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PHARMACEUTICAL REPORT

Prepared at the request of:

for
The Court
In the case of

DC

Presented by

Dr Malcolm VandenBurg BSc MBBS MISMA FCP FFPM FRCP
Specialist in General Medicine
Consulting Pharmaceutical Physician
Author of Positive Under Pressure

Fellow, American College of Clinical Pharmacology, 1991
Fellow, Faculty of Pharmaceutical Medicine, 1993
Fellow, Royal College of Physicians, 1996

BSc Upper 2nd Class Hons. Physiology 1970 (Cardio-Respiratory and Neurology)
A registered Medical Practitioner since 1973
MBBS, St Bartholomew's Hospital, 1973
Membership of the Royal College of Physicians, 1976
Joint Committee on Higher Medical Training Certificate in General (Internal) Medicine. 1982
GMC Registration as Specialist in General Medicine. 2004

Law Society approved as Expert Witness, 2004
Registered: UK National Crime Operations Faculty, 2004
National Police Improvement Agency Expert Adviser Database 2009

Member Drug Information Association. 1984
Member American Academy of Pharmaceutical Physicians. 1993
Member International Stress Management Association. 1997
Member International Association for Cannabinoid Medicines (IACM). 2010
Member of Drugscope. 2010
Member of Medical Council on Alcohol. 2010
Member of The British Medicinal Cannabis Register (BMCR), 2010

The Boden Memorial Award for Medicine, Haberdasher's Aske School, Elstree, 1967
Herbert Patterson Medal in Biochemistry, St Bartholomew's Hospital, 1969
BMA undergraduate Research Award, 1972
Elected member of European 500 Dynamic Entrepreneurs, 1995

PREVIOUSLY

Lecturer in General Medicine, London Hospital Medical School
Lecturer in Clinical Pharmacology, St Bartholomew's Hospital Medical School
Honorary Senior Registrar in General Medicine, The London Hospital
Director of Clinical Research, Merck Sharpe & Dohme
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Clinical Research Director at Nexan – Developers of sleep apnea equipment
Co-coordinator of Positive Under Pressure Workshops for healthcare professionals
Author of Expert Reports (40) for Pharmaceutical Product Licences
200 published articles on the effects of pharmaceutical medicines & general medicine
Responsible Physician for worldwide registration of anti-hypnotics, anti-arrhythmics, antibiotics & drugs for cardiovascular disease & epilepsy
30 papers and articles on stress
Editor in Chief: Dilemmas and Solutions in Global Drug Development – PJB Publications
Author: Good Clinical Practice for Investigators
Author: Standard Operating Procedures for Investigators

Medical Advisor to Release (the drug assistance charity) 1973 – 1978

With assistance from:
Gary Sutton, Head of Drug Services at Release (CV attached – ref 1)

CONTENTS

Throughout this report, where I quote from papers supplied, this will be entered in italics, whenever I am giving my opinion throughout the body of the report; this will be typed in bold.

INTRODUCTION

1. I am instructed in this matter by solicitors for the defendant by letter 28 January 2011.
2. In this letter they tell me '*Mr DC has indicated his guilty plea to being concerned in the fraudulent evasion of a prohibition on the importation of a class A drug. He was arrested at Heathrow Airport as he left his plane and was found to have ingested 132 packages, each later found to contain approximately five grams of cocaine. Later analysis of the packages suggests (see statement of LM) that the total weight was 648 grams of cocaine with a purity of 84%, equivalent to 544 grams at 100% purity'*.
3. '*Mr DC is a Portuguese national and lawyer. His personal circumstances are contained in greater detail in the Proof of Evidence in Mitigation enclosed with this letter of instruction. He suggested at the time of his arrest [to his then solicitors] that the drugs he had consumed were intended for his own personal use and were not for onward supply. He maintains this account. The Prosecution suggest that he – and also his co Defendant Ms L – were acting as couriers. It is not intended to rehearse here the details of the prosecution case or the account of Mr DC both of which are available in the papers accompanying these instructions and those previously forwarded.*
4. *For clarity you should already be in possession of the following documents:*

   Prosecution Sentencing bundle pages 1-33

   Reports from ATT clinic in Lisbon (as translated)
5. *New documents attached with these instructions include:*

   Updated Proof. Please note that copies of documents referred to in the Proof are available upon request should these be required).'
6. In addition to reading the documents supplied, I consulted with Mr DC at Wormwood Scrubs on Wednesday 9 February from 2pm to 4pm.

7. In relation to the effects of cocaine I rely on:

- My own education, experience and training.
- Karch's Pathology of Drug Abuse, 3rd edition, Boca Raton: CRC Press.
- Martindale, which is published by the British Pharmaceutical Society and is the standard text to which all doctors should refer
- Meyler's Side Effects of Drugs, 14th Edition published Elsevier 2000.
- The Diagnostic Criteria DSM-IV, Diagnostic and Statistical Manual of Mental Disorders published by the American Psychiatric Association.
- My own and Gary Sutton's experience in dealing with patients and clients with cocaine dependence, abuse, withdrawal and addiction and our individual libraries of references on pricing, seizures and purity.
- My own library of papers on the effects of cocaine.

8. I have also performed literature searches at the National Institute of Health Bethesda, Maryland, for appropriate research articles using their search engine, PubMed to look for the scientific evidence of cocaine producing disinhibition, impulsive behaviour, risk-taking and the effects of cocaine on cognitive ability

9. I have worked in conjunction with Gary Sutton, Head of Drug Services at Release. We have obtained information on costings of cocaine in Portugal and Peru; we have experience already with prices in the UK.

EVIDENCE AGAINST

10. The evidence against is summarised in the sentencing bundle, indexed and superpaginated 1 to 31. I have not heard that the defence take issue with any factual part of it, other than possibly the costing of the drug and save for a query in relation to one continuity issue as detailed below. They do however take issue with the underlying hypotheses that he was importing it not for his own use but for re-sale.

11. From the viewpoint of my instructions, there does not appear to be anything in the prosecution evidence which gives further insight into Mr DC's mental state in relation to the issues under consideration.

12. I note the number of packages passed and their seal numbers. No issue is taken with chain of custody. I am though informed that the defence have written to the prosecution to seek clarity in respect of a possible discrepancy in the accounts given as to the number of packages but that this is not in any event expected to have any significant impact on the total quantity of drugs recovered.
13. I note the '*no comment'* interview given.

FORENSIC SCIENCE SERVICE EVIDENCE

14. There appears to be 132 packages relating to Mr DC; all packages and contents were similar and each gave a positive preliminary test for cocaine.
15. The FSS appeared to be satisfied that the packages of powder could be treated together. They contained 648g of powder, which was found to contain 84% cocaine.

STATEMENT OF SK

16. To work out the UK value, SK took into consideration the current UK street level purity and multiplied by 26.4%, then multiplied that by £40; the current national average price per gram.
17. SK states that they were not able to provide details of the source of these prices as they came from the Serious Organised Crime Agency.

STATEMENT FROM ATT

18. ATT is the Association for the Treatment of Drug Addictions, which I presume to be a private clinic, specialising in alcohol and chemical addictions. I do not know the clinic, cannot vouch for its competency or indeed the source of the information I received. I have no reason to believe that it is not from a professional organisation but have not done my own due diligence. Solicitors for the defendant may hold other information.
19. In a letter dated 22 November 2010, they state that Mr DC was admitted on 28 May 2009, for full time 24 hour residency in-patient treatment of his addiction.

20. He was discharged on 20 August 2009, to be monitored at a post treatment weekly group. This monitoring was interrupted because of relapse.

21. In May 2010, Mr DC re-contacted the clinic and he had some out-patient sessions while trying to attend a 12-step fellowship meeting at Narcotics Anonymous and Alcoholics Anonymous.

22. I have also been provided with the translation of a summary from the institution which they note that chemical addictions had shown a '*continuous and progressive pattern'* of consuming alcohol and using Hashish at the age of 16, with experimentation with opioids, cocaine and hallucogens, which finally maintained a continuous pattern of dependence on a regular consumption of cocaine in 2002. It notes that other substance use diminished.

23. They did not believe there was an additional formal psychiatric diagnosis, but could not confirm or deny the possibility of a Personality Limit State Disorder.

24. Their treatment regime appears to be along normal and accepted lines; to try to get Mr DC to understand the impact of his addiction on his life in all its areas, including those around him.

25. Throughout his treatment it appears he minimised the damage to himself and others and the consequent losses. There was resistance to introspection and he did not acquire the necessary resources to '*responsibly manage his illness'*.

26. They tried to get him to understand and recognise he was an addict.

27. They facilitated attendance at self-help groups such as Alcoholics Anonymous, but they note that his attendance '*was superficial'*.

28. Due to his resistance to acknowledge the existence of personal changes necessary, to set himself an appropriate goal, and his inability to accept the losses to his family and professional support network, they recommended a longer stay than normal at the clinic. However, Mr DC told them financial means prevented this, along with professional obligations.

29. They thought the plan for weekly Post Treatment Groups was insufficient and even this was interrupted due to the resumption of alcohol and cocaine use.

30. He did have further out-patient treatment from May 2010 after further damages from his addiction, such as having to leave the family home and repeated incidents with his superiors at work.

31. They conclude that these further treatment interventions did not produce desirable results.

STATEMENT OF PROOF

32. In this proof Mr DC recounts his personal circumstances including his marriage to his wife in December 2007, with a son born a year later.

33. It notes they are now divorcing due to, amongst other things, his drug and alcohol problems.

34. He states that he trained at a law firm in Lisbon, and worked there for 12 years until May 2010, where he appears to have been well respected initially. He appears to have left there with some idea of becoming a chef.

35. However, he rejoined a law firm in July 2010, but left there on 15 October 2010, having been given a better offer from a different law firm. He never commenced this employment due to his arrest.

36. He details his finances and also outlines his drug and alcohol issues in which he says:

'I was 15 when I first drank alcohol and used cannabis. From then I regularly drank alcohol at weekends. Cannabis was something I used infrequently, maybe 3 or 4 times per year. I have used cannabis infrequently since.

I was the same as many my age in Portugal; what I did was not unusual. I did this with friends who, like me, were studying or working during the week and partying at the weekend.

Over the next few years I experimented taking other drugs such as LSD and MDMA. Again, this was infrequently, just a few times per year.

I started taking cocaine around 2002, initially just occasionally but it slowly built up. Between 2005 and 2007 I was taking cocaine every Friday and Saturday night. I was taking 1-2g per night so using up to 4g every weekend. I would be out in bars or clubs

or having dinner with friends. I would find an excuse to go off for a couple of minutes and take cocaine without anyone knowing. I found out after my period in a rehabilitation clinic in 2009 that some of my friends thought my behaviour a little strange, that I kept disappearing throughout an evening but they never suspected I was using cocaine.

I very much took cocaine on my own; only very rarely would I take it with someone else. Only a few of my friends knew that I used cocaine although they did not know I was using so much. Only one or two friends in my circle used cocaine themselves and that was not very much. I bought my cocaine from a separate dealer and always bought on my own.

I was also drinking a lot of alcohol. Cocaine gives you the capacity to keep on drinking and I always did both together. On a typical evening I would drink a litre of wine with an evening meal and then a litre and a half of whisky. Wine and whisky were my drinks although I would also drink other spirits too. I could drink endlessly whilst taking cocaine as the cocaine would inhibit the alcohol. My tolerance was also very high.'

37. He details the declining relationship with his wife who knew about his drinking, but not the extent, neither did she know about the cocaine.

38. He continues talking about his addiction:

'I rarely took cocaine or drank on a Sunday as this was my recovery day before work on Monday morning. I never really suffered hangovers but would be a bit tired and have an afternoon nap, but otherwise I carried on as normal. In the period leading up to my arrest I had begun to use greater quantities of cocaine and although I did not use every Sunday my use was increasing.

I never took cocaine during the week. It never interfered with my employment and I was never under the influence of either drugs or alcohol whilst at work.

This is partly why I did not feel I had a problem with cocaine as I did not take it every day, only at weekends. I never begged or stole to drink or take cocaine, I was fit, I had a job and a house and a family. Cocaine was just a part of my life that I thought I was in control of.'

39. He notes that his wife found out about his cocaine habits in January 2009 and gave him an ultimatum; either he went into rehabilitation or she would leave him.

40. He also details how his parents were told.

41. Prior to going into rehab he was taking cocaine and alcohol for almost the entire 24 hours of the day and didn't sleep for 5 to 6 days.

42. He states '*Whilst I had doubts that my cocaine and alcohol use was a problem I did go into rehab open minded, to see if I really did have a problem'*.

43. He also continues '*to be honest I still have difficulty accepting I am an addict even according to everyone and everything I am'.*

44. He notes the deteriorating situation at work when he returned after rehab, even though he had stopped his drug use for several months until December 2009 or January 2010, when he started using cocaine again and drinking. This time his wife asked him to leave the family house.

45. He also left his employers, whom although were initially sympathetic to his addictions, were now not being as helpful.

46. At this stage he started using cocaine more heavily and would buy it five times a day, at weekends and was using more frequently.

47. He states he was using about 10g or more each week and could get through 3g to 4g a day.

48. He appears to have met the co-defendant, Ms L, in June, who was also a cocaine addict and he used cocaine with her.

49. He states '*after 8 years of using cocaine by myself it was nice to have a friend who understood*'.

50. Regarding the allegation, he states that when he left the law firm, prior to starting work, they decided to take a holiday together. They decided to go to Peru to experience a new country.

51. He states while in Peru:

'We used cocaine every day in Lima buying each time from the same person. It was much better quality than any cocaine I had used before. He was charging us

approximately 10 Euros for one gram. Whenever we wanted more we went back to the same place and he was there and he would sell us more. I was getting through about 10g/day. I think my girlfriend was using less than me. We were not really sleeping at all, and we continued to drink alcohol.

Before we left Lima I had the idea that I would buy a large quantity of cocaine to take back with me. We spoke to the man about it and he said he could do this for us. We left on a tourist bus to another town (details will be with the UKBA) but before leaving placed an order with the dealer. He said it would be ready for us on our return.

We stayed in the new town for about 3 days. We took more cocaine with us so we were never without any. The place we went had a beach and a pool and we relaxed there.

When we returned we went to different hotel recommended by the dealer. It was not such a nice place and we only stayed there one night. They brought the drugs to us there. Everything was prepared so all we had to do was swallow the packages. They were carefully and fully wrapped already.

I paid for mine and my girlfriend paid for hers. I think I paid about 2500-3000 Euros and my girlfriend about 1500 Euros. It was incredibly cheap. About 4-5 Euros/gram.

I do not know if what they sold us is the same purity as what they had been selling us in the street.

They gave us tablets to ensure we did not need the toilet and that there was no risk of losing the packages early.

We had not thought through any of the mechanics of how this would work. We did not know if the packages would be produced in London or not until we were back in Portugal. I was meant to go straight to work on the Tuesday morning for my first day in my new job. I had not given any thought to what I would do if the packages were still inside me – or worse – if I produced them whilst at work. '

52. In relation to his use of cocaine, when he returned to Lisbon he stated that '*I expect the cocaine would have lasted me 6 months or more. It was so cheap and of very good quality. I had in my head that this was the last cocaine I would ever buy, that I would give up after I finished it, that I would never have to buy cocaine in Lisbon again. I*

suppose in the same way people eat lots at Christmas before dieting in the new year, or buy lots of cigarettes on the basis that this is the last lot they smoke before they give up, this was my last cocaine. Those arriving at rehab centres, whether for alcohol or drugs, always turn up having taken or drunk a huge amount on the basis it is the last drink/drugs they will ever do.'

CONSULTATION AND INTERVIEW WITH MR DC

53. When I saw Mr DC in a legal visit room of the prison, I gave him my usual warnings about seeing him alone and explaining my role in the court process, that I was instructed by his solicitors, that my duty was to the court, and that my opinion was unbiased.
54. I also told him I did not owe him a duty of care or confidentiality and that part of my review of the case would be to compare everything that he told me to other matters I have received. (**I did not examine him because we were in a legal room as a medical suite was not available.)**
55. Mr DC was happy to proceed without solicitors being present.
56. In relation to his general medical matters, Mr DC has a skin allergy and uses Cetirizine for this, but he had not taken this in Peru (**this is important because it is psychoactive**).
57. He has also in the past used benzodiazepines for anxiety (**again this is important as he did not take this while in Peru. It is also important because it would appear that in Portugal he used these medications to self-medicate the effects of cocaine. Therefore in Peru as the lack of this medication could easily have contributed to his confusion and poor decision making.)**
58. There is no family history of alcohol or substance addiction.
59. He appears to have been a good child, met all his milestones appropriately and did well at school and throughout his legal training, despite the use of some substances from the age of 16.
60. He told me that he did not go to Lima with the intention of bringing back substances, but I understand that he and his girlfriend knew they would be available in Lima and that they would be relatively inexpensive to use when they were there.

61. He told me it was a spontaneous decision, once he knew he was leaving his job.

62. He told me about his increasing use of cocaine, which led to his admission to rehabilitation in May 2009 and after discharge his attendance at a weekly group for only one month of a planned six months, and only intermittent attendance at Narcotics and Alcohol Anonymous in which he did not engage, did not start the 12-step process and did not find himself a sponsor. **(Both of which are key to the use of these fellowships in preventing relapse.)**

63. He was clear about the fact that whenever he would use cocaine, he would usually drink 1L to 1.5L of whisky over a 2 to 3 day period, between Friday and Saturday, this being the time when he would most often use.

64. When initially on cocaine, he would snort it, but he would become extroverted, would speak all night, everything seemed okay and he '*didn't have any care in the world'.*

65. He was able to work without sleep and felt closer to other people, he felt happier than usual, though was occasionally restless.

66. He did do stupid things such as drinking and driving, not sleeping before work and meeting his son while using cocaine.

67. He denied psychotic symptoms. He however stated that when he was using cocaine with friends and they voiced delusional thoughts such as there were people about to enter the room in which they were smoking, or that police were coming to the venue they were in, he accepted these thoughts, believed them and as he said '*would take on his friends' delusional paranoid thoughts'.*

68. He was influenced by others and got agitated by other people's '*paranoia'.*

69. If he ever had hangovers he put it down to alcohol, as this is what they felt like. The worst symptom being headaches. He denied other withdrawal symptomology.

70. He thought that over the last few months, before he went to Peru, his cocaine use was growing.

71. Rather than just taking cocaine at the end of the week he would be using it every day and his life was becoming chaotic.

72. While in Peru he said he didn't feel restless or agitated like he did when using cocaine in Portugal, he did feel '*higher'*. He felt less nervous and as if he was '*in another place'.* (**This difference may not have only been due to the purity being different, but that the cutting agents, some of which are psychoactive would have been different as well.)**

73. He had no uncomfortable feelings, although the effects lasted longer. (**The cocaine he used in Portugal was less pure and may have had cutting agents which are psychoactive. He therefore has a better experience of cocaine in Peru and it may be argued that psychologically he would wish to repeat this experience in Portugal which he can only do by taking the same cocaine back with him.)**

74. He thought he was paying 8 to 10 Euros a gram. With cocaine being so cheap on the streets, he began to discuss with his girlfriend how much cheaper it would be to buy it in Peru, than buying it in Portugal, where he said he was paying about 50 Euros a gram.

75. His feeling that it was somehow sensible to buy a large amount in Peru grew when he was told by a dealer that he could be supplied a large quantity at 5 Euros a gram.

76. When he knew this, Mr DC thought he had to '*take it with him'*.

77. He continues '*I don't know where my head was, it seemed a really good idea'*.

78. After discussions with the dealer about the price and quantity, he decided that it would be very cost effective to buy a lot, because compared to Portugal he was paying '*less for more'.*

79. He, however, could not remember exactly how much he handed over for all the cocaine, but believed he handed over most of the money he had left over, around 3,000 Euros in cash. He told me he bought as much cocaine as he could afford and in fact gave over almost all his residual cash. [I am informed that on arrival at Heathrow he was not in possession of any Euros and only a small quantity of Peruvian currency] This may be relevant. If he was a profit-motivated dealer whom had a plan to bring cocaine back to the UK, it may be argued he would have taken more money with him. From many sources such as the evidence put before the House of Commons, swallowers and body packers can carry up to 1000g each. '*The House of Commons, Home Affairs Committee,*

The Cocaine Trade, Seventh Report of Session 2009–10, Volume I, Report, together with formal minutes p.47. Ordered by the House of Commons, March, 2010 London: The Stationery Office Limited'. (Please see attached reference 1a)

80. He did not check its purity. At the time he did the deal he said '*I thought it was sane'*.

81. In the days leading up to the purchase he was using and smoking cocaine all the time.

82. He had changed to smoking cocaine at some time prior to his trip to Peru.

83. In the days leading up to the deal, in the 3 to 4 days prior to this, he was using 8g to 10g a day; he was not really sure.

84. At the time he actually brought the drugs he said he had *'never done so much before'.*

85. He had a sense of euphoria the whole time, was feeling great and '*nothing was a problem.'*

86. After discussions with the dealer, he thought he could swallow it to take it back to Portugal. They suggested they would bring it to him in packets.

87. He now believes that it was '*stupid that he didn't check the purity, but took the dealer at his word'*. It was similar to that he had being using while buying from him to use in Peru. He was told it was similar purity to the drugs he had used already. He also admitted when questioned that he was very naive or probably stupid to not have given consideration to not only the legal issues and the purity, but neither did he nor has he ever mentioned the extreme physical danger he was putting himself at by swallowing packages. He said he had given no thought to the passage of the packages, or where this may take place. **This was an extreme, high risk activity, as his evidence is that they brought him the cocaine already in packs. He would thus appear to be trusting that they were well wrapped and secure, and this would prevent leakage which would have put cocaine into his body which is gastrointestinally absorbed. However the worse consequences would have been if the package burst, as this is a common cause of, at best, extreme life threatening conditions and at worst death itself. However, surprisingly, many couriers have survived high plasma concentrations consequent on package rupture.**

88. He stated that although arrest had crossed his mind and that he knew what he was doing was not legal, that he '*never thought I would be caught. I thought it was impossible and I had no doubts about bringing it in. It seemed a good idea, it would reduce my worries about obtaining it in Portugal. It was good quality and cheap and sounded sensible'*.

89. He concluded '*it would make my life easier to use cocaine'.*

90. I could find no evidence of overt clinical depression, anxiety or panic attacks and he was not suicidal.

91. He described no episodes of psychosis, mania or psychomotor restlessness.

92. He was emphatic that he didn't have withdrawal symptoms after not using it.

93. He thought the amount of cocaine he had would last him about six months and although he now knew it would be difficult to transport it to Portugal he '*cannot reasonably explain why I did it ..... I was in another place'.*

94. I went over in some detail with him his previous use of cocaine since early 2009 to date.

95. Prior to rehab in May 2009, he would use weekly, always on a Friday and Saturday and sometimes on a Thursday or Sunday. He would do 2g - 3g on these days and occasionally more.

96. He would snort it and pay between 45 and 60 Euros a gram and do 1g over about three hours in ten to 12 lines.

97. One line would contain about 100mg. He told me that '*this gave a weekly use of 8g - 9g per week, though he spent about 300 Euros a week'*. **This is a very high strength line. Most social users get four lines per 100mg and it is rare to do less than two lines per 100mg.**

98. He had stopped his drug use from May 2009 while in rehab, to about December 2009. At this stage he would snort Thursday to Sunday 2g - 3g a day, giving 8g - 10g a week because he would never do 3g on four successive days.

99. From May 2010 his use increased, especially when he started smoking cocaine, making a base himself by mixing cocaine with ammonia and occasionally buying crack cocaine himself. (**This is when he ceased his employment at the law firm and the**

relevance of him using base and crack cocaine which accentuates the psychological effects of cocaine use is covered later.)

100. Once he met Ms L in June/July 2010, the use again began to escalate. By the end of August he was doing 5g a day on four or more days a week. He thought his use per week was variable and was 20g - 30g.
101. In the days prior to going to Peru he thought he was smoking 5g - 7g a day; possibly as much as 30g a week.
102. In the summer of 2010, in Portugal, when doing so much cocaine, he did heroin on three occasions to calm himself down.
103. In Peru, in the days before buying his cocaine, his use increased again to possibly 10g a day, which he did for 5 to 7 days.
104. He was clear to point out that whenever he did cocaine he also heavily used alcohol and the days prior to buying the cocaine both himself and his girlfriend hardly ever slept at all.

COCAINE

105. This report is prepared for a sentence hearing (and if need be a 'Newton Hearing') before a learned judge and therefore the section on cocaine will not be as detailed in its generality as I would usually do for a jury trial and will go into some aspects of relevance to this case in more detail than I would usually do for a jury trial.
106. Cocaine is one of the most addictive and abused substances and one of the most physically dangerous.
107. There is appreciable initial tolerance to the euphoric high which may develop.
108. It is extremely psychologically addictive, particularly with heavy and frequent use and some people believe it is possibly physically addictive, although this is much debated. There is now good evidence that even if it is not physically addictive in the way heroin is, which is in large part due to the severe and debilitating withdrawal symptoms; there are chronic changes to the cellular, biochemical, physiological, and structural integrity of the brain. This includes changes of the number of receptors and their sensitivities. This re-

setting is now thought by many to be the reason that cocaine users need increasing quantities and continue using to stabilise their new homeostatic environment.

109. It has a short duration of action which leads to compulsive and repetitive re-use.

110. Users of cocaine enter into an increasingly escalating spiral of physical and pharmacological drive, taking it often more frequently in higher doses to retain the beneficial effects to them, while avoiding the *'come down'* which may follow.

111. It is usually inhaled, but may be converted to one of the bases which allow it to have an enhanced pharmacological action when smoked.

112. It may also be used as a tea and absorbed orally.

113. The effects of cocaine are those of stimulation of both the central nervous system and the sympathetic nervous system which leads to:

- A fast heart rate (**although paradoxically this may sometimes be decreased**)
- Dilating pupils
- Elevated (**or often paradoxically lowered**) blood pressure
- Perspiration
- Nausea
- Vomiting
- Decreased food intake
- Weight loss
- Psycho motor agitation (**or paradoxically retardation**)
- Muscular weakness
- Chest pain
- Abnormal cardiac rhythms.

114. Of particular importance in this case are the neurological effects of confusion, but other central nervous effects include:

- Fitting
- Abnormal movements
- Reparative movements or even coma

115. This list is taken from the Fourth Edition, Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR, published by the American Psychiatric Association.

116. Of importance to this case is the diagnostic criterion for cocaine use and intoxication as given in table 292 . 89 of this manual which clearly states that cocaine use gives clinically significant mal-adaptable behavioural or psychological changes, which includes both euphoria and the blunting of mood, and impaired judgment. As well, although not applicable to this case, are the other features given in the table. (Please see attached reference 2.)

117. Many standard text books support the hypotheses concerning the mis-judged grandiosity and impaired judgement of cocaine users.

118. For instance Kaplan and Sadock's Synopsis of Psychiatry: Behavioural Sciences, Clinical Psychiatry, 7th edition, published in 1994, states that cocaine causes '*elation, euphoria and heighted self esteem'*. With high doses of cocaine however, the symptoms of intoxication include '*..... impaired judgment, impulse and potentially dangerous sexual behaviour .....* '

119. Cocaine may also induce '*frank delirium, psychosis and mania'* (**although none of these are obvious in this case**) although there is some evidence of the delusional thought processes in minimising the consequences of the behaviour.

120. Martindale, which is published by the British Pharmaceutical Society and is the standard text to which all doctors should refer, adds to the list of psychological symptoms appropriate to this case, including grandiosity, in which the patient believes they have greater powers than they have and believe that all things are possible.

121. Martindale also states that chronic abusers lose many mental faculties and functions, including delusional thought.

122. Myler's Side Effects of Drugs, Fourteenth Edition, an Encyclopaedia of Adverse Reactions and Interactions further enhance these abnormal psychological and cognitive effects of cocaine use. (Please see attached reference 3)

123. There have been many studies of the effects of cocaine on cognitive function. They quote from the work of O'Malley et al (Neuropsychological impairment in chronic cocaine

abusers. Am J Drug Alcohol Abuse 1992;18(2):131–44.) which compared 20 heavy cocaine users and a group of match controls and found that the cocaine users had difficulty with concentration, memory, problem solving and abstract thinking. The heavy users had the greatest loss of memory. (Please see attached abstract reference 4.)

124. They further quote from the work of Di Sclafani et al (Neuropsychological performance of individuals dependent on crack-cocaine, or crack-cocaine and alcohol, at 6 weeks and 6 months of abstinence. Drug Alcohol Depend 2002;66(2):161–71.) (Please see attached reference 5) who compared 20 crack users with 37 crack and alcohol users in 29 controls and found that those in the substance dependant groups had '*significant cognitive impairment in a range of neuro psychological tests compared with controls after six weeks and at six months of abstinence'.*
125. Drug dose was strongly associated with the extent of impairment.
126. Myler's Side Effects of Drugs also points to the fact that cocaine use alters the function of the brain and that some psychiatric symptoms in cocaine users are associated with changes in blood flow in which there is reduced perfusion in some areas of the brain associated with cocaine use.
127. Cocaine blocks not only dopamine transporters within the brain, but binds tightly to this protein stopping the natural function of it, which is to take dopamine into cells.
128. Therefore dopamine accumulates outside of cells, altering the ability of this transmitter to work normally inside the brain where it is used in high doses for a long time, and sensitises this important brain reward circuit to the regarding effects of cocaine.
129. It is this sensitisation which leads to this intractable addiction dependence escalation of dose and relapse. This accumulation of dopamine increases the number of dopamine receptors.
130. Not only may cocaine block reuptake of dopamine, but may also block the uptake of other physiological and behaviourally important transmitters such as serotonin. I quote work later in which serotonin receptors are also altered as well as other evidence of imaging alterations consequent on long term cocaine use.

131. There are thus many neuro physiological pathways which are affected by cocaine which may account for the long term cognitive and behavioural changes, particularly of reasoning.
132. Of importance are the consequences of these physiological changes, some of which are shown by the DSM IV criteria for substance abuse. (Please see attached reference 6.)
133. Maladaptive pattern of use which leads to clinically significant impairment and distress which may include tolerance, the need for increased amounts to achieve the same effect and thus diminishing effects when the same amount is used.
134. There is also, as stated in Criteria 5, a greater deal of time spent in activities relating to obtaining the substances and in Criteria 7, the substance is used despite knowledge of it having a persistent or recurrent or physiological problem that is likely to be caused or made worse by the substance.
135. This is particularly true of cocaine, in which the thought processes are so disturbed that users continue to use it, as in this case.
136. Despite obvious difficulties in relationships, work and functioning, like Mr DC, they believe they are not addicts, and many of my patients keep using it, despite obvious adverse effects on the heart and the brain, including heart attacks and strokes.
137. The grandiosity and risk taking behaviour is also seen in relation to sexual promiscuity where they engage in activities without believing there will be any adverse physical effects on themselves.

LITERATURE RELATED TO COCAINE

ASSOCIATED RISK TAKING, IMPULSIVITY, COMPULSIVE BEHAVIOUR AND IMPAIRED DECISION MAKING

138. **Cocaine Use, Risk Taking, and Fatal Russian Roulette** (please see attached reference 7)

    Peter M. Marzuk et al

    JAMA 20 May 1992, Vol 267, No 19

139. This is a very interesting and relevant research project and report, which examined the association between recent cocaine use and risk taking playing Russian roulette as a '*paradime'* for extreme risk taking behaviour, without thought of the consequences and negation of the risks.
140. They found that recent use of cocaine was detected in 64% of fatalities and 35% in a controlled group, which were people whom committed suicide with a gunshot to the head. A similar physical cause of death.
141. The paper comments that it shows '*the strong association between recent cocaine use and one form of extreme risk taking behaviour'*.
142. It also comments, as I have mentioned previously, that all cocaine users have '*some degree of risk taking pretensity'* because part of their addictive process puts them in danger which may include getting the drug in the first place, as well as the pharmacological and medical side effects, as I have mentioned previously. The social consequences on relationships, as in this case, the effect on employment (**as in this case**) and the legal consequences (**as in this case**).
143. A large number of their subjects were found to have used alcohol as well (**as in this case)**.
144. They mentioned as possible reasons for their results some of the physiological effects of cocaine I have alluded to previously.
145. They state that among these that cocaine produces '*..... grandiose euphoria*' and senses of '*invincibility'* as it seriously distorts the perception of risks.
146. They comment that in their case the record shows that witnesses of the games note that the victims had mentioned that they were '*impervious to bullets and could not be harmed'.*

147. **Impulsiveness and subjective effects of intravenous cocaine administration in the laboratory.** (please see attached reference 8)
Cascella NG, Nagoshi CT, Muntaner C, Walter D, Haertzen CA, Kumor KM.
J Subst Abuse. 1994;6(4):355-66.

This study shows that in a small group of subjects there was association between intravenous cocaine use in the laboratory and impulsivity which was related to subjective euphoria.

148. **Impulsivity and risk-taking in co-occurring psychotic disorders and substance abuse.** (please see attached reference 9)
Duva SM, Silverstein SM, Spiga R.
Psychiatry Res. 2010 Sep 24.

149. Accepting that impulsivity is a risk factor associated with substance abuse, they showed that people with an underlying psychotic disorder, who used cocaine, engaged in more risk taking behaviour and '*seemed to be less affected by anticipated loss'* than those not using.

150. **Relationship between impulsivity and decision making in cocaine dependence.** (please see attached reference 10)
Kjome KL, Lane SD, Schmitz JM, Green C, Ma L, Prasla I, Swann AC, Moeller FG.
Psychiatry Res. 2010 Jul 30;178(2):299-304.

151. This paper showed in a number of complex laboratory investigations that cocaine dependant subjects had impaired decision making abilities and on questionnaire had greater impulsivity than a group of controls.

152. Their ability to make decisions was impaired and they often make choices which are disadvantageous to themselves.

153. **Relationship between attentional bias to cocaine-related stimuli and impulsivity in cocaine-dependent subjects**. (please see attached reference 11)
Liu S, Lane SD, Schmitz JM, Waters AJ, Cunningham KA, Moeller FG.
Am J Drug Alcohol Abuse. 2011 Mar;37(2):117-22.

154. This paper follows up the work of Kjome and again shows how fixated cocaine addicts were on cocaine in their thought processes and again, increased impulsivity and poor inhibitory control.

155. **The role of impulsive behavior in drug abuse.** (please see attached reference 12)
Perry JL, Carroll ME.
Psychopharmacology (Berl). 2008 Sep;200(1):1-26.

156. This paper points out that impulsivity in drug abusers is multi-factorial in that inhibition and control of impulsive choices are not controlled. Therefore those with these personality traits are more likely to become addicted

157. Concernedly and worryingly, the drug of abuse itself may increase impulsivity, causing an escalation of this behavioural disturbance and lack of control.

158. **Relationship between Platelet Serotonin Uptake Sites and Measures of Impulsivity, Aggression, and Craving among African-American Cocaine Abusers** (please see attached reference 13)
Patkar et al
The American Journal on Addictions, 12:432^447, 2003

159. This study, although in a different ethnic group from the accused, showed significantly higher scores on some measures on sensation seeking and impulsivity compared to controls.

160. Interestingly, many of the measures of sensation and impulsivity were related to alterations in serotonin pathway markers, which as I have already mentioned, are one of the physical pathways altered by cocaine.

161. This paper therefore suggests that cocaine may physiologically alter impulsivity at the level of serotonin function.

162. **Attentional deficits in cocaine-dependent patients: Converging behavioural and electrophysiological evidence.** (please see attached reference 14)

Diane Carol Gooding, Scott Burroughs, Nash N. Boutros

Psychiatry Research 160 (2008) 145–154

163. This paper links the effects of cocaine and its effects on discrimination and decision making to a neuro physiological marker.

164. **The Role of Cognitive Control in Cocaine Dependence.** (please see attached reference 15)

Hugh Garavan & Robert Hester

Neuropsychol Rev (2007) 17:337–345

165. This paper further links cocaine's ability to produce risky impulsive behaviour and the way that cocaine users focus on cocaine with the production of poor inhibitory control on changes in functional neuro imaging. Which as I have previously mentioned have been shown in cocaine users.

166. This paper draws attention '*to those processes involved in exerting control over behaviour'* as drug dependence is characterised by risky, impulsive, behaviour. It draws together some of those aspects that have already been mentioned in other papers such as changes in functional neuro imaging in the prefrontal region of the brain associated with cocaine depenance and the other papers discussed, which show that decision making is biased by '*attentional bias towards drug related stimuli'* as well as the inability of cocaine addicts to suitably monitor and evaluate their behaviour.

167. They concentrate on the effects that these factors have on the inability of those with the dependence to reduce their use, despite their knowledge to the detrimental effects that the dependence has on them.

168. However, it could be argued that the '*same processes that the deficiencies show by cognitive neuro science affects all their decision making processes and that this deficiency in willpower has a neuro biological basis, as in this case this is a particularly unfortunate scenario for users of drugs such as cocaine'.*

169. This is because as well as the drug's effects on the brain's reward system, which generates a pathological desire for the drug, cocaine users also '*display neuro biological*

impairments in those same brain systems that are required to exercise control over those desires'.

PATTERN OF COCAINE USAGE

170. I attach the paper by Cohen and Sas, entitled '*Cocaine Use in Amsterdam in Non Deviant Subcultures*' (please see attached reference 16).

171. This paper clearly shows that his usage is in the high use level of in excess of 2.5g a week throughout the period he was using cocaine. .

172. Importantly, this paper shows the sustained high level use is rare and that usage is interspersed with periods of abstention and is often adjusted to social function. **This pattern is clearly seen in the defendant, with fairly stable weekend use in the first months of 2009, which is shown in the paper to be a well known phenomena.**

173. **Mr DC undergoes a period of rehabilitation and then abstention. When he starts again the level is slightly lower than previously, as he continues to work and live with his wife. The social constraints limit him to using it at weekends.**

174. **In line with the social restrictions on him, when these are lifted initially when he leaves his wife, then when he leaves his initial employers, and finally when he meets a partner who colludes in his addiction, the use increases. This is in line with the known experience.**

175. The paper by Cohen & Sas highlights that high level users use a mean of 9.5g a week, which is which is just above what he was using in early 2009 and up to the time he met Ms L. There is nothing exceptional about this level.

176. The escalation with Ms L to between 20g and 30g a week is at the top end of the range in these high level users, which is between 2.6g a week to 42g a week. His use is therefore within known limits.

177. The relevance of the Cohen and Sas paper is that it is in non-deviant sub cultures, so excludes those people who are often included in surveys such as those in prostitution or those in prison and indeed those attending rehab units as it is conducted via the

Snowball Community Contact Tracing Methodology. Many of them (30%) went to university and many are high income earners. The concurrent use of alcohol is also high in 98%.

178. Thus neither his pattern of use, his escalation of use in response to changing social and employment circumstances, and the level of use, is abnormal.

179. The paper quotes '*weekend use is the most important mode with low level users'* and this corresponds with '*.....with rare exception all high level users took cocaine daily during their period of heaviest use'* as many individuals are shown in this longitudinal survey to change their usage pattern; his change of usage pattern is to be expected.

180. With regard to risk taking and changes in behaviour, in response to change of usage, the paper shows that as the level of use changes from low, to medium, to high, so there is an increase in the urge to carry weapons which increases from 1% at low level use through to 34% at the highest level.

181. Thus one may expect his behaviour to have been completely different and his desire to take risk changes as his use escalates.

182. The paper also shows loss of control with cocaine use.

183. The survey was conducted in 1991, at which time the cocaine price was very high, as was the purity. This would have limited the use both financially and because of the high purity of the cocaine which was at its peak at 87% in 1991, ranging between 74% and 96%, which is higher than the grade he would have been using in Portugal, but similar to that he would be using in Peru.

184. There is a paper by Gossop, co authored by Molla, who runs a drug abuse clinic in Lima, entitled '*High Dose Cocaine use in Peru and Bolivia - Bull Narc. 1994;46(2):25-33'*, which states drug-producing countries such as the Andean countries of South America where cocaine is manufactured are confronted by special difficulties associated with the widespread availability of drugs. There have been few detailed reports of patterns of use in relation to the type and severity of cocaine dependence problems within those countries. The present study looks at the patterns of cocaine use in relation to severity of dependence among a clinical sample of South American cocaine users. Information about

patterns of cocaine use and severity of dependence was collected from a sample of 68 drug users who were receiving treatment for cocaine problems at treatment centres in Bolivia and Peru. Levels of cocaine consumption were extremely high.

185. The mean daily dose was 16.4 grams. The majority of the users (87 per cent) smoked cocaine in the form of pasta, pitillo or basuco. More than half of the sample reported using cocaine at least 20 times a day. Severity of Dependence Scale (SDS) scores were high and these are consistent with the frequent and compulsive pattern of use reported within the sample. It is suggested that the more severe cocaine problems reported in South America compared to some western countries may be due to the substantial differences in the amounts of cocaine which are typically ingested. In the Bolivian sample most of the users were taking cocaine in amounts which greatly exceed those usually seen in western countries. (paper available on request)

186. Thus where cocaine is so much cheaper, the daily dose used is much higher almost certainly due to the much lower cost and easier availability which is consistent with even his increased use in Peru.

187. Other than the main paper I have quoted, there are a number of other references in the literature showing that heavy users not uncommonly use 10g per day and may even go as high as 50g per day.

188. In O'Brien and Cohen's 'Encyclopaedia of Drug Abuse' 1984 p.65, NY; Facts on File, Inc. NY; Facts on File, Cocaine states a '*heavy user may through frequent small doses ingest as much as 10 grams in a day'*

189. The following quotation is from information from cocaine producing countries so it will be much purer and much cheaper which may account for the high consumption. Thus while the setting is not consistent with the accused, it does show that the acute tolerance potential for cocaine is surprising. On the website of the United Nations of Drug & Crime there is information that states that *'Levels of cocaine consumption were extremely high, and amounts of up to 50 grams per day were reported. The mean daily dose was 16.4 grams'.* www.unodc.org/unodc/en/.../bulletin_1994-01-01_2_page005.html download *22/11/2009.*

190. In the publication '*Beyond the ABCs – Cocaine'* published by the Alberta Health Service, Alberta, Canada it states that *'Usual oral doses range from 100 to 200 mg, intravenous doses from 25 to 200 mg, and smoked doses from 250 to 1000 mg. Very heavy users may sniff or smoke up to 10 g (10,000 mg) per day*'. I would not say this is anything other than very high dose use, but I have certainly known people whose use is around this level. http://www.aadac.com/87_417.asp downloaded 22/11/2009.

191. **It is highly relevant to the overall understanding of Mr. DC's cognitive and behavioural impairments that he began to 'freebase' cocaine shortly after leaving the law firm in May 2010. He also notes that he also bought crack cocaine. These two forms of cocaine enables it to be smoked and has enhanced effects.**

FREEBASE COCAINE

192. Impurities or adulterants are removed by treatment of the cocaine salt in water with ammonia added to the solution. A white milky precipitate will form.

193. The precipitate (freebase) is dissolved in ether. It will then separate and when dried can be heated (cocaine as a salt is not sufficiently volatile, the drug bio-degrades at 190c, the melting temperature, Freebase volatizes at 90c). The user can then smoke or inhale the vapour through a pipe.

194. The process is relatively simple to learn, often through a plethora of available information and trial and error.

195. Crack cocaine is similar but is usually made with bicarbonate as the alkaline agent and does not require ether, consequently it is usually, but not invariably less pure. The effects are similar, although 'street' base cocaine will often be made in a microwave, which can 'lock' impurities into the substance rather than washing them out. Using 'Freebase' in Peru would result in virtually pure cocaine which is consistent with Mr. DC's comment about feeling 'higher' and 'in a different place' in Lima.

196. Cocaine is a fast-acting and short-acting drug. Smoking exaggerates these factors in the following manner.

197. The main issue with cocaine in this form is the immediate bioavailability of the drug. When taken through the nasal membrane the rate of uptake through the network of capillaries and veins is gradual. With direct vapour access to the surface area of the lungs the rapid change in drug/plasma levels results in amplified cocaine effects to the user.

198. Consequently, the physical and psychological consequences of cocaine in this form are usually even more grave and pronounced than those encountered with high dose snorting.

199. Smoking freebase cocaine has the additional effect of releasing methylecgonidine into the user's system due to the pyrolysis of the substance (a side effect which insufflating or injecting powder cocaine does not create). Some research suggests that smoking freebase cocaine can be even more cardiotoxic than other routes of administration because of methylecgonidine's effects on lung tissue and liver tissue. (Scheidweiler KB, Plessinger MA, Shojaie J, Wood RW, Kwong TC. Pharmacokinetics and pharmacodynamics of methylecgonidine, a crack cocaine pyrolyzate. Journal of Pharmacology and Experimental Therapeutics. 2003 Dec; 307(3):1179-87.)

COST

200. I have been asked specifically to comment on the evidence of SK, which deserves comment. (**I do so with the combined expertise of myself and Gary Sutton of Release.)**

201. It should be noted that the cost per gram that he uses, which is detailed as the current national average price per gram of £40, has been provided to him by the Serious Organised Crime Agency. He is not involved in the collection process and he is unable to give any details at all as to how they are compiled.

202. Thus it is not possible to know whether his figure is for street based sales, in small quantities, (which from my experience and that of the Organisation 'Release' I believe is probable), or for high volume sales and wholesale levels of quantity. In the Forensic Science Service (FSS) reports first quarter 2010, page 10, it shows that the majority of police seizures have a purity well below 40%. There are small numbers above this with

only 2% being at the purity found in this case. Indeed even the UK Border Authority seizures only have 9% currently at this grade. (Please see attached reference 17.) If seizures are at this low level, it would not be unreasonable to assume whatever data is fed into the SOCA information on pricing, also has a minimal data at this level. Although as has been said previously, the inability of anyone, even courts, to get information on how SOCA calculates its prices, means that due diligence cannot be done on this.

203. The purity he states is street level purity. In relation to pricing, we do not know the amount of data that feeds into this price, how it was collected or its applicability to this case.

204. It has to be the value which is realisable should the cocaine carried by the defendant be cut with various agents, packaged in small amounts and sold on the streets. I have read no evidence that this was to be the case.

205. In Portugal the price of cocaine on the streets is similar to that quoted at 45 Euros per gram in 2008. (Please see European Monitoring Centre for Drugs and Drug Addiction 2009 National Report, Portugal, attached reference 18.) By way of assistance to the Court, on current exchange rates 45 euros equates to £38.37. I include as an attachment a series of currency conversion exchange rates in relation to this figure and others that follow all calculated using current exchange rates. Also attached is confirmation that exchange rates applying today for US dollars to Euros, and Euros to pounds are almost identical to the rates at the end of October 2010. (Please see attachment 18a.)

206. The document entitled '*United Nations Office on Drugs and Crime, Vienna, World Drug Report 2010*' shows the prices in Lima in 2008.

207. Retail was $7 - $15 a gram, with a typical average of $10 a gram and wholesale $950 a kg - 1250$ a kg, and typically $1250 a kg, with a typical purity of 100%. Respectively, at current exchange rates these equate to euros as follows:

    a. $7 E5.06
    b. $15 E10.85
    c. $10 E7.23
    d. $950 E686.75

e. $1250 E903.61

208. In Portugal the typical retail price per gram was $66 (or Euros 47.71), with a typical purity of 48% and at the wholesale level between $36 (E26.02) a gram and $51 (E36.87) a gram, with a purity of 60%. DC's instructions are consistent with prices in Peru as detailed in the reports.

209. The purity in Portugal is thus higher than that in the UK and the price is not the same as that given in the Portuguese National Report. This highlights the difficulty of pricing illegal drugs. This is because there are many factors that affect the prices of drugs:

- Relationship between buyer and seller
- Purity
- Economies of scale
- Elasticity of demand
- Local availability/supply
- Geographical factors.
- 'Open' or 'closed' market
- 'Risk premium'
- Seasonal variation

210. Various prices are quoted in the UK such as Drugscope (in their magazine Druglink) which gives a price in 2008 of £42 per gram, and in 2009 of £39 per gram. (Please see attached reference 19.)

211. Compatible with that figure used, the Independent Drug Monitoring Unit, in 2010, gives an average street price of between £30 and £60 per gram. (Please see attached reference 20.)

212. Over the past three years SOCA and most UK wide police authorities/ Expert Witnesses quote £40-£60 per gram as the usual price range.

213. Indeed the report from UNODC (United Nations Office on Drugs and Crime) shows that in 2008 the lowest retail price quoted was £37 per gram and wholesale £40 per gram, with higher typical figures and maximum figures. (Please see attached reference 21.) UNODC (2010) prices in *'Further Statistical Information on Seizures and Prices'*.

Supplement to: Word Drug Report 2010. Vienna: UNODC. Available at: http://www.unodc.org/unodc/en/data-and-analysis/WDR-2010.html (accessed 10-02-2011)

214. Thus the £40 per gram used is compatible with other collected prices.

215. The difficulty being that the majority of these prices are collected at street level and it is very hard for anybody to collect that price used by wholesalers. Data published by everybody including the world drug organisations only ever gives two prices; one for wholesale and one for street retail. It gives this without stating quantities traded. To assume that there are only two trades in the chain from producers to street is naive. Most commodities are traded sequentially as the bulk of the commodity slowly decreases and production alters from raw substance to the retail package.

216. It is remarkable how similar in many countries the wholesale range is to that provided for the retail range. If these ranges are correct this would mean the only profit made by dealers is in the progressive cutting of the substance. This is unlikely to be true. If the defendant was to sell in a single '*deal'* to a single dealer within the distribution chain, he would receive far less than the data quoted. It may be that SOCA use confiscated note books to feed in to dealer prices, but these are always written in abbreviated shorthand, if not in code such as '*200 for 9-b's*'. Although we do not know if this is true, again because of the non disclosure and we do not know how they would decode the note books that we have seen in evidence as they often defy understanding.

217. Thus, although I do not take issue with the price of £40 per gram, or the average street UK purity level, we do not know the data from which these were compiled and they are almost certainly the level of street deals in very small quantities and bear no relationship to the value of the cocaine brought in by Mr DC to himself, should he sell it in one deal in the UK.

218. Indeed, the only way that the monetary value is equivalent to anywhere near that quoted by the evidence against, of £82,000 approximately for the defendant alone, £122,000 if one takes into account that carried by his girlfriend, is that this would be the money they

would have to pay to buy a similar amount of cocaine for their own personal use in the UK. A similar calculation could be done for Portugal.

219. The value of the cocaine carried really depends on the reason for the carriage; if they were acting as mules, our information suggests that they would be paid approximately $3,000 to $4,000 a kilo plus pre-paid expenses such as travel and accommodation as couriers are not usually allowed the initiative to make their own arrangements. They are controlled and monitored constantly to protect their consignment. We have no evidence of this. (**If he was acting as a mule, he would not have bought his own tickets**.)

220. This information comes from sources including 'Hibiscus', (the Female Prisoners Welfare Project), that supports many incarcerated female 'mules', many originating from Africa and South America and there appears to be no reason financially, based on his income, that he would be acting as a mule for someone else. However, it should be noted that in the '*House of Commons, Home Affairs Report The Cocaine Trade Seventh Report of Session 2009–10, Volume I/ Volume II (Oral and written evidence), Published 3 March 2010 House of Commons. London: The Stationery Office Limited'* they report that the pattern and demographics of couriers appears to be changing and that there was an increase in Europeans arrested by the UK Border Authorities. We have no information on what such couriers may be paid.

221. Given his stated level of consumption, his description of the habit is fairly consistent throughout his evidence, the maximum monetary value to him is to enable him to survive without having to pay street prices.

222. Assuming his habit stayed at a level prior to his trip to Peru, at between 20g and 30g a week, the 648g would have lasted him between 20 and 30 weeks if used uncut, and if reduced to the purity found on the street in Portugal, would last approximately twice as long.

223. The pricing of cocaine at this level of purity is a best guess estimate based on previous experience of cocaine importation into the UK.

224. As explained it is very difficult to obtain any real quantum on SOCA sources.

225. Information from specialist trade sources is often compromised by a time –lag in data collection and by the very clandestine nature of the activity.

226. In May 2009, SOCA head of enforcement Trevor Pearce told the BBC: '*There is a discernible effect that we are now seeing in relation to the availability of cocaine both in Europe and also across the UK.'*

227. '*We are now seeing high-quality cocaine at about £45,000 (50,000 Euros) per kilo wholesale in the UK. That's significantly higher than it has been and has to be indicative of the pressure which importers are under*.'

228. Prices per kilo have risen from £39,000 in 2008 to over £45,000, but street prices have remained stable the statement and BBC news coverage for 12th May 2009 explained. http://news.bbc.co.uk/1/hi/8044275.stmdownloaded 19/02/2011

229. The following is from The Times, July 27, 2009. *'In May, the Serious Organised Crime Agency (SOCA) issued a press release which said that thanks to its efforts, the average purity of cocaine in the UK was as low as 9 per cent, and wholesale cocaine prices had risen to £45,000 a kilo. In fact, wholesale cocaine prices are still falling, as they have been for the past 20 years. Any rise in price is a reflection of the weakness of the pound against the dollar, which is the currency in which world drug prices are measured'*.

230. The SOCA statement of May 2009, has caused endless debate in the specialist drug, research and criminal justice media, but SOCA have declined to elaborate further. Even the House of Commons Home Affairs Committee on Cocaine, which sat later, from 9th June to 8th December 2009 (refs included) was not given more detailed information.

231. The best estimate for cocaine the value seized, with the information we have of DC as an unconnected individual with no links to the UK cocaine trade, and mindful of the physical danger he may be in from predatory criminals, would be in the region of £20-£25,000.

232. There are thus three monetary sums which are important.

    a. The calculation to be found in the evidence from SK giving the street value, should it be broken up and sold in small cut packages.

    b. A value of about £40,000 should he be integrated into an established chain of supply and his cocaine is sold as a single '*deal'*

c. £20,000 – £25,000 should he sell it in bulk opportunistically. Thus the maximum value to him is if this cocaine replaces his own street purchases.

233. There are many different calculations that can be made for the value depending on whether one takes only that which he had or whether one includes that which his girlfriend had.

234. Similarly, the length of time it would have lasted them varies as to whether you take just Mr DC's use, of which I have a fairly good understanding, or whether one includes Ms L's use as well, which I have little understanding of.

235. I have given some ranges above for his use, but if it was to be argued that they had a combined habit of 15g per day and they shared the entire package between them and it continued to be used at that level on their return, they have almost one kilo of cocaine, so it would last them approximately three months. This would obviously increase if they were to cut it in any way.

236. I would be pleased to do any specific calculations asked of me by the courts.

OPINION

237. Central to this case are the three questions posed to me by the solicitors acting for the defence. That is to comment on:

i. The assertion that Mr DC purchased the drugs for himself

ii. The effect of consuming significant quantities of alcohol and cocaine on decision making

iii. The value of the drugs to Mr DC

I refer to all this throughout my evidence.

238. In relation to the assertion that be bought drugs for himself, three matters are of relevance.

i. The quantities of cocaine he and his girlfriend were using

ii. The effects of these drugs and their long term use on his cognition and decision making processes

iii. Whether the quantity of drug carried was compatible with his own use.(and/or that of his girlfriend)

239. Central to my deliberations has been whether and what effect cocaine or alcohol would have had in him coming to a decision that on the face of it, appears to be both inexplicable and disproportionately risky, that is to bring the drugs in for his own use. The urge to satisfy addictions over-rides logic. In this case it may be that other than the financial reward for bringing in the drug for his own use, he would get the better experience he would have got in Lima, using the purer less adulterated cocaine.

240. Whatever the reasons, the decision to travel with the drugs put him at risk of both legal and extreme health consequences which given his personal circumstances do not seem to justify the excessive risk. They do not seem to justify the risk of him acting as a courier and probably not the risk of onward sale in a single '*deal'*. The drugs are of maximal value to him if he manages to get them to Portugal and no longer at least for a period of time, does he have to pay the high price of street traded retail drugs with low purity.

241. Throughout his Proof of Evidence and in his statement to me during our interview, Mr DC's whole personal history shows very little self-awareness and Mr DC seems to lack an appropriate internal frame of reference. This character trait is important to his thoughts throughout everything I have read. His complete lack of self-insight as shown in my paragraphs 66 and 67 as he fails to realise that he cannot recognise that this is his paranoia. There are many other examples of this denial mechanism throughout.

242. To understand the possibility of him making such a decision requires an understanding of the effects of cocaine on:

- the ability to think
- make appropriate decisions
- increase ones propensity to take risk
- act compulsively
- become disinhibited
- lose control of ones willpower

- cognitive impairment
- a sense of grandiosity

243. Throughout my report I reference articles which support the effects of cocaine on these processes.

244. At its simplest and most extreme level there is the risk that patients taking cocaine accept, such as in the paper regarding fatal Russian roulette, although this is an extreme, rare phenomena.

245. In addition to all the cognitive processes mentioned previously, one has to add the ability of cocaine to cause one to lose insight into one's own abilities and its pretensity to cause grandiosity in which people believe they are all powerful, not prone to error and everything is possible and they feel invincible.

246. It is clear and mentioned in many papers that I have quoted that cocaine alone, but probably increasingly when used concurrently with alcohol, gives users a distorted view of the level of acceptable risk. Its effects on serotonin, dopamine and other transmitters may play a part.

247. Indeed, alcohol alone, especially in high levels which affects executive function, is associated with the acceptance of greater subjective risks. Please see the attached paper by Teger et al entitled '*Effects of alcoholic beverages and their congener content on level and style of risk-taking*'. This is before the association in this case with cocaine. (Please see attached reference 22.)

248. Patients who have used more than one substance are at an even greater risk. Please see the attached paper by Adlaf and Smart entitled '*Risk-taking and drug use behavior: an examination'.* (Please see attached reference 23.)

249. Importantly in this case Mr DC's level of risk taking, resulting in increased cocaine use and the decision to go to Peru, coupled with the decision to increase his usage there, and the decision to buy and try to import a large amount of cocaine, were all made once he was in the company of a similar addict.

250. The literature talks about this '*Risk Shift Phenomenon*' in which people within groups or with like-minded partners, make joint decisions about behaviour which increases the risk

and are more dangerous than anything they would do alone. Please see the attached paper by Cohen and Sheposh entitled '*Audience and level of esteem as determinants of risk-taking'***.** (Please see attached reference 24.)

251. The decision to buy was also taken at a time when his cocaine consumption was at its highest ever, in conjunction with alcohol and with a like minded individual, making the '*risk shift'* more likely.

252. Given the amount of cocaine and alcohol he says he was using, it could indeed be argued that his ability at that moment to form any intent at all would be extremely limited, whatever the reason for the purchase. (**I understand this is not a point the defence is seeking to make.)**

253. He is certainly in the rapidly escalating spiral that many cocaine users find themselves in relationship to impulsivity, decision making and the ability to take what appear to be unrealistic risks.

254. It is well known that cocaine users themselves have a personality more likely to be impulsive, make poor decisions and take risks. The acute effects of cocaine enhance this and indeed the chronic effects of cocaine alter the brain and its functions in a way which may accentuate to this.

255. In his submission to the Home Affairs Committee on the cocaine trade, the Professor gives evidence that addiction is a physical process of changing the brain and there are thousands of papers showing that cocaine use changes the brain, often in a way that makes it very, very difficult for people to give up using cocaine and that is why success rates are not as good as they are for other forms of addictive drug because it does change the brain.

256. Unluckily for subjects such as Mr DC, if you are more prone to take risks, be disinhibited and compulsive, evidence shows that it is harder for you to give it up, as shown in this case and the more deluded you are about the safety of taking it.

257. This spiral of inherent personality, acute and chronic effects of cocaine, inability to give it up and spiralling doses, appears to be the situation he may have got himself into.

258. I attach the paper by Moeller et al entitled '*The impact of impulsivity on cocaine use and retention in treatment'*. (Please see attached reference 25.)

259. The long term effects on the brain are summarised in the paper by Majewska entitled '*Cocaine addiction as a neurological disorder: implications for treatment'* in which they argue that cocaine starts a degeneration of the neurological system and an impairment of the logical working of the system. (Please see attached reference 26.)

260. There is evidence from the clinical situation with cocaine causing fits, strokes, brain haemorrhages and atrophy, a deterioration in tests of cognition as outlined in this paper and more complex measures using neuro imaging techniques, positron image tomography, X-ray computed tomography (CAT scans), magnetic resonance imaging (MRI) and a much newer SPECT studies looking at photo emissions during CAT scans. These all show various deficits structurally and in the perfusion of the brain.

261. Additionally, there are metabolic abnormalities such as abnormalities of glucose and metabolic activity.

262. There are biochemical alterations of dopamine, dopamine receptors, dopamine concentrations and the sensitivity and number of dopamine receptors, as well as in serotonin, disorders of both causing increased impulsivity and disordered thinking.

263. Electro physiological evidence of the effects of cocaine has also been determined. Please see the attached paper by Gooding et al entitled '*Attentional deficits in cocaine-dependent patients: Converging behavioral and electrophysiological evidence'* (please see attached reference 14) and a paper by Moeller et al entitled '*P300 event-related potential amplitude and impulsivity in cocaine-dependent subjects'.* (Please see attached reference 27)

264. There are further papers by psychologists detailing the irrationality of the sense of addicts such as that by Rachlin entitled '*In what senses are addicts irrational*?' and concludes in his summary '*addicts are irrational to the extent that they fail to make such predictions* (**of the effects of their own behaviour**) *and to take such actions'* (**to minimise the consequences**). (Please see attached reference 28)

265. Moreover, a number of the laboratory measures of impulsivity, poor decision making and risk taking have been linked to some of the neuro physiological measures which are altered by cocaine giving some scientific basis for these unhelpful psychological and behavioural responses.
266. I have commented at some length in my report on Mr DC's cocaine use and the fact that it is congruous with the known patterns of use in extent, variability and amount and the length of time the amount imported would have lasted him, although this is dependent on a number of variables as discussed.
267. I have made comments in the appropriate section on the pricing of cocaine and what an inexact science this is, which is because of several factors such as the way it is collected, currency fluctuations, a disconnection between toxicological analysis and law enforcement pricing mechanisms, differing delays between data collection and publication and lack of any real hard evidence at the bulk level for realistic expectations. All of which has to be put into perspective when looking at SK's pricing.
268. His financial gain is at its highest, if he uses the drug himself to satisfy his very heavy cocaine habit, rather than onward sales at a discounted price.
269. As is always in these cases the truth of the matter and any evidence is for the court, and in this case, the judge to decide.
270. My contribution is to make the point that Mr DC's evidence is not to be discounted and is a possible explanation for the importation. He explains that the decision to purchase the drugs was made at a time of high cocaine use, after a long period of cocaine addiction.
271. His decision making processes , impulsivity and ability to perceive risk may all have been compromised, leading to what would seem to be a very high risk decision.
272. I have presented scientific evidence supporting the fact that cocaine may do this.
273. The amount Mr DC states he uses, although at the higher end of the spectrum of use, is not unrealistic.

CONCLUSION

274. Considering all the information available to me I conclude the following:

- That the quantities of drugs consumed by Mr DC at his peak consumption level in Portugal and also in Peru, are high, but within the known ranges.
- That Mr DC presents as an addict and there is evidence to support that this is the case.
- That the consumption of high quality cocaine can significantly impact on an individual's decision making, and other factors, such as grandiosity, as listed in paragraph 242, and this may help explain why someone of Mr DC's background might undertake such a risky exercise.
- That prices for cocaine are considerably cheaper in Peru than in either Portugal or England.
- That on the information available the price paid by Mr DC is consistent with the available evidence as to prices in Peru.
- That if looking to maximise his personal financial benefit, as a heavy user of cocaine, Mr DC would be best off financially keeping the drugs for his own use given their very high quality and extremely cheap price compared to the price and quality of the drugs available to him in Portugal.

[E N D]

STATEMENT OF TRUTH

Declaration

I confirm that insofar as the facts stated in my report are within my own knowledge I have made clear which they are and I believe them to be true, and that the opinions I have expressed represent my true and complete professional opinion.

I believe that the facts I have stated in this report are true and that the opinions I have expressed are correct.

I understand that my primary duty is to the Court both in preparing reports and in giving oral evidence.

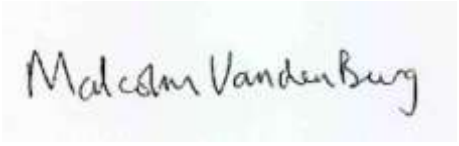
I have set out in my report what I understand from those instructing me to be the issues in respect of which my opinion as an expert is required.

I have endeavoured in preparing this report to be accurate and complete. I have included all matters, which I regard as relevant to the opinions I have expressed.

I have drawn to the attention of the Court all facts of which I am aware which might affect my opinion.

At the time of signing the report I consider it to be complete and accurate. I will notify those instructing me if for any reason I subsequently consider that the report requires correction or qualification.

This report is the evidence that I am prepared to give under oath subject to any correction or qualification I may make before swearing or affirming to its correctness.



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