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Drug purities

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Of all the misunderstandings that exist about the illicit drug market, drug purity causes the most confusion. This factsheet provides an update and round-up of the key truths on drug purity in Britain.

It would be a common sense view that the more adulterated a drug sample is, the more dangerous it is. Conversely, the more pure, the safer. But however intuitive that view might be, it is simply wrong to apply it in all circumstances.

Introduction

- If a heroin user was used to injecting heroin that was 30% pure and then had a shot of 80% pure heroin, they would almost certainly overdose and probably die
 - Most deaths from taking ecstasy have occurred where the drug was pretty much as advertised. A pill that actually had less MDMA in it, might actually be safer because the properties that make MDMA a potentially fatal drug (especially the way it causes the body's internal thermostat to malfunction) would be lessened.
 - That said, an adulterated drug could be more of a problem if it contained substances that completely altered the user's expectation of what was going to happen – like an ecstasy pill that contained mostly ketamine and speed.
 - Another piece of mythology is that all street drugs are adulterated with toxic substances like rat poison. Street drug dealing is a commercial enterprise: dealers want their customers to come back and buy more drugs, not drop dead at their feet.
- When a seized drug sample is sent to the Forensic Science Service (FSS) for testing, the FSS is not obliged to test for anything other than controlled drugs; however the most common adulterants of street drugs have been identified.

A note on terminology

Words such as 'adulterant' and 'impurities' are used interchangeably to denote that something other than the pure drug is being sold. There are two main types of impurity:

- Substances which are psychoactive, but not what the buyer was expecting.
- Substances which are virtually or completely inert.

However these words do have more

specific meanings as follows:

- **Impurity:** Substance or substances presenting the drug as a natural result of the manufacturing process rather than deliberately added e.g. opiate alkaloids from the process of refining opium into heroin or the by-products of manufacturing cocaine.
- **Adulterants:** Psychoactive drugs deliberately added to 'mimic' the effects of the drug being offered. For example, caffeine and ephedrine added to amphetamine.
- **Diluents:** Inert substances such as sugars (glucose, lactose or mannitol) added both to bulk out the deal and assist the process of dilution for injection.
- **Excipients:** Mainly relates to tablet/pill manufacture; the starch or gums used to bind the pill together. For the purpose of this fact sheet, 'impurities' or 'cutting agents' will be used to cover all these variations

Batch to batch differences

Drugs are cut simply to improve profit margins, but there could be a number of other reasons why a drug might not be as advertised. For example, this week's batch of Smiley Face, Puma, or Mitsubishi ecstasy pills may be of a particular strength or composition; next week's could be very different. This could be because there was a supply problem with one or more of the chemicals ('precursors') used to produce the drug, so substitutes were used. It could be (or as well be) due to some error in the manufacturing process or that the pills have entirely different origins.

Drug content guidelines

The following is a very rough guide to the average purities of some of the drugs available on UK streets and what they

contain. The purity of drugs seized by the police is likely to be less than drugs seized by customs depending on how much the drugs have been cut once they have reached the UK. The rule of thumb would be, the further the drugs have come (like heroin and cocaine), the less the gap between import and street purity because most of the cutting would have been done before the shipments reach the UK. But recently purity has been falling across the board for reasons which are not clear.

Amphetamine

Historically the most impure drug on UK streets with an average purity of less than 10%. The main cutting agents are caffeine and various sugars. The few samples of methamphetamine (crystal meth) which have been seized, average out at around 30% with caffeine as the major impurity.

Cocaine

Purity levels for cocaine have been fluctuating wildly; even samples of cocaine seized by customs have ranged from nearly 90% to almost nil. *Druglink* uncovered a two-tier market in cocaine with a higher and lower tariff supposedly depending on purity. However this has not been tested forensically. In the past, the main cutting agents were sugars to bulk out the weight. More recently there has been a flourishing illicit trade in benzocaine which will give the user the impression that their purchase was good quality. This has driven down the quality of cocaine as dealers realise they can fool buyers with cocaine bulked out with benzocaine. Other adulterants identified include phenacetin and levamisole. Phenacetin is a painkiller now banned in the UK and USA over safety fears. Levamisole is a worming agent, but there

have been reports of cocaine users in the States who may have had their immune system severely compromised as a result of Levamisole.

Crack

While the manufacturing process for crack renders it purer than the cocaine source material, purity will be determined by the purity of the cocaine powder it was made from. Average purity for crack in the UK is around 30%, but like cocaine the overall trend over the past five years has been downwards.

Heroin

The average purity on the street has been steady at around 40%, but again samples can fluctuate significantly. Caffeine and paracetamol are the main impurities, although there has been a rise in the use of tranquillisers such as diazepam and alprazolam.

Ecstasy

There is now available both MDMA tablets and also powder. The average purity of the powder is around 60-70%. There isn't much information on impurities, but tablets have been shown to contain caffeine, ephedrine, ketamine and amphetamine.

Anabolic steroids

Most steroids bought in gymnasias are either fakes or counterfeit. Fakes contain little or no steroid or a different steroid from that named on the label. Counterfeit steroids are illicitly manufactured products sold as the genuine pharmaceutical drugs.