800-COCAINE: Origin, Significance, and Findings

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1-800 COCAINE has provided assistance to over two million callers to date. It has supplied epidemiologic data regarding cocaine use, with increasing proportions of female users since 1983, decrease in average age and income of callers since 1983, and numerous social and medical consequences of use. In addition, it has provided data regarding timing of the progression of cocaine abuse and confirmation that cocaine abuse is an addictive illness for those calling to seek help. It has corroborated other studies in documenting the psychosocial and medical consequences of addiction and has been a source of insight into trends in cocaine addiction. 800-COCAINE is, by its existence and name recognition, a primary prevention project.

After a year of planning and preparation, 1-800-COCAINE, the national cocaine hotline, answered its first call on May 6, 1983 [1]. 800-COCAINE was begun in response to early epidemiologic data and our clinical experiences demonstrating dramatic increases in cocaine use and cocaine-related problems [2–5]. In return for participating in research, 800-COCAINE provided a nationwide referral service for addicted callers and their loved ones seeking treatment or counseling. In addition, the hotline provided a nationwide drug education and resource service for those who simply dialed the number.

Information was the primary reason for calling 800-COCAINE in 1983–84, as the addicted initially comprised only 40 percent of our callers. Calls are regularly received from spouses, parents, and siblings of addicted people as well as from medical professionals confronted with questions or even with a challenging addiction problem. The hotline was started as a means of observing and researching those who use cocaine chronically—the addicted and near-addicted. Within three months of opening the hotline, calls for help had come from addicts in 37 states, in such volume that the hotline increased its services to 24 hours per day and added additional phone lines. Last, but certainly not least, 800-COCAINE is a primary prevention project. Its very name and the recovering addicts who answer the phone provide ample evidence that cocaine is neither safe nor chic.

During the first year of operation, when Dr. Gold was the director of research for the hotline, research questionnaires were regularly administered to callers in order to help determine trends in calls and to disseminate the findings. Research has continued under the direction of Arnold Washton, Ph.D., and then of Herbert Roehrich, M.D.

Thus, early profiles of typical callers and the effects cocaine was having on them were assembled, based upon research questionnaire data. These surveys also provided needed epidemiologic updates on who, what, where, and how much cocaine.

In our first survey, done in 1983, male user callers outnumbered female callers by a ratio of 2:1. The average user’s age was 30, the vast majority of callers were 25 to 40
TABLE 1
Incidence of Adverse Physical and Psychological Effects (n = 500)

| Physical Effects                                      | n   | %  |
|-------------------------------------------------------|-----|----|
| Sleep problems                                        | 410 | 82 |
| Chronic fatigue                                       | 380 | 76 |
| Severe headaches                                      | 300 | 60 |
| Nasal sores, bleeding                                 | 291 | 58 |
| Chronic cough, sore throat                            | 228 | 46 |
| Nausea, vomiting                                      | 193 | 39 |
| Seizure, loss of consciousness                        | 70  | 14 |
| Psychological Effects                                  |     |    |
| Depression                                            | 415 | 83 |
| Anxiety                                               | 416 | 83 |
| Irritability                                          | 408 | 82 |
| Apathy, laziness                                      | 328 | 66 |
| Paranoia                                              | 326 | 65 |
| Difficulty in concentrating                           | 323 | 65 |
| Memory problems                                       | 287 | 57 |
| Sexual disinterest                                    | 265 | 53 |
| Panic attacks                                         | 248 | 50 |

years of age, and the age range was from 13 to 78 years of age. On average, the callers had been abusing cocaine for five years prior to the call. Eighty-five percent were Caucasian, 15 percent were Black or Hispanic. The average caller had 14 years of education and an average annual income of $25,000. On average, the caller was abusing the drug six days per week and spending $640 per week on the drug. Given the discrepancy between income and amount spent on cocaine, it is not surprising that substantial proportions of addicted callers were stealing (20 percent) or dealing (39 percent) to support their habits. The majority (61 percent) were abusing cocaine intranasally, while 21 percent were freebasing, and 18 percent were injecting the drug. Three-fourths of the callers “felt” addicted and reported usage patterns consistent with addiction. Ninety percent noted adverse medical or psychologic problems (refer to Table 1). Two-thirds of the callers resided in New York, New Jersey, California, or Florida, consistent with national data suggesting geographic hotbeds of cocaine abuse [6]. This report also coincided with other data suggesting that addictive use of cocaine develops over a period of several years [7].

Two years later, in 1985, a survey of addicted callers revealed that the percentage of female cocaine abusers was increasing (42 percent vs. 33 percent); the abuser’s average income had decreased (27 percent vs. 40 percent earning more than $25,000/year); the average age had decreased (27 years vs. 30 years); and the average time of cocaine use before calling had decreased (3.5 years vs. 4.6 years). (Refer to Table 2.) Freebase use was increased (30 percent vs. 21 percent), while the proportion of intravenous abusers had remained unchanged (18 percent), and the amount of cocaine used weekly had increased slightly. More callers were using other drugs in addition to cocaine, typically drugs with sedative properties. These two surveys, by comparison, suggested that cocaine abuse was spreading downward to lower economic strata, to younger age groups, and horizontally to women. The increased proportion of freebase abusers and decreased length of time before calling the hotline also suggested that the population
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TABLE 2
Hotline Surveys, 1983 vs. 1985

| Origin of Calls | 1983 | 1985 |
|-----------------|------|------|
| Northeast       | 47%  | 32%  |
| Midwest         | 11%  | 23%  |
| West            | 33%  | 22%  |
| South           | 9%   | 23%  |

| Demographics    |      |      |
|-----------------|------|------|
| Males           | 67%  | 58%  |
| Females         | 33%  | 42%  |
| Whites          | 85%  | 64%  |
| Black/Hispanic  | 15%  | 36%  |
| Average age     | 30 years | 27 years |
| Adolescents     | 1%   | 7%   |

| Yearly income:  |      |      |
|-----------------|------|------|
| $0–25,000       | 60%  | 73%  |
| Over $25,000    | 40%  | 27%  |

| Cocaine Use     |      |      |
|-----------------|------|------|
| Consumption     | 6.5 g/week | 7.2 g/week |
| Expenditure     | $637 | $535 |
| Intranasal      | 61%  | 52%  |
| Freebase        | 21%  | 30%  |
| Intravenous     | 18%  | 18%  |

| Use of Other Drugs to Alleviate Cocaine Side Effects | 1983 | 1985 |
|--------------------------------------------------------|------|------|
| Auto Accident while on Cocaine                         | 11%  | 19%  |
| Use of Cocaine at Work                                 | 42%  | 74%  |

Each survey is based on a random sample of 500 callers during a three-month period: May–July 1983 and January–March 1985.

Calling at the time of the 1985 survey was more progressed in its addiction than the 1983 sample [8].

Another survey assessed adolescent cocaine abusers who called the hotline (refer to Table 3). Their cocaine abuse was found to be having many negative social effects. Seventy-five percent were skipping school; 69 percent had shown significant declines in their academic performance; 31 percent had been expelled from school; 44 percent were dealing; 31 percent were stealing; and 60 percent were using all available licit funds on drugs. Medically, 19 percent had suffered seizures; 13 percent had been involved in motor vehicle accidents; 14 percent had attempted suicide; and 27 percent had been involved in violent behaviors. Most were polydrug abusers, as noted in Table 3 [9]. Thus, again corroborating other national data, this study demonstrated that adolescents are not exempt from cocaine abuse [10]. Furthermore, it demonstrated the negative effects of cocaine abuse in adolescents and suggested that progression of the addictive cycle occurred more rapidly in adolescents. Thus, while the average adult caller had been using cocaine for about five years before seeking help, the average adolescent had been using cocaine for 1.5 years before seeking help. Furthermore, this survey suggests that addiction also occurs in adolescents at lower dosages of cocaine as compared to adults, with adults reporting an average of 6.5 grams of cocaine used per week, while the average adolescent used 1.4 grams per week.

Upper-income cocaine abusers (those earning more than $50,000 per year) were
studied as a means for assessing problems in groups whose use is not limited by price [11]. They comprised 15 percent of all cocaine abusers calling the hotline at the time of survey. The average income of the callers was $83,000. They had been using cocaine for an average of four years at the time of their calls and were using 15 grams of cocaine per week on average. The majority (64 percent), were using cocaine intranasally, and 70 percent were also using drugs with sedative-hypnotic properties to counteract the effects of cocaine. In spite of their high income level, 19 percent were dealing cocaine, and 18 percent were stealing to support their habits; they had higher rates of life-threatening seizure and cardiovascular complications. These data were harbingers of what would be found when cocaine prices dropped enough to allow others to use this much cocaine.

In comparison to middle-income abusers, these upper-income callers were using more cocaine, suffering more medical and psychosocial problems, and calling for help sooner (four years vs. five years). (Refer to Table 4.) Their medical and psychosocial consequences were similar to those of adolescents. Their heavier usage of cocaine and decreased length of time until seeking treatment suggest that economic factors are important in determining drug access and, subsequently, in the progression of drug abuse and its negative consequences. Comparison with the adolescent abusers suggested that the adolescent central nervous system is more susceptible to the adverse effects of cocaine, as lower doses for shorter periods of time cause medical consequences similar to those of upper-income adult abusers.

More recently, a survey was conducted to assess the use of “crack,” an inexpensive freebase form of cocaine use among hotline callers [12]. At the time of the study, one-third of the callers surveyed were using crack (refer to Table 5). Crack abusers called us from 25 states and 16 cities, but the majority of callers were from East and West Coast major metropolitan areas, suggesting concentrated areas of crack abuse.

Eighty-one percent of the “crack” callers had begun abusing this freebase form of cocaine after having abused cocaine intranasally. Thus, switching from intranasal cocaine to freebase “crack” may represent a form of progression of the illness, that is, cocaine abuse. Additionally, the onset of compulsive crack use within two months of

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**TABLE 3**

1983 Adolescent Hotline Survey

| Demographic Data          | Current Use                      |
|----------------------------|---------------------------------|
| Males                      | Consumption                     |
| Whites                     | Expenditure                     |
| Average age                | Intranasal                      |
| Average education          | Freebase smokers                |
| Yearly family income       | Intravenous                     |
| income of $25,000          |                                 |

| **Use of Drugs to Counteract Unpleasant Effects of Cocaine** |
| Time before calling       | Marijuana                       |
| Intranasal                | Alcohol                         |
|                            | Sedative hypnotics              |
|                            | Heroin                          |

| First use                  |                                 |
|---------------------------|---------------------------------|
| Time before calling       | 1.5 years                       |
| Intranasal                | 100%                            |

*Most in eleventh or twelfth grade of high school

*Many from middle-class and upper-class families
initiation suggests that crack use results in rapid progression of the cocaine addiction with significant medical and psychiatric consequences [13].

In addition to surveys, incidental patient calls to the hotline repeatedly suggested the potential of dopamine depletion as a consequence of chronic cocaine use. For example, female callers noted galactorrhea temporally related to their cocaine abuse; this finding stimulated colleagues to assess prolactin levels in cocaine abusers. Prolactin was subsequently determined to be elevated significantly in cocaine abusers, as compared to controls [14]. A replication study confirmed these original findings [15] of elevated prolactin levels in male cocaine abusers. Studies at other centers have also confirmed our findings and have suggested prolactin might be useful in order to assess biological recovery from the cocaine insult [16]. Since prolactin is under inhibitory regulation by dopamine, finding increased prolactin suggested decreased dopaminergic tone in cocaine abusers [17].

Callers to the hotline also regularly report sexual dysfunction. This dysfunction includes decreased libido, impotence, and anorgasmia. Such sexual dysfunction is also consistent with decreased central nervous system dopaminergic tone [18,19].

### TABLE 4
Comparison of Upper-Income and Middle-Income Cocaine Users

|                          | Upper-Income Users | Middle-Income Users* |
|--------------------------|--------------------|----------------------|
|                          | (n = 70)           | (n = 55)             |
| Income (mean)            | $83,000            | $28,000              |
| Male                     | 82%                | 78%                  |
| White                    | 85%                | 56%                  |
| Education (mean)         | 16 years           | 14 years             |
| Age (mean)               | 31 years           | 33 years             |
| Intranasal               | 64%                | 51%                  |
| Freebase                 | 21%                | 22%                  |
| Intravenous              | 15%                | 27%                  |
| Grams per week           | 15.0 g             | 8.2 g                |
| Brain seizures           | 19%                | 11%                  |
| Auto accidents           | 21%                | 6%                   |
| Suicide attempts         | 5%                 | 7%                   |

*Data from [11]

### TABLE 5
Crack Abusers

|                          | Physical/Psychological |
|--------------------------|------------------------|
| Sex                      | Males, 72%             |
| Age                      | 20–39 years old, 94%   |
| Income                   | More than $16,000/year, 57% |
| Compulsion to Use        | 82%                    |
| Onset of Compulsive Use  | Within two months of first use |
| Chest Congestion         | 64%                    |
| Chronic Cough            | 40%                    |
| Seizures                 | 7%                     |
| Depression               | 85%                    |
| Irritability             | 78%                    |
| Paranoia                 | 65%                    |
| Suicide Attempt          | 18%                    |
| Violent Behavior         | 31%                    |
| Loss of Libido           | 58%                    |
In addition, an actress who called related loss of facial expressiveness, and many individuals with varying degrees of athletic interest reported a loss of motor skills plus "shakes" associated with cocaine use in calls to the hotline. These symptoms were reminiscent of Parkinson's disease, an entity known to be associated with specific central nervous system dopamine deficits [20]. These psychomotoric changes were seen in patients who also complained of lack of energy and of depression.

In summary, 1-800-COCAINE has provided assistance to over two million callers to date. It has supplied epidemiologic data regarding cocaine use. It has also provided data regarding timing of the progression of cocaine abuse and confirmation that cocaine abuse is an addictive illness for those calling to seek help. It has corroborated other studies in documenting the psychosocial and medical consequences of addiction. It has been a source of insight into trends in cocaine addition. 800-COCAINE is, by its existence and name recognition, a primary prevention project [21–23]. Callers to the hotline have also described symptoms associated with cocaine abuse that were instrumental in the formulation of the dopamine depletion hypothesis and have subsequently led to dopamine augmentation treatments for cocaine abstinence symptoms.

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