

Testimony of
Mr. Charles Schuster

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Thank you for giving me the opportunity to express my views as a scientist and substance abuse treatment provider about current federal cocaine sentencing policy.

In my role as the Director of the National Institute on Drug Abuse I appeared before congressional committees when the crack cocaine epidemic exploded in the 1980's to express my alarm and concern about the public health and social consequences of this form of cocaine use. My concern was based upon the following facts:

1. Cocaine is self-administered in the United States by one of the three routes: intranasal (snorting), intravenously or by smoking. Cocaine HCL (powder) is most commonly snorted and less often by dissolving it in water and injecting it intravenously. Cocaine HCL cannot be smoked, but when converted to the free base it can be smoked, but not snorted or injected. Crack is a form of free base cocaine.
2. Research has shown that drugs, or routes of administration that result in a rapid "high" are more likely to be abused, more likely to lead to addiction and self-administered at doses that produce adverse legal, financial, social and physical consequences.
3. The intravenous route is the most efficient route of administration, which produces an almost instantaneous "rush" followed by 20-40 minute period of euphoria and stimulation.
4. Snorting cocaine is less efficient route of administration necessitating the use of larger quantities of drug. Further, by this route of administration the onset of cocaine's euphoric high effects are of lesser magnitude and slower in onset requiring 15-20 minutes to reach their peak.
5. The quantity of cocaine that can be self-administered per unit time intravenously is much larger than that which can be self-administered intranasally. Cocaine taken intranasally limits its own absorption due to the fact that it causes vasoconstriction of the blood vessels in the mucosal lining of the nasal cavity. Thus the potential for toxic overdose problems is more likely when the individual uses the drug intravenously.
6. Cocaine powder cannot be smoked because it does not volatilize at temperatures below which the cocaine is destroyed.
7. Cocaine in the form of free base can be smoked because it volatilizes at a low enough temperature.
8. Crack is a form of free base cocaine that is easily made from cocaine powder not requiring any equipment or knowledge that is not readily available.
9. Because of the ease with which it can be made and the fact that it can be more readily distributed in a smaller unit size than powder cocaine, it is sold in single dose units at prices which are easily affordable by the young and poor.
10. Smoked cocaine has all of the seductive pharmacological attributes of intravenous cocaine - a rapid, intense high - but without the necessity of putting a needle in your body. Cocaine's speed of onset is as fast if not faster when smoked than when injected. Like intravenous cocaine its

seductive high leads to taking the drug repeatedly at short intervals often leading to toxic physiological and psychological consequences.

The research that crack had all of the addictiveness and dangers of intravenous cocaine led me to conclude that this form of cocaine could have a larger adverse public health and social impact since the proportion of our youth who would smoke a drug is larger than those willing to put a needle into their arm. I expressed this concern in my testimony before Congress when I served as the Director of NIDA.

In 1995 I gave testimony to the United States Sentencing Commission in which I restated my concerns about crack, but as well stated that there was no credible scientific evidence for equating the sentencing of individuals convicted of possession of 500 grams of cocaine powder with 5 grams of crack cocaine. I will summarize the facts that led me to this conclusion.

1. 500 grams of Cocaine HCL can be converted into 450 grams of crack using supplies and tools available in most every kitchen,
2. The physiological and psychoactive effects of cocaine are similar whether one is using crack cocaine or cocaine powder.
3. Research has shown that it is the route of administration which determines the speed of onset of a drug's effects, rather than the form of the drug that is of importance in determining the addictiveness and dangers of cocaine. The relevant comparison here is between smoked crack and intravenous cocaine powder since at equivalent doses these two routes lead to comparable speed of onset and intensity of effects.
4. It is essential to remember that once cocaine is absorbed into the blood stream and reaches the brain its effects on brain chemistry are identical whether it was smoked or injected. It is the speed of onset, the intensity of the high that leads to its destructive use and powder injected is comparable to smoked crack in both of these dimensions.
5. Violence associated with cocaine is primarily attributable to competition between rival distribution networks. It is true however, that prolonged use of high doses of cocaine can produce a form of paranoid toxic psychosis in which aggressive acts are more likely. I know of no evidence, however, that this is more likely to occur after the use of crack as opposed to powder cocaine.

I remain concerned that the adverse public health and social consequences of crack cocaine use are potentially greater for crack than for powder cocaine. The ease with which crack can be smoked repeatedly makes it appealing to many who would not put a needle into their body. Thus, although individual risk may not vary between smoked and injected powder cocaine the numbers of people who are at risk of becoming addicted to crack, may be significantly greater. I therefore believe that we should retain some differential penalties for possession and distribution of crack as opposed to powdered cocaine. The 100 to 1 ratio which is currently in force is in my opinion not defensible. Based upon the analysis of Hatsukami and Fischman (JAMA, 1996) I believe that this ratio should be in the range of 3 to 1. To retain the current ration of 100 to 1 is simply not justified by any pharmacological or social science analysis.