturer or distributor of the drug, and
> (c) (…)
> (4) The defence in subsection (3) is not available if D’s actions were—
> (a) contrary to any advice, given by the person by whom the drug was prescribed or supplied, about the amount of time that should elapse between taking the drug and driving a motor vehicle, or
> (b) contrary to any accompanying instructions about that matter (so far as consistent with any such advice) given by the manufacturer or distributor of the drug.
> (5) If evidence is adduced that is sufficient to raise an issue with respect to the defence in subsection (3), the court must assume that the defence is satisfied unless the prosecution proves beyond reasonable doubt that it is not.

d) DVLA Procedures for drivers prescribed impairing medication

Xxx Xxxxxx from Xxx Xxxxxx advised the Panel that it was standard practice for the police to refer any driver impaired by their condition (e.g. epilepsy) or by their prescription medication to the DVLA. The DVLA have clear standards and regulations for dealing with these drivers.

Action: Xxxxxx Xxxxxx would circulate a summary of DVLA guidelines for inclusion in the Panel’s report

3. Epidemiological Evidence

An annual survey (undertaken since 2000) from Mixmag on recreational drug use in the UK was discussed. In the 2012 survey it was noted that almost 50% of respondents replied ‘probably not’ when asked whether the police could identify intoxication if a driver had been apprehended ‘within 2 hours of smoking a joint (but no alcohol)’ (n = 5,000 respondents)

It was noted that a survey by the Scottish Executive of clubbers who had passed their driving test and used drugs (n=61) asking if they had driven after taking drugs found that 85% or 52 individuals had done so. The most

frequently reported drug to have been used while driving were cannabis, followed by ecstasy and amphetamines.[1]

In terms of recreational drugs the Panel considered further evidence of the prevalence of drugs in clubbing populations. An article on what drugs had been left in amnesty bins at nightclubs was referred to, with the most common drugs found in London and Manchester respectively being cocaine (29%, 40%), amphetamine (25%, 26%), ketamine (19%, 20%), and MDMA (19%, 11%)[2].

The Panel were also advised that further drug driving data from The Forensic Science Service and a forensic laboratory was being sought.

4. Scientific literature and evidence for specific drugs:

a) Over the counter medication, Opiates and opioids: morphine, codeine methadone, burpenorphine

The Panel noted that there are regulations governing the quantity of controlled drugs allowed in Over-the-Counter (OTC) medication. OTC medication containing opiates must be sold in pharmacies only, and limits exist for the concentration of the morphine content.

Xxx Xxxxxx advised that the DVLA would order drivers who came to their attention for regular use of OTC medication containing opiate drugs above the recommended BNF dose to do a driving assessment.

It was noted that codeine was a controlled substance but there was little evidence of road safety risk associated with prolonged codeine use. For low levels of consumption there appeared to be little evidence of an increased risk of RTAs (Bachs, Bramness et al 2009). The Panel noted that there was also insufficient evidence in relation to dihydrocodeine use and driving risk to enable the panel to make any recommendations.

The panel agreed that it should make a recommendation that labels and leaflets for OTC medication should contain clearer directions about dosage and pharmacists should emphasise the importance of adhering to these directions.

The Panel agreed to gather more information about Tramadol (and Dimethyl tramadol) as its use was more dangerous when driving than dihydrocodeine and codeine. Tramadol is not currently detected in Immunoassay screening tests for opiates.

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[1] The Scottish Executive Central Research Unit, RECREATIONAL DRUG USE AND DRIVING: A QUALITATIVE STUDY, 2000
x The Scottish Executive Central Research Unit, 2000
[2] Kenyon SL, Ramsey JD, Lee T, Johnston A, Holt DW, Analysis for identification in amnesty bin samples from dance venues, Therapeutic Drug Monitoring, December 2005, vol. 27(6): pp 793-798
[2] http://www.legislation.gov.uk/ukpga/1988/52/section/92

There was evidence from 'amnesty-bin' analysis in clubbing venues of increasing use of Tramadol (Kenyon et al, 2005), but there was no specific information related to use by drivers.

Action: CAST would ask forensic laboratories what is meant by an opiate positive screen, and which drugs are included and discounted. It would need to be clarified whether particular opiates could be screened for to avoid false positives if only those particular opiates where included in regulations.

The Panel agreed that an explanation was needed in its report about the specific selection of opioids and that this was based on evidence from the scientific literature of associated road traffic accident risk and use by drivers.

The Panel returned to the previous discussion about **methadone**.
It was noted that methadone was the main pharmacotherapy for heroin dependence but was also obtained illegally to supplement methadone prescriptions. Methadone is also increasingly used in hospitals for the treatment of chronic pain.

The panel acknowledged that there could be an increased risk of a traffic accident through methadone use, if the prescribed dose was exceeded or it was taken in combination with alcohol. Methadone was attributed a medium risk in DRUID (OR 2 – 10). For prescribed methadone the statutory defence would apply if taken as directed.

It was agreed that a limit for methadone in blood should be recommended and that a lower limit should be recommended when methadone is used in combination with blood alcohol above 20mg/ 100 mL of blood (in line with panel's approach with regards to other drugs)

The panel agreed that the same approach should be taken with respect to buprenorphine.

It was noted that at a recent meeting of the Secretary for State Panel on Alcohol & Drug use and driving it was agreed that the DVLA would strengthen its 'At a glance' guidelines to recommend that drivers should not consume alcohol when prescribed methadone.

Xxx Xxxxxx advised that the DVLA could withdraw or refuse to grant a licence for misuse of drugs or alcohol under section 92 of the Road Traffic Act 1988[2].

Actions: Xxxx Xxxxxxx/Xxx Xxxx to provide evidence of Dihydrocodeine misuse.

Xxxxx Xxxxxx to provide list of non-morphine opioids and to check which opiates are generally available (e.g. in supermarkets) and which are available from pharmacy only.

Xxxx Xxxxxxx to look for data on Oxycodone and driving.

Xxxx Xxxxx would provide information on methadone concentrations in blood.

Xxxxxxxx Xxxxxxxxxxxx to check if directions on medicine labels/ leaflets are legally binding.

Xxxx Xxxxx would seek to discuss with the MHRA the need for clearer labelling on medication.

b) Benzodiazepines

The panel agreed that thresholds for specific benzodiazepine drugs should be recommended where there was evidence that they were prevalent and that there was a road safety risk associated with their use while driving.

It was noted that benzodiazepines were the second most frequently found substance in killed drivers (after alcohol) and the third most frequently found substance in seriously injured driver (after alcohol and THC).

The panel considered previous papers on diazepam and benzodiazepines and driving by Xxxx Xxxxxx and Xxxx Xxxxx, as well as additional research papers. Research indicates an association between benzodiazepine use and greater risk of accident when driving. (e.g. Barbone et. al., 1998, Smink et al, 2010).

Xxxx Xxxxx summarised the findings from the DRUID project: Benzodiazepines (grouped together with z-drugs) were classed at the lower end of a medium increased risk, based on odds ratios for getting seriously injured of around OR = 2 and for getting killed of around OR = 5.

It was noted that there was evidence in the scientific literature of specific risk estimates for Diazepam. The Panel considered the evidence below:

Odds ratios for RTAs for individuals who have prescriptions for or have consumed Benzodiazepines:

Substance	Odds Ratios	Reference
Diazepam Oxazepam Flunitrazepam Different BZ combined* Mildly >therapeutic range (TR) Moderately > TR Highly elvated >TR	OR: 1.61 (n= 411;P< 0.001) OR: 3.65 (n= 73; P < 0.05) OR: 4.11 (n= 211;(P < 0.05) OR: 1.60 (0.84 - 3.05) OR: 3.71 (1.34 - 10.27) OR: 3.75 (1.46 – 9.63)	Bramness et al, Eur J Clin Pharmacol 2002; 59:593-601
Any BZ (from 1 week to 1 Yr after prescription)		Hemmelgarn et al, JAMA, 1997;278:27-31

Long half-life (diazepam) Short half-life (oxazepam)	OR: 1.45-1.26 OR: 1.04-0.91	
Hypnotics (<2 weeks <4 weeks) Flurazepam/Triazolam Anxiolytics (<2 weeks <4 weeks) Diazepam, Lorazepam, Oxazepam	OR: 6.5 (1.9-22.4) OR: 3.9 (1.9-8.3) OR: 5.6 (1.7-18.4) OR: 2.5 (1.2-5.2)	Neutel, Ann Epidemiol, 1995S; 5:239-44
Any BZ Anxiolytics (long half-life) Hypnotic (long half-life)	OR; 8.15 (2.06-32.34) OR 2.22 (1.47 – 3.37) OR: 0.88 (0.41-1.87)	Barbone, Lancet, 1998;352:1331
BZDs;	OR:0.9 to 2.4	Hemmelgarn et al. JAMA 1997 Leveille SG et al, Epidemiology 1994; Oster et al, Am J Public Health, 1990 Ray et al Am J Epidemiol 1992
Benzodiazepine and alcohol	OR: 2.00 (alcohol 0.2-0.8g/L) OR: 7.00 (alcohol >0.2g/L + BZ)	Benzodiazepine/driving collaboration group. Drug Alcohol Depend, 1993;85: 95-104

In addition the Panel considered the following drug concentration data for drug drivers from the FSS:

Concentration in FSS drug driving samples (2004-07) for benzodiazepines were as follows:

Drug	Number of Samples Analysed	Range (ug/mL)	Mean (ug/mL)	Median (ug/mL)	Ther range (ug/mL)	Toxic range (ug/mL)
Diazepam	260	0.029 – 2.33	0.53	0.42	0.125 - 3	>5
Nordiazepam	252	0.028 – 2.22	0.37	0.25	0.2 – 1.8	
Temazepam (alone)	49	0.192 – 3.6	1.13	0.868	0.3 – 0.9	>1

The panel considered the evidence on odds ratios and prevalence and concentrations in drug drivers for diazepam. It was agreed that the panel would return to the issue of a potential limit for diazepam.

Based on the risk estimate of 0R 1.04 to 3.65 the Panel agreed that a threshold should be recommended for oxazepam. Oxazepam is a short acting benzodiazepine (half-life about 8 h) and is termed an anxiolytic/sedative/hypnotic drug. The therapeutic range has been reported to be between 200-1400 µg/L. A limit of 500 ug/L was discussed.

Other benzodiazepine drugs discussed were Temazepam and Flunitrazepam.

The Panel also discussed z-drugs and noted that Zopiclone was not currently a controlled drug under the control of the Misuse of Drugs Act 1971. Nevertheless the Panel noted that there was evidence in the scientific literature that zopiclone driver safety.

BZ (Zopiclone incl in BZ group) Zopiclone alone BZ with positive breath test	OR: 1.62 (1.24-2.12) OR: 4.00 (1.31 – 12.2) OR; 8.15 (2.06-32.34)	Barbone Lancet, 1998;352:1331 Record-linkage database of the medicines monitoring unit (MEMO)

The panel agreed that the report should include a brief discussion of zopiclone and that a recommendation should be made to review this drug in the future.

c) Amphetamine type drugs: MDMA, MDA, Mephedrone

The panel recalled the list of amphetamine-type drugs provided by Xxx Xxxxxxxxxxx.

The Panel wishes to avail itself of data from the Mixmag surveys and the 'amnesty bin' research to establish the prevalence of use of mephedrone, naphirone and methoxetamine. Although it was noted that scientific data with regard to driving might limit the Panel's ability to inform recommendations for a limit.

The panel agreed that there was more evidence concerning Ketamine and this would be considered in detail.

Action: Xxxx Xxxxxxx would provide a note on the pharmacokinetics of ketamine.

Other drugs

The issue of caffeine in high concentrations such as in **energy drinks**, was discussed particularly in combination with alcohol. There wasn't any specific evidence about increased road safety risk in relation to these, but the panel would discuss this issue briefly in its report.

Action: Xxx Xxxxxxxxxxx would provide a summary note on energy drinks

d) Poly-drug use and combination of drugs and alcohol

The panel discussed the issue of poly-drug use. It was noted that there was evidence in the Crime Survey for England and Wales that drivers consumed more than one psychoactive substance and the Panel agreed that drug-use of this type was commonplace.

In terms of specific data from drivers it was noted that evidence from drug drive screening data provided by the Home Office's Centre of Applied Science and Technology (CAST) (from January to September 2012 showed that use of two or more drugs in combination while driving was a significant problem; in the data set considered around half the positive samples (total 1,161) contained more then one drug. The panel had also considered the evidence for poly-drug use which showed that risk was increased, with the individual risk estimates associated with each of the substances being additive or even multiplied, when the drugs were combined.

It was noted that the risk estimate as an OR for driving under the influence of psychoactive drugs and alcohol compared to no drugs at all was OR: 112 (95% CI: 14-893) (Movig et al, 2004). DRUID (deliverable 2.3.5) showed evidence of the significantly increased odds ratio estimates for getting seriously injured and for getting killed when positive for a combination of drugs and alcohol. The Odds ratio estimate for both behaviours is estimated to be in the region of 20 – i.e. serious injury or death in a road traffic accident is 20 times more likely to occur for someone who is positive for a combination of drugs and alcohol, than for someone who is not.

According to DRUID research the odds ratio estimates for driving with drug-drug combination are also high, though not as elevated as the ones related to drugs and alcohol. The panel considered, however, that setting limits for individual drugs in different combinations, or combined total limits based on the same risk based approach followed with regards to setting individual limits would be extremely difficult.

The panel agreed that it would recommend that the confirmatory analysis of blood samples from suspects who had screened positive for several drugs should look for all of those, to identify if any of the concentrations was above the specified limit so that a conviction might be secured. In individual cases, if the police had evidence of impaired driving the impairment offence under section 4 of the Road Traffic Act 1988 might still be used.

5. Policy update

Xxxx Xxxxx reported to the Panel an update of regarding a conference on Impaired Driving held by the Parliamentary Advisory Council for Transport Safety on 16th October and a summary of the briefing of Peers on 24th October and also it was noted that most of the issues raised at the Lords had been discussed already. Some of the peers had concerns about the powers of police to stop drivers based on suspicion of drug driving.

6. AOB

The panel also took note of the points raised by Xxxxx Xxxxxx in his letter to Xxxx Xxxxx. It was noted that a response would be sent.

Action: Xxxx Xxxxx would draft a response.

It was also agreed to hold another meeting on 20th November.

Action: Panel to advise the panel secretariat of their availability for this meeting.