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A Statistical Analysis of the Clinical Records of Hospitalized Drug Addicts

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A STATISTICAL ANALYSIS OF THE CLINICAL RECORDS OF HOSPITALIZED DRUG ADDICTS[1]

By MICHAEL J. PESCOR, *Passed Assistant Surgeon, United States Public Health Service*

This study presents a statistical analysis of the information contained in the clinical records of 1,036 patients admitted for the treatment of narcotic drug addiction to the United States Public Health Service Hospital, Lexington, Ky., during the fiscal year, July 1, 1936, to June 30, 1937. The patients undergoing such treatment are prisoners, who constitute the majority of the admissions, probationers, and voluntaries. The latter enter the hospital of their own volition and may leave whenever they please, but are urged to stay a minimum of 6 months. Probationers must remain until pronounced cured of drug addiction by the hospital staff, which period usually is 9 months. Prisoners, of course, have definite sentences to serve. One voluntary patient admitted during the fiscal year was excluded from the present study because he left the institution before any history could be obtained. Likewise, two prisoners were excluded because they were transferred to another institution, together with all their records.

The data were condensed and transcribed to Hollerith statistical punch cards for greater ease in tabulation. This procedure also permits numerous cross tabulations and a variety of statistical treatments. However, the present investigation will be confined to a general view of the whole field as a preliminary step to more detailed analyses in the future, if such analyses are warranted. The findings are clouded to a certain extent by several sources of error, principally the subjectivity of some of the information. These errors may invalidate accurate statistical measurements, but probably do not obscure directional tendencies.

ADDICTION HISTORY

The statistical details of this phase of the investigation will be found in the appendix. The history of addiction is accorded such prominence that the patient has to repeat it practically every time he comes into contact with the institutional officials. It is recorded by the admitting officer, the ward physician, the psychiatrist, the chief

[1] From U. S. Public Health Service Hospital, Lexington, Ky.

supervising guardian, and the social service representative. Thus the patients have ample opportunity to contradict themselves if they are not careful. In addition, the verified sources of information usually contain a history of addiction. As a result marked variations frequently occurred even in the patient's own story as told to different officials; hence for the purposes of the present study it was frequently found necessary to judge which history appeared to be the most accurate.

One of the first questions asked in obtaining the addiction history is, "When did you start using drugs?" On an average basis, the answer is, "When I was 27.53 years old." In a comparable study of 119 addicts, Kolb (*1*) computed the average age of onset of addiction as 29.33 years. However, when he divided his subjects into those who became addicted prior to the enactment of the Harrison law and those who became addicted afterward, the average ages of onset were found to be 28.09 years and 32.9 years, respectively. His study was published in 1928. Approximately 80 percent of the present subjects were addicted after the enactment of the Harrison law. Still, the average age of the onset of addiction is even lower than Kolb's pre-Harrison Act level. A number of factors may be responsible for this downward trend. Propaganda about the evils of drug addiction not only spreads a knowledge of its existence, but may backfire, arousing curiosity in place of dread. Better organization of drug dealers with more efficient methods of procuring new habitués may be another factor. Economic unrest and lack of occupational opportunity, with its attendant discouragement, is still another possibility. Or it may be simply another manifestation of the increasing sophistication of the younger generation.

Addiction may occur at any age. One patient in the present group claimed that he became addicted *in utero* because his mother used opium during the period of gestation. Shortly after birth he displayed such severe withdrawal symptoms that the attending physician was forced to prescribe paregoric to alleviate distress. Although unverified, the story is plausible. Similar instances have been reported (*2*). Two individuals began using drugs at the age of 11 and one at the age of 12. At the other extreme, five patients became addicted at the age of 60 or over.

While no age is exempt from drug addiction, there is, nevertheless, a heavy concentration of cases in the decade 20 to 29 years, more than half of the patients being victimized during this period. A substantial percentage of adolescents (19 years of age or less) also yielded to the temptation of using drugs. On the other hand, very few individuals became addicted after the age of 50. Therefore, drug addiction seems to be a greater potential danger to youthful individuals than to older men. Youth characteristically seeks adventure, excite-

ment, new thrills, anything but settling down with one sexual partner to the hum-drum business of making a living and rearing a family. Drugs offer new thrills and an escape from uninteresting reality. Furthermore, drugs act as a balance for those unfortunate individuals who, after they are cut adrift from parental protection, are unable to decide upon a career or to carve a niche for themselves in the social structure. This state of indecision and dissatisfaction is bound to be reflected in emotional upsets which are relieved, at least temporarily, by alcohol or drugs.

All this speculation brings up the next logical question in taking a case history, "Why did you take drugs?" The answer to that question has been sought for centuries and still remains unanswered. The best that addicts can offer is a list of superficial reasons or rationalizations. For that matter very few authors who have investigated the problem can offer anything better, although a good many have tried. Terry and Pellens (*2*), in their chapter on etiology, quote from 67 different references, beginning with F. E. Oliver in 1871 and ending with M. A. Slocum in 1925. From the standpoint of origin, Kolb, who has given the subject considerable thought, classified drug addicts into two groups, namely, pure dissipators and medically addicted individuals, with the latter showing a gradual decline in numbers (*1*). The first group used the drug for the euphoric effect and the second for the analgesic effect. More will be said about his etiological classification when the psychiatric diagnoses are considered.

The favorite explanation for addiction in the present group was curiosity and association with undesirable companions. Here we may ask the question, "Why did they seek out such companions?" Why such an abnormal curiosity, the satisfaction of which almost inevitably leads to social disaster? Why do these people get a "kick" out of drugs while others do not?

Next in the order of frequency is the use of drugs for the relief of pain and physical distress. On the face of it this is a more substantial excuse than mere curiosity. Nevertheless, there are very few individuals who have an incurable, painful disease necessitating the continous administration of narcotic drugs. The majority of therapeutically addicted individuals find that the drug supplies something that has been missing in their lives, so that even when the original physical cause for addiction has been removed and the patients withdrawn from drugs, they relapse in order to "feel normal." Morphine must do something more for these individuals than simply relieve pain; otherwise thousands of new addicts would be turned out from the numerous hospitals throughout the country.

Another frequent rationalization is using "shots" to sober up after alcoholic sprees or to relieve "hang-overs." These "shots" are taken closer and closer together until finally the drug displaces the alcohol

and the patient becomes a drug addict. Ostensibly alcoholism is the cause of drug addiction in these instances, but what precipitated the alcoholism?

Relief of fatigue and the use of drugs as an antidote for environmental stress and worry were other excuses offered for addiction. Two professional pool and billiards players explained that they took drugs to improve their games. One of them stated that a "shot" made the pockets look as big as "bushel baskets." One patient took drugs to remove a speech impediment. Another explained that he used cocaine sprays to relieve a nasal malady, then took morphine to counteract the cocaine effect. Still another stated that he worked in the narcotics division of a drug manufacturing concern. The air was heavily laden with opium dust, and as a result he became innocently addicted. The story was disproved in a communication received from the former employers of the patient, which stated that narcotics were prepared in closed retorts. Three individuals denied the use of drugs, stating they had told the court they were addicts in order to get a lighter sentence.

The first drug used by the majority of patients was morphine. Next in popularity was opium smoking, closely followed by heroin. Only a small percentage used cocaine first. Several patients started with marihuana, one with hashish (genuine Indian hemp), two with pantopon, one with codeine, and one with dilaudid. The majority of patients used more than one narcotic drug. However, one-fourth of the patients used morphine exclusively, 7.4 percent heroin exclusively, 2.7 percent opium exclusively; one patient used pantopon only, one dilaudid only, and one confined himself to marihuana. Two individuals boasted that they had used or tried every form of narcotic drug.

A trifle more than half of the patients reported morphine as the last drug used, 43.3 percent gave heroin as the last drug, and only 3 percent admitted opium smoking as the last drug used. The majority expressed a preference for morphine, 23.2 percent for heroin, and 6.9 percent for opium smoking. Morphine is, therefore, most likely to be the first drug used, the drug of choice, and the last drug used. Heroin is used chiefly when morphine is unavailable or when it sells cheaper than morphine. Opium smoking is considered a "gentleman's habit," at least by those who indulge in this form of addiction. It is not as popular as it used to be because it takes more time and effort to get the effect and is harder to keep under concealment. In Kolb's study (*1*) morphine was given even greater importance as the drug of addiction. The ratio of morphine addicts to heroin addicts was estimated as at least 6 to 1. In the present study the ratio is almost equal on the basis of the last drug used.

The average period of addiction at the time of admission was computed as 12.5 years, with the heaviest concentration in the 5 to 10

year period and the lightest concentration in the 1 year or less interval. Five patients had been addicted 40 years or more. One patient had used drugs continuously for 59 years without a single cure, either voluntary or involuntary. He had a steady income which enabled him to buy drugs without resorting to illegal methods for the support of his habit.

The majority of the patients denied any previous voluntary cures in hospitals or sanatoria. Of those who had had treatment, a high proportion stayed off drugs less than 1 month after voluntary treatment. Nevertheless, the average for the longest abstinence period following voluntary treatment is 2.2 years and 2.5 percent of the patients remained abstinent for 5 years or longer after voluntary cures. As for compulsory treatments, 58 percent admitted previous "iron" or "jail-house" cures. These will be considered in more detail under the antisocial history. In general enforced cures are not as effective as voluntary cures, almost half the patients relapsing in less than 1 month after release. It bears out the old adage, "He that complies against his will is of his own opinion still." The average for the longest abstinence period following compulsory treatment is 1.8 years. However, 2.4 percent of the patients remained off drugs for 5 years or longer after enforced cures. Roughly three-fourths of the patients admitted previous attempts at cure of one kind or another, 1.8 percent had 9 or more voluntary cures, but no compulsory cures, and 1 percent admitted 9 or more enforced cures, but no voluntary treatments.

Relapses are explained on practically the same basis as the initial addiction. Return to former associates and the effort to recapture the beginner's thrill heads the list of excuses, relief of physical discomfort runs second, and alcoholism a close third. A good many claim that society will not "give them a break," practically forcing them to return to underworld friends and inevitable relapse. They accuse the police of constantly harassing them, setting stool-pigeons on their trail to entrap them, and in general making life miserable. Blaming the environment for personal failure is a distinctly human failing. Therefore, such statements have to be taken with several grains of salt.

According to Kolb (*3*), the relapse of drug addicts is due to the original cause for addiction to which has been added the increasing dependence upon drugs for the relief of any unpleasantness, the force of habit, and numerous impelling memory associations. The addict acquires a bundle of conditioned reflexes so that any stimulus formerly associated with the act of taking drugs will bring on the old desire. One patient in the present group explained that after a cure he completely severed his connections with his old environment. He secured a good job, made new friends, and in general was making an excellent social adjustment. After 3 years abstinence, he felt quite secure. Yet one day he was sitting in a cafe with a friend. An old addict

acquaintance happened in. He could not very well ignore the old acquaintance, and during the exchange of amenities he could not help but notice that the old friend was "in high," i. e., under the influence of a narcotic drug. It did not make any particular impression on him at the time, but on the evening of the same day he found himself strolling in the direction of the hotel where his erstwhile friend was sojourning. Before he realized what he was doing, he was in his friend's room taking a "shot."

Individuals who relapse through the alcoholic route go through much the same sort of experience. A chance meeting with an old friend leads to dropping in at a tavern for a glass of beer. No harm in one glass of beer. Next there is no harm in two glasses of beer. Then it is, "Oh well, might as well get drunk just this once." But the trouble is that he gets drunk again and eventually takes a "hangover shot," thus completing the cycle.

At the least physical or mental distress the first thought is of drugs. When the monotony of normal existence becomes unbearable, drugs offer an escape. They did in the past, therefore they can do it now. The unpleasant features of drug addiction are forgotten. Many addicts insist that they can not feel normal unless they use drugs. Still others maintain that physical dependence may be removed, but mental dependence never. One patient remained abstinent for 3 years, but the desire at the end of those 3 years was just as strong as ever. Finally he gave up. He compared the situation to a heavy smoker who has given up smoking. He still wants to smoke even though he does not indulge. The only difference is that the desire for drugs is more intense than that for tobacco.

ANTISOCIAL RECORD

The statistical details of the delinquency record will be found in the appendix. The antisocial history is second only to the addiction history in prominence. It is obtained by several institutional officials. Verified information is also secured from the Bureau of Investigation, court records, police blotters, probation offices, social service agencies, and to a lesser extent from relatives. Major offenses resulting in penitentiary sentences are not so likely to escape notice, but minor offenses punishable by fines or jail terms are likely to be overlooked. Nevertheless, the data are about as reliable as any other in the clinical records.

The widespread popular belief that drug addiction is conducive to the perpetration of violent crimes has been thoroughly discredited by Kolb (4). His summary and conclusions are worth quoting in full:

> All preparations of opium capable of producing addiction inhibit aggressive impulses and make psychopaths less likely to commit crimes of violence.

The inflation of personality produced by large doses of morphine or heroin is a state of ease, comfort, and freedom from pathological tensions and strivings brought about by the soothing narcotic properties of opiates on abnormal persons.

Nervously normal addicts are not inflated and psychopathic criminals are less dangerous when inflated than when in their normal condition.

The inflating properties of heroin are similar to those of morphine.

The heroin hero is a myth.

Both heroin and morphine in large doses change drunken, fighting psychopaths into sober, cowardly, nonaggressive idlers.

Cocaine up to a certain point makes criminals more efficient as criminals. Beyond this point it brings on the state of fear or paranoia, during which the addict might murder a supposed pursuer.

Habitual criminals are psychopaths, and psychopaths are abnormal individuals who, because of their abnormality, are especially liable to become addicts. Addiction is only an incident in their delinquent careers, and the crimes they commit are not precipitated by the drugs they take.

The increased addict prison population is due to the rigid enforcement of laws enacted within the last 10 years and designed to curb the drug evil by making the possession or handling of narcotics by unauthorized persons a prison offense.

Heroin owes its reputation as a crime producer to the accident of having been introduced to the underworld addicts in the largest city of the country shortly before the new narcotic laws forced these addicts on the public attention. Heroin is the drug of addiction in only one section of the country, along the eastern seaboard.

In New York City, the center of heroin addiction, the homicide rate has decreased during the past 12 years in the face of an increase in the rate for the country as a whole, and the rate for 28 representative cities is nearly double that of New York.

As far as violation of narcotic laws is concerned, drug addiction is not a major problem in criminology. For instance, in 1935 such violations accounted for only 0.9 percent of the total number of arrests on any charge in cities in the United States (*5*). The recent focus of attention upon marihuana smokers will probably increase, to a certain extent, the number of arrests for narcotic law offenses.

In the present study a trifle more than one-seventh of the patients gave no history of conflicts with the law. These, of course, were voluntary patients whose statements could not be verified through the usual official channels because their status gives them legal protection against any effort to pry into their personal affairs without consent. However, a small percentage of voluntaries freely admitted illegal activities. The average age at which the first encounter with the law occurred was computed as 28.2 years, with the heaviest concentration of cases in the decade, 20 to 29 years, closely paralleling the findings for the onset of addiction. Primary arrests at the age of 55 or over are uncommon. Slightly less than one-fourth of the patients with an antisocial history were arrested for the first time at the age of 19 or less. Listed in the order of frequency of occurrence, the reasons for the first arrest are as follows: Violation of drug laws, grand larceny, petty larceny, vice (gambling, intoxication, etc.), vagrancy,

investigation, juvenile delinquency, and crimes against person (assault, hold-up, etc.). Only three individuals attributed their first arrest to sexual crimes. As for the disposition of the first arrest, dismissal of the case heads the list, with penitentiary sentences a very close second, and jail sentences third. Probation, reformatory sentences, fines, and restitution combined do not equal the frequency of jail terms.

If the addict is basically a criminal, it is likely that he would have committed antisocial acts prior to his addiction; yet three-fourths of the patients had no delinquency record prior to addiction. In arriving at this finding, arrests without any subsequent punitive action were not counted, since presumably the patients were not guilty if the charges were dropped. About one-fourth of the patients admitted delinquencies, with misdemeanors heading the list, convictions second, and juvenile offenses third.

A substantial majority of the patients were not antisocial prior to addiction, but a large number became antisocial after addiction for two principal reasons: First, with certain exceptions, the possession of drugs in itself constitutes a violation of the law. Second, the high cost of bootleg drugs practically forces individuals of marginal economic status to resort to illegal sources of income, usually through the sale of narcotics or larceny. In the present study almost two-thirds of the patients with an antisocial history were guilty of violating drug laws only. The remainder were found guilty of violating other laws, such as those covering petty larceny and grand larceny. The bulk of the patients with an antisocial record were recidivists of one type or another, a trifle over half having a history of more than one conviction, and almost two-thirds a history of more than one misdemeanor. One patient admitted 29 jail sentences, two patients 9 or more penitentiary sentences. During the fiscal year 1935–36, 49.4 percent of the prisoners admitted to all Federal penal and correctional institutions were reported as recidivists (convictions only) (*6*). In other words, drug addicts have approximately the same tendency toward recidivism as other delinquents have so far as convictions are concerned.

The average total time served in various penal institutions was computed as 3.3 years. This is not an accurate figure, because it had to be arrived at indirectly. For example, when a man is given a 3-year sentence, he does not usually serve 3 years. He may go out on parole in a third of the time or out on conditional release in two-thirds of the time, depending upon his good behavior. Therefore, when the dates of admission and release were not given, it was necessary to estimate the actual time served. Eight patients served a total of 15 years or more in previous sentences.

Most of the patients in the present study were prisoners received by transfer from other institutions. A very small percentage were received directly from the courts. The actual distribution according to status is as follows: Prisoners, 71.1 percent; voluntaries, 17.7 percent; and probationers, 11.2 percent. Included among the total admissions were 9.8 percent of the patients who had returned for further treatment, or were sent back for violation of conditional release, probation, or parole. Of the last three types of patients, 42.6 percent had not relapsed to the use of drugs, but were returned for failure to report, minor arrests, or some similar transgressions. Voluntaries comprised 32.4 percent of the readmissions; conditional release violators, 36.3 percent; former prisoners, 19.6 percent; parole violators, 7.8 percent; probation violators and former probationers, combined, 3.9 percent. In proportion to their numbers, voluntary patients are the most likely to return to the institution for further treatment and the probationers least likely.

The vast majority of the prisoner and probationary patients were sentenced currently for violation of drug laws, chiefly for selling narcotics unlawfully or purchasing and possessing illegal narcotics. A very small minority were charged with illegal acts other than violation of drug laws. The average sentence for the prisoners was computed as 2.4 years. Probationers and voluntaries do not have definite sentences, as explained in the introduction.

Patients were received from 40 States, the District of Columbia, and Puerto Rico. The eight States that were not represented in the study are Delaware, Idaho, Maine, Nevada, New Hampshire, Rhode Island, South Dakota, and Wyoming. This, of course, does not mean there are no addicts in these States. For instance, a drug addict from Rhode Island might be arrested in Boston, hence he would be committed from Massachusetts.

OTHER PERSONAL DATA

The statistical details on other personal data will be found in the appendix. Personal histories are obtained chiefly by the psychiatrist and the social service representative. Verified information usually comes from relatives and from extra-mural social service agencies. Some of the data are fairly reliable, as, for instance, age, race, nativity, and citizenship. Other data, such as sexual adjustment, are more or less subjective.

Racial distribution in the present group shows nothing of great significance. The proportion of white patients to colored is almost 10 to 1. Other races, including Mexican, Chinese, American Indian, and Japanese, in the order of frequency, constitute 2.7 percent of the total subjects. The racial representation as determined in the present

study more or less approximates the distribution in the population at large. For instance, in 1930 Negroes constituted 8.9 percent of the male population, 18 years of age or over, in the United States (*5*). The proportion of colored patients in the group under investigation was also found to be 8.9 percent. No comparable figures were available for the other races. More than three-fourths of the subjects were native born of native parentage. Only 3.6 percent were foreign-born, in contrast to 11.6 percent in the population at large (*5*). Therefore, as far as this investigation is concerned, drug addiction is practically confined to our native subjects. All States were represented from the standpoint of nativity except New Mexico, North Dakota, South Dakota, Utah, and Vermont.

The chronological age of drug users has been extensively studied by a number of different authors whose findings are summarized by Terry and Pellens (*2*). Considerable variations in the reports occur because of selection of groups on the basis of etiology. Thus, medically addicted individuals tend to fall into the higher age brackets, whereas dissipators tend to be the younger individuals. Kolb (*1*) gives 45.7 years as the average age for his group including all types of addicts. In the present study the average age upon admission was computed as 39.1 years and the median as 38.3 years. The median age for all male offenders admitted to Federal institutions during the fiscal year 1935–36 was 32.8 years (*6*).

The majority of the patients had religious training in childhood, but gave up church attendance as adults. This indifference to religion is understandable. Religious belief is a source of solace and comfort to the individual who has faith. When he is beset by troubles he can console himself by the thought of a more enjoyable existence in the hereafter. The addict, however, finds his solace in drugs. He has substituted a material opiate for the spiritual solace of religion. If the situation can be reversed, then religion has a definite place as a therapeutic approach to drug addiction.

The childhood adjustment was ostensibly normal in more than half the cases. The remainder of the subjects displayed such traits as incorrigibility, truancy, juvenile delinquency, marked shyness, feelings of inferiority, and similar characteristics. A few individuals had the distinction of being considered model children. Childhood adjustment probably has an important bearing on the problem of addiction. Habits are acquired during this period of life which more or less determine the individual's career as an adult and the manner in which he faces his problems. Therefore, the childhood phase of the personal history should be studied more intensively than cursory routine examinations permit. A modified psycho-analytic approach would probably yield the best results.

The educational attainments of the patients are more or less comparable to the population at large. The average grade completed is the eighth, but there is a liberal sprinkling of men who had attended college. The proportion of graduates of professional schools is greater than the proportion of graduates of liberal arts colleges. The reason is probably that physicians, pharmacists, and dentists are in closer proximity to drugs, hence the greater temptation to use narcotics. A very small percentage of the subjects claimed illiteracy or no schooling.

The occupational distribution reveals the highest concentration of cases in the domestic- and personal-service classification, that is, waiters, porters, and the like. The smallest number occurs in the semiskilled group. The professional individuals are well represented, especially by physicians. A small percentage of subjects stated that they had no occupation, relying upon their parents or relatives for support. About a third of the patients admitted supporting themselves and their habits either by illegitimate means entirely or partially. A small percentage derived their income from gambling and bookmaking or other semilegitimate pursuits. Roughly a seventh of the group gave a history of steady employment with sufficient income to keep up addiction and a livelihood. A slightly smaller group gave a history of steady employment with marginal income usually insufficient to include drugs in the budget. The proportion of nomadic workers is rather low, contrary to general expectations.

The majority of the individuals came from deteriorated sections of the more densely populated localities of the country, that is, communities of 10,000 or over. Patients received from the rural and semirural districts generally came from a more favorable physical environment than their city brethren. Data concerning the type of community lived in during the developmental period were too inaccurate to include in this study.

As previously explained, information about sexual adjustment is chiefly subjective except for whatever verified data is received from wives who get a one-sided view of the picture. Practically every addict admitted that drugs curb sexual desires and delay the appearance of an orgasm, but a very small percentage confessed to a complete loss of sexual drive as a result of using drugs. Only five individuals frankly admitted homosexuality and eight patients disclosed conflicts over homosexual leanings. One patient professed that he kept up his drug addiction chiefly because it suppressed his homosexual desires. Three patients stated that they had indulged in sexual perversions with women (cunnilinguism). A shade over two-thirds of the patients were either married or had been married. Almost half of these marriages proved uncongenial, were characterized by frequent

quarreling, and usually ended in separation or divorce. The chief reason advanced for marital failure was dissension over the subject of addiction to drugs. Incidentally, divorced drug addicts frequently remarry women who use narcotics. Such marriages are generally compatible due to the community of interests. Common-law relationships, especially among colored patients, are probably more common than indicated. The single men usually seek a casual heterosexual outlet with prostitutes when they feel so inclined.

The tendency toward marital failures among drug addicts has been studied by Kolb (*7*), who says:

> Of the 118 married cases, 46, or 39 percent, were divorced or separated and a few others were temporarily estranged. That some other factor besides addiction was responsible for the unsatisfactory marital history of these cases is indicated by the fact that 17 of 19 married professional men were still living with their wives. Excluding these from the larger group, 46.5 percent of married cases were separated or divorced. One of the separated professional men had been an extreme drunkard and the other was an extreme psychopath. The high percentage of marital infelicity in the remaining cases was traced to several factors, the most important of which was the unusual or unreasonable behavior that naturally flowed from the psychopathic or neurotic character that was the original basis for the addiction of so many of them. Failure to provide, due to dissipation with drugs, accounted for some cases, and in a few others sexual weakness, from the same cause, was a contributing factor. Sexual weakness may have been more important in some of these cases than was determined but it was learned from addicts in this series that potency is not completely abolished until the daily dose of heroin or morphine is 15–30 grains. Desire is reduced by much smaller doses, but considerable potency remains. One 35-year addict raised 10 children. Others addicted for years had families of average size, and men beyond 60 who had been addicted 20 years or more reported sexual competency.

Practically half of the married patients in the present study had no children. Reproduction, therefore, averages less than one child per couple, scarcely enough to insure racial preservation. If there is a hereditary predisposition to drug addiction, then that trait should gradually disappear by virtue of this failure to reproduce. Possibly, as Kolb explains, the paucity of children is another expression of the loss of sexual drive attendant upon the continued use of narcotics. A few individuals do have large families. For instance four patients gave a history of having nine or more children; but even that is not enough to make up the general deficiency.

Slightly more than a third of the patients gave a history of chronic alcoholism antedating addiction and recurring during periods of abstinence from drugs. About 20 percent professed more than a sociable interest in gambling. Only 5.5 percent indulged in all forms of vice to excess, including consorting with prostitutes, drinking, and gambling. About half the patients professed a tolerance toward vice, occasionally indulging in all forms. No straight-laced individuals were discovered among the addicts. One would hardly expect to find them.

The majority of the patients made an acceptable social adjustment prior to addiction, but not after addiction. A little more than a third made an unsatisfactory adjustment both before and after addiction. About a tenth were apparently socially acceptable despite addiction. Only three patients gave a history of a better adjustment after addiction than before. As a matter of fact most of the alcoholics are better off on drugs than they are on alcohol. However, society condones alcoholism and frowns upon drugs, hence these patients incur social disapproval despite greater industrial efficiency. A little more than three-fourths of the patients denied any military service. The majority of those who had such service were World War veterans. While the war was responsible for some cases of addiction, particularly those veterans who were shell-shocked or injured, it is not a major factor in the addiction problem. Only 1.8 percent of the subjects could rationalize their addiction on the basis of their World War experiences.

FAMILY HISTORY AND RELATIONSHIPS

The statistical details of this phase of the investigation will be found in the appendix. Subjective information regarding the family history is not at all easy to procure. For some reason an individual may readily admit that he himself is a blackguard, but he will tend to conceal any detrimental facts about his family tree. The subjects frequently referred to themselves as black sheep, but the rest of the family were all respectable, law-abiding people. Therefore, most of the data had to be gleaned from verified sources of information, principally letters from relatives. The wives of the patients dig up the scandal they know about their husbands' families. The mothers reveal the skeletons in the paternal closet and the fathers disclose the secrets in the maternal ancestry. Thus it is possible to piece together a picture of the family tree when several sources of information are available.

Analysis of the data revealed that 41.7 percent of the individuals had no history of familial diseases or psychopathic determinants. Drug addiction occurred in other members of the family in 8.2 percent of the cases and alcoholism in 19.1 percent. One patient came from a whole family of addicts. The father, mother, three brothers, and a sister were all addicted. Familial diseases such as cancer, diabetes, tuberculosis, and cardiovascular disease appeared in the family history of 32.4 percent of the subjects. Such a history is frequently reflected in phobias. For instance, one patient was certain that he was doomed to a cardiac death because several members of the family had died of heart disease.

A family history of major nervous and mental disorders such as epilepsy and insanity was elicited in 8.6 percent of the cases and

minor disorders such as neuroses, mild depressions, and eccentricities in 9.4 percent of the cases. Five patients had a history of suicide in the family, three a history of syphilis, and one a history of a prostitute mother. One patient was the offspring of a family with a history of addiction, alcoholism, and criminality covering three generations. In all probability a tainted heredity was present in a much larger percentage of the patients, if the truth were known.

Kolb (*1*) found that more than half of his subjects had blood relatives with nervous difficulties, among which he included nervous disease, psychoses, neuroses, epilepsy, psychopathic personality, and a strong tendency toward migraine, asthma, or alcoholism. On that basis the results of the present investigation indicate a somewhat lower incidence of tainted heredity, 39.3 percent to be exact. Kolb, however, made a more intensive study of his cases than is possible in routine hospital examinations. Therefore, his findings are undoubtedly nearer the correct figure.

The majority of the patients came from an intact home, but a substantial minority gave a history of disruption of the home by the death of one or both parents or separation of the parents. Only one patient admitted that he was born out of wedlock and was deserted by both parents to be reared in an orphanage. In most instances when the home was disrupted the mother took the sole responsibility for the rearing of the children. A small percentage were taken care of by the father only, some were sent to orphanages, a few were adopted by foster parents, still others were taken care of by older siblings, and a fairly large number were reared by one true parent and one step-parent. A small percentage left home before they were fully grown. Only eight individuals gave a history of remaining at home and helping to support the family. This is rather unusual considering that the majority of the parents were in marginal economic circumstances. It serves to emphasize the lack of responsibility among addicts even before addiction.

The majority of the patients gave a history of a congenial home with average discipline; about 40 percent admitted poor discipline in the home; and 11.3 percent claimed the home environment was uncongenial. Almost 90 percent had other siblings in the family. More than three-fourths claimed the family relationships were normal. A trifle more than one-tenth of the subjects indicated rather loose family ties. A small percentage gave a history of mother fixation and only one professed a dislike for his mother. A small proportion of patients expressed a hatred for the father and seven individuals gave a history of unusual attachment for the father. About a fifth of the patients who had step-parents expressed antagonism toward them.

The majority of the parents were in marginal economic circumstances and a small percentage dependent upon relatives or the gov-

ernment for a living. Slightly more than a third were comfortably situated from an economic standpoint; 1.9 percent were well-to-do, and only one individual came from a wealthy family.

PAST MEDICAL HISTORY

The statistical details of the past medical history will be found in the appendix. These data are chiefly subjective, although some verified information is available from relatives and other sources. However, there is no particular reason for concealing information about diseases except perhaps mental abnormalities. No man likes to admit that he is "touched in the head."

According to the present findings, drug addicts are no more likely to have a history of serious physical disabilities in childhood than a comparable nonaddict group. The majority of the subjects gave a history of the usual diseases of childhood, such as measles, mumps, and chickenpox without any complications or permanent sequellae. About 3 percent had infectious diseases with sequellae, such as anterior poliomyelitis with residual paralyses; about 5 percent had chronic illnesses; and about 2 percent gave a history of trauma with permanent sequellae. Only six individuals had no record of illnesses during childhood.

However, the majority of the subjects gave a history of chronic illnesses, infectious diseases with sequellae, or serious injuries during adult years. Almost half of the patients maintained that they had heart disease, tuberculosis, asthma, kidney trouble, or some equally chronic ailment. Approximately 10 percent claimed injuries with permanent sequellae. Six individuals had no record of adult illnesses.

More than three-fourths of the patients denied any history of mental disorders. Frank psychoses, chiefly alcoholic, were admitted by 3.6 percent of the cases. Another 3.4 percent of the subjects admitted "nervous breakdowns," which were too inadequately described to permit proper classification. About 10 percent gave a history of neurotic tendencies or definite diagnosis of neurosis. Unquestionably mental disorders occur much more frequently than indicated by the present findings. A history of venereal diseases was obtained in well over half the cases. Gonorrhea was admitted by 53.4 percent of the patients and syphilis by 25.1 percent. Two individuals had granuloma inguinale. No effort was made to determine whether these infections occurred before or after addiction. Such a study might be of some interest. A number of patients began using drugs for the relief of gonorrheal arthritis and a few individuals took drugs to relieve tabetic pains. Therefore, venereal disease does play a part in the etiology of addiction.

CLINICAL FINDINGS

The statistical details for this phase of the investigation will be found in the appendix. These data are objective and therefore should be fairly reliable. Errors of omission are much more likely to occur than errors of commission. The wide variety of medical diagnoses made it necesary to condense the medical findings into several major categories.

The most extraordinary physical finding is that only eight individuals in the entire group were considered by the dental department as having a "clean mouth." A dental condition peculiar to addicts is a type of caries which causes a solution of the enamel at the gingival margin of all teeth. A large number of the patients also have a very septic pyorrhea. According to Dr. James S. Miller, head of the dental department at the United States Public Health Service Hospital in Lexington, Ky., no adequate explanation has been offered for the almost universal poor dentition in addicts coming to his attention. A possible explanation is that narcotic drugs disturb the calcium and phosphorus metabolism. Another theory is that addicts tend to neglect their diet, and therefore avitaminosis may account for the phenomenon. Defective vision was found in almost half the cases; diseases of the ear, nose, and throat in slightly less than a third; diseases of the joints, bones, and cartilages in slightly more than a fourth; circulatory disturbances in approximately a fourth; and genitourinary diseases in somewhat less than a fourth of the cases. Other fairly common conditions include gastrointestinal difficulties, hernias, respiratory diseases, tuberculosis, diseases of the skin, diseases of the nervous system, diseases of the muscles, benign tumors, and endocrine disturbances. Secondary anemia is of frequent occurrence, but primary diseases of the blood are infrequent. A number of subjects gave a history of malaria, and 2.1 percent were found to have positive blood smears. Congenital abnormalities occurred in only two subjects.

The blood serology was negative in over three-fourths of the patients. Spinal fluid findings were positive in 1.1 percent of the total admissions, negative in 6 percent. Approximately one-fourth of the patients were found to have clinically active venereal disease, including 18.8 percent with latent syphilis, 7.7 percent with acute or chronic gonorrhea, two cases of granuloma inguinale, and one case of heredosyphilis.

Roughly two-thirds of the patients were found to have minor defects which did not interfere with normal function or ability to perform manual labor. Slightly more than 10 percent had defects, such as hernias, which interfered with normal physical exertion but which could be corrected, and a trifle over 20 percent were definitely handicapped by uncorrectable defects or chronic diseases, e. g., loss of a

limb in the first instance, tuberculosis in the second. Death occurred in 14 cases, a rate of 13.5 per 1,000, whereas the death rate for the general population, including both sexes of all ages, was 10.9 per 1,000 in 1935 (*8*). The specific causes of death for the 14 cases were as follows: Diseases of the heart 7; suicide 3; cholelithiasis 1; cholecystitis 1; intestinal obstruction, post-operative 1; tuberculosis of the respiratory system 1. If these causes of death are converted into rates per 100,000 population, the incidence of each fatal disease in the present group far exceeds comparable rates for the population at large (*8*).

The majority of the patients were given the Army Alpha and Stanford-Binet psychometric tests. The remainder were given the Army Beta, Pintner-Patterson, Ferguson Form Board, Grace Arthur Point Scale, and the Otis tests. However, for the sake of uniformity, scores were all converted to mental ages, the average mental age being computed as 13 years and 8 months. On the basis of 15 years as the average adult level of intelligence, the present subjects are subnormal. Kolb (*9*), in a study of 100 addicts, found that 10 percent of his subjects had an I. Q. below 70, which was Terman's line of demarcation between the normal and feeble-minded individuals, and 80 percent an I. Q. above 75. On a comparable basis, approximately 8.7 percent of the present subjects have an I. Q. below 70, and 83 percent an I. Q. above 75. This is a rather remarkable disclosure considering the number of variables involved, different testers, different authors, different groups in different parts of the country tested at a different time by various tests. It speaks well for the reliability of psychometric instruments, whether they measure intelligence or not.

The classification of addicts used in the present study is a modification of the one advocated by Kolb (*10*). It consists of six major categories as follows:

1. Normal individuals accidentally addicted, i. e., through medication in the course of illness.
2. Individuals with a psychopathic diathesis, so-called because the personality defect is uncrystallized. To this group belong care-free individuals on the look-out for new excitements, sensations, and pleasures.
3. Psychoneurotics.
4. Psychopathic personalities, i. e., habitual criminals, sexual psychopaths, etc.
5. Inebriate personalities, i. e., individuals who become addicted through the use of drugs as a means of sobering up after alcoholic sprees.
6. Psychotics who become addicted as a result of the psychosis as distinguished from addicts who become psychotic after addiction.

The majority of the patients in the present investigation were classified as having psychopathic diathesis, 21.9 percent as inebriate personality, 11.7 percent as psychopathic personality, 6.3 percent as

psychoneurotic, 3.8 percent as normal individuals accidentally addicted, and one case of psychosis responsible for addiction. A number of individuals were classified as psychotic, but the mental disorder was not considered as the etiological factor in addiction. These findings are essentially in agreement with Kolb's except that he found more psychoneurotics than psychopaths in his group. In the present study the situation is reversed.

Those who were diagnosed as psychotic were distributed as follows: Dementia praecox, 6; paranoid state, 2; simple senile deterioration, 4; psychosis with cerebral arteriosclerosis, 1; paresis, 1; and involutional melancholia, 1. One case of senile deterioration developed his drug habit during his psychosis.

INSTITUTIONAL ADJUSTMENT AND FINAL EVALUATION

The statistical details for this phase of the investigation will be found in the appendix. The data were all obtained from institutional sources, chiefly progress notes compiled from reports submitted by custodial officers, psychiatrists, ward physicians and personnel, and social service representatives.

In proportion to their numbers the voluntary patients were the least cooperative of all the subjects, chiefly because of their insistent demands for release against medical advice. A little over 10 percent of the patients were brought to the attention of the disciplinary board for violating institutional rules. About 5 percent had to be segregated for disciplinary reasons and 2.5 percent were recommended for transfer as detrimental to the station. Less than 1 percent were punished by deprivation of good time, a form of punishment reserved for flagrant offenses such as assaulting another patient. Less than half the subjects appeared anxious to be of service and ungrudgingly willing to abide by regulations. A trifle more than a fourth showed no resentment against the rules and regulations, but did not go out of their way to be of service.

Very few individuals flatly refused to work, though able. About 5 percent were unable to do any work because of major physical handicaps. As a general rule the better the knowledge of the work, the more industrious is the individual. Less than 10 percent of the patients were reported as shirkers, about half were described as willing workers, and approximately a fourth were praised as doing more than they were asked to do. More than three-fourths of the individuals displayed an average or a good comprehension of their occupational assignments and only 6.6 percent were classified as deficient in their knowledge of the tasks assigned.

The majority of the subjects liked to work with and were accepted by their fellow patients. Approximately 5 percent were disliked, but accepted; and 1.9 percent were not accepted at all, necessitating segre-

gation from the rest of the group. These were chiefly informers or "stool pigeons," as they are called in the vernacular. About 1.9 percent were considered as leaders and looked up to by the rest of the patients. Another group, comprising 3.4 percent of the subjects, were accepted by the rest of the patients, but were ridiculed and made fun of, frequently to the point of precipitating an emotional upset.

Custodial officers estimated that approximately half the individuals were normal, pleasant, and agreeable; about 15 percent preferred to keep to themselves and did not have much to say, but were agreeable; and about 7 percent were very talkative, but sociable and agreeable. About 8 percent were described as constant complainers and frequent sick-line (out-patient) visitors; about 5 percent as suspicious and irritable; 3 percent as "queer", suggesting insanity; 2 percent as escape problems; a trifle less than 2 percent as noisy, talkative, and disagreeable; less than 1 percent as unsociable, introverted, and disagreeable; and less than 1 percent as possibly homosexual.

The majority of the subjects stated that they would abstain from the future use of drugs because they wanted to keep out of prison. They realize that it is a losing game. All the cards are stacked against them. Such individuals, however, have no true insight. They still believe that drugs are beneficial. A small percentage maintained that drugs were beneficial, but the benefit was outweighed by the loss of social esteem and the respect of relatives. Only a trifle more than a fourth of the patients professed that drugs were harmful from every standpoint.

It is obvious that the effect of a cure is influenced by the type of plans which the patient is making preparatory to his release. About half the patients in the present study planned to live with relatives, but had no employment in view; 12.4 percent had both a home and a job to return to; 8.4 percent planned to live with friends while looking for a job; 7 percent had no home to go to, but expected to get employment; 4.6 percent had no plans at all; 1 percent had no home to go to, but did have offer of employment; less than 1 percent expected to appeal to the Salvation Army or some other charitable agency for help; and four individuals planned to return to an extremely poor environment, but had offers of employment.

Approximately 4 percent were transferred to other institutions either before or after expiration of sentence or period of treatment, and roughly 12 percent of the patients (voluntaries only) were discharged against medical advice. Two-thirds of the voluntary patients failed to stay the required length of time for an optimal cure. Fourteen patients died.

The prognosis for eventual rehabilitation was considered good or above the average in 8.6 percent of the cases, average in 41.9 percent, guarded in 6.5 percent, below the average in 2.4 percent, and poor in

37.1 percent. Only 1.2 percent were considered as hopeless addicts. Three patients denied addiction, and the prognosis in six cases was considered as conditioned by specific environmental factors.

As a part of the rehabilitation program, all individuals with active habits are first withdrawn from narcotic drugs. Following that they are absorbed into the regular regime of the institution, i. e., are assigned to quarters, given a work assignment, get three square meals a day, are provided with entertainment, and so on. All this, of course, is part of the routine treatment. However, some patients need more than minimal rehabilitative measures. For instance, 87.2 percent of the present group received more than the minimal rehabilitative attention, principally for physical defects. Practically all the patients were sorely in need of dental attention and had either received it or were waiting their turn at the time this study was inaugurated. Slightly under 20 percent received psychiatric attention above the routine requirements of the hospital. Approximately 10 percent were given occupational assignments primarily for the purpose of vocational training.

REMARKS

The present investigation may be likened to an examination of a section of pathological tissue with the aid of a magnifying glass. It is better than simply looking at the specimen with the naked eye, but certainly inferior to a microscopic scrutiny. We may turn a low-powered microscopic lens on the data by using such statistical techniques as correlations, critical ratios, and the like. This may point out the sections of the field which deserve a more detailed examination under a high-powered lens. However, the latter procedure entails a more careful preparation of the specimen, in the present instance clinical data. More detailed information is necessary. For example, it is not enough to know that the patient began using drugs at the age of 24 through association and curiosity. We must know when he first heard about drugs. Who told him about drugs? What made him think he would like to try them? Did some one urge him to take the fatal step? Was he reluctant or eager? Was he alone or in company when he took his first dose? Was he depressed or elated before he took the drug? What were his reactions to the first "shot?" Did he get sick? When did he realize he was "hooked?" Was he frightened at the prospect or pleased? An endless stream of similar questions may be propounded.

Obviously such an intensive study cannot be made routinely; nor can it be made in one session with the patient. Therefore, a small representative group should be selected for special attention, the object being to see the subjects at frequent intervals, daily if possible, using every trick of the trade to pump them dry of information. Some-

where in the lives of addicts there must be a fork in the road when they had the choice of going to the left or right. This fork in the road was probably reached before they even thought of using drugs. If this crucial point and the factors which influenced the choice of direction can be uncovered, then we may be in a better position to recommend preventive measures even though we may not be able to do anything for the individuals already addicted.

However, coming back to the present data it might be profitable to make at least two comparative studies, namely, the status and the psychiatric classification of the patients. Statistically significant differences should be found between the various subgroups. It might also be of interest to analyze the data from the standpoint of prognosis for eventual rehabilitation, determining, if possible, factors which influence the prognosis.

SUMMARY

The present investigation consists of a general statistical analysis of the clinical records of 1,036 drug addicted patients admitted to the United States Public Health Service Hospital at Lexington, Ky., during the fiscal year July 1, 1936, to June 30, 1937.

The easiest way to summarize the findings is to describe a "statistical" addict composed of averages and highest frequencies. Such a hybrid individual would be a white male prisoner, 38 years of age, given a 2-year sentence for the illegal sale of narcotics by a Federal court. His family history would be positive for such familial diseases as cardiac disease, tuberculosis, or cancer, and if any psychopathic determinants existed they would most likely be alcoholism or drug addiction. His parents would be in marginal economic circumstances, average disciplinarians, and the family relationships would be congenial. The patient would be one of several children, a native of native parentage, the parental home would be intact up to the age of 18 years, and the childhood adjustment would apparently be normal. He would be brought up in religious faith, but would discontinue church affiliations as an adult. He would graduate from the eighth grade, taking up an occupation classified in the domestic and personal service. As an adult he would live in a deteriorated metropolitan section. More than likely he would have to resort to illegal means of earning the additional income required to support his drug habit. He would marry, but his marriage would probably terminate in separation or divorce. He would have no children, possibly because drugs deprived him of a normal sexual urge. He would probably make a satisfactory social adjustment prior to addiction, but not after addiction. He would be tolerant toward all forms of vice, occasionally indulging in all forms. He would not give a history of military service.

He would become addicted to morphine at the age of 27 through the influence of associates and curiosity. He would use more than one narcotic drug, but would prefer morphine when it was obtainable. The last drug used would, therefore, most likely be morphine. He would be addicted about 10 years. He would probably give no history of voluntary attempts at cure, would admit at least one enforced treatment in a jail or penitentiary, but would not remain abstinent any longer than 2 years at the most, relapsing because of association and desire to recapture the pleasant sensations produced by drugs.

His first arrest would occur at the age of 28 for violation of drug laws for which he would have an equal chance of being acquitted or sent to the penitentiary. He would not have a delinquency record prior to addiction. After addiction his offenses would more than likely be confined to violation of drug laws for which he would be given at least one penitentiary sentence and at least one jail sentence. He would probably have spent a total of 3 years behind bars on previous sentences.

He would give a history of the usual childhood diseases without complications, but as an adult he would be subject to some chronic disease such as heart trouble, arthritis, tuberculosis, or asthma. He would deny any mental disorders, but if he did admit any it would be a tendency toward neurosis. However, he would readily admit a history of gonorrhea. Ninety-nine chances to one he would have poor dentition, either caries or pyorrhea alveolaris; there would be a strong possibility of defective vision also. However, his physical defects would not prevent him from doing manual labor. The psychologist would probably give him the Army Alpha test, which would disclose that the hypothetical patient had a mental age of 13 years, 8 months. The psychiatrist would give him a classification of psychopathic diathesis, which means that the patient has an uncrystallized personality defect and that he became addicted through the desire to seek new thrills.

During his stay in the institution he would abide by the regulations, show a good knowledge of his occupational assignment, and would be a willing worker. He would be accepted by his fellow patients and would like to work with them. The custodial officers would find him pleasant and agreeable. As the time for his release approached he would maintain that he was through with drugs forever because he did not want to spend the rest of his life in jail, indicating that he still thought drugs were beneficial, but the penalty outweighed the benefit. He would plan to live with responsible relatives largely at the insistence of the hospital officials. However, he would have no offer of employment to look forward to. He would be given an average

prognosis for permanent cure, which is a vague way of stating that he will probably relapse.

ACKNOWLEDGMENT

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APPENDIX

The following tabulations are based on the clinical records of 1,036 patients admitted to the United States Public Health Service Hospital, Lexington, Ky., during the fiscal year July 1, 1936, to June 30, 1937.

TABLE 1.—*History of addiction*

Data	Percentages
1. Age at onset of addiction:	
19 years or less	16.5
20–24 years	28.1
25–29 years	25.1
30–34 years	14.2
35–39 years	6.9
40–44 years	5.4
45–49 years	1.7
50–54 years	.8
55–59 years	.5
60 years or over	.5
No record or no drug used	.3
Average age: 27.53 years.	
2. Rationalization for addiction:	
Curiosity and association	45.8
Therapeutic, for relief of pain or physical distress	31.1
Alcoholism (sobering up after sprees)	17.8
Environmental stress and worry	3.2
Relief of fatigue	.9
Accidental (taking patent medicines containing narcotic drugs, etc.)	.7
Other reasons	.2
No record or no drug used	.3
3. Drug first used:	
Morphine	63.1
Opium smoking	14.7
Heroin	12.3
Cocaine	4.8
Opium, orally (e. g. paregoric)	2.5
Marihuana and other narcotic drugs	2.0
No record or no drug used	.6
4. Drugs used during addiction:	
Morphine only	25.0
Morphine and heroin	19.1
Opium, morphine, and heroin	8.7
Cocaine, morphine, and heroin	8.5
Opium and morphine	7.5
Heroin only	7.4
Cocaine, morphine, opium, and heroin	7.1
Cocaine and morphine	2.8
Opium only	2.7
Opium and heroin	2.3
Cocaine and heroin	1.7
Cocaine, opium, and morphine	1.6
Other combinations or no record	5.6
5. Drug preferred:	
Morphine	67.3
Heroin	23.2
Opium smoking	6.9
Cocaine	.7
Other narcotic drugs (pantopon, codeine, etc.)	.6
Opium orally (e. g., paregoric)	.5
Marihuana	.1
No record or no drugs used	.7
6. Last drug used:	
Morphine	50.7
Heroin	43.3
Opium smoking	3.0
Opium orally	1.3
Other nonopium derivatives	.5
Other opium derivatives	.3
Cocaine	.2
No record or no drugs used	.7
7. Duration of addiction:	
1 year or less	4.1
Over 1 year, under 2	4.5
Over 2 years, under 3	6.4
Over 3 years, under 4	5.3
Over 4 years, under 5	5.3
Over 5 years, under 10	24.7
Over 10 years, under 15	15.3
Over 15 years, under 20	13.7
Over 20 years, under 25	9.9
Over 25 years	10.4
No record or no drugs used	.4
Average: 12.5 years.	
8. Number of voluntary cures:	
None	56.4
1	15.8
2	7.3
3	6.7
4	2.8
5	2.5
6	1.8
7	.9
8	.1
9 or more	3.6
No record or no drugs used	2.1
9. Longest time off drugs after voluntary cure:	
No attempt at voluntary cure	56.4
Under 1 month	13.0
Over 1 month, under 3	2.8
Over 3 months, under 6	4.3
Over 6 months, under 1 year	5.5
Over 1 year, under 2 years	5.0
Over 2 years, under 3	1.4
Over 3 years, under 4	1.4
Over 4 years, under 5	1.4
Over 5 years	2.5
No record or no drugs used	6.3
Average: 2.2 years.	
10. Number of involuntary cures:	
None	42.0
1	19.6
2	14.3
3	8.8
4	4.9
5	3.7
6	3.0
7	.7
8	.6
9 or more	2.0
No record or no drugs used	.4
11. Longest time off drugs after involuntary cure:	
Never off involuntarily	42.0
Under 1 month	27.0
Over 1 month, under 3	2.8
Over 3 months, under 6	3.2
Over 6 months, under 1 year	7.6
Over 1 year, under 2	5.7
Over 2 years, under 3	3.2
Over 3 years, under 4	1.9
Over 4 years, under 5	.9
Over 5 years	2.4
No record or no drugs used	3.3
Average: 1.8 years.	

TABLE 1.—*History of addiction*—Continued

Data	Percentages
12. Total cures:	
No previous cures	22.0
1 involuntary, no voluntary	11.4
2 involuntary, no voluntary	8.5
No involuntary, 1 voluntary	7.0
3 involuntary, 1 voluntary	5.0
No involuntary, 3 voluntary	3.8
1 involuntary, 1 voluntary	3.4
4 involuntary, no voluntary	3.2
No involuntary, 2 voluntary	2.4
5 involuntary, no voluntary	2.3
2 involuntary, 1 voluntary	2.2
6 involuntary, no voluntary	2.0
No involuntary, 4 voluntary	1.9
No involuntary, 9 or more voluntary	1.8
1 involuntary, 2 voluntary	1.7
No involuntary, 5 voluntary	1.4
12. Total cures—Continued.	
3 involuntary, no voluntary	1.4
2 involuntary, 2 voluntary	1.2
9 or more involuntary, no voluntary	1.0
Other combinations	13.9
No record or no drugs used	2.5
13. Rationalization for relapses:	
Association and to recapture thrill	30.9
Therapeutic for relief of pain and discomfort	17.8
Alcoholism (sobering up after sprees)	16.5
Environmental stress	6.1
Other	.8
Never off drugs	23.0
No relapse	2.8
No record or no drugs used	2.1

TABLE 2.—*Delinquency record*

Data	Percentages
1. Age at first arrest:	
Under 15 years	4.2
15–19	13.8
20–24	19.1
25–29	17.1
30–34	12.3
35–39	8.2
40–44	5.0
45–49	2.9
50–54	1.6
55 or over	1.4
No record of arrest	14.4
Average: 28.18.	
2. Reason for first arrest:	
Violation of drug laws	29.7
Grand larceny	16.1
Petty larceny	8.5
Vice, i. e., gambling, drunkenness, etc.	7.8
Vagrancy	7.1
Investigation	6.7
Juvenile delinquency	2.6
Crimes against person (assault, etc.)	2.4
Traffic violations	.4
Sexual crimes	.2
Other offenses	4.1
No record of arrests	14.4
3. Disposition of first offense:	
Dismissal	26.1
Penitentiary sentence	26.0
Jail sentence	17.1
Probationary sentence	6.9
Reformatory	4.6
Fined	4.8
Restitution	.1
No record of arrest	14.4
4. Delinquency record prior to addiction:	
Misdemeanors only	10.0
Convictions only	4.8
Juvenile delinquency	4.1
Misdemeanors and convictions	2.7
Juvenile delinquency and convictions	1.3
Juvenile delinquency and misdemeanors	.9
Juvenile delinquency, convictions, and misdemeanors	.9
No history of delinquency	75.3
5. Delinquency record after addiction;	
Violation of drug laws only	54.1
Misdemeanors plus convictions, all types	23.2
Convictions other than violation of drug laws only	4.7
5. Delinquency record after addiction—Con.	
Misdemeanors only, all types	3.0
Convictions, misdemeanors, juvenile delinquency, all types	.4
Juvenile delinquency only	.2
No record of arrests or delinquency	14.4
6. Recidivism:	
A. No record of arrests or delinquency	14.4
B. Convictions:	
No previous convictions	36.7
1 previous conviction	24.0
2 previous convictions	11.6
3 previous convictions	6.4
4 previous convictions	3.6
5 previous convictions	1.8
Over 5 previous convictions	1.5
C. Misdemeanors:	
No previous misdemeanors	29.8
1 previous misdemeanor	21.0
2 previous misdemeanors	12.5
3 previous misdemeanors	8.1
4 previous misdemeanors	2.7
5 to 9 previous misdemeanors	8.8
10 to 14 previous misdemeanors	1.5
15 or more previous misdemeanors	1.2
7. Total time served in previous sentences:	
Less than 1 year	14.9
1 year, under 2	14.3
2 years, under 3	9.6
3 years, under 4	7.4
4 years, under 5	6.2
5 years, under 7	6.9
7 years, under 10	4.5
10 years, under 15	2.0
15 years and over	.8
No record or no time served	33.4
Average total time served, 3.3 years.	
8. Present status:	
A. Total admissions:	
Prisoners received by transfer	63.8
Prisoners received directly from courts	2.5
Prisoners returned from escape	.4
Conditional release violators	3.6
Parole violators	.7
Ex-prisoner	.1
Probationers	11.0
Probationers returned for further treatment	.2
Voluntary patients	17.7

TABLE 2.—*Delinquency record*—Continued

Data	Percentages
8. Present status—Continued.	
B. Readmissions (total)	9.8
Conditional release violators	3.6
Parole violators	.7
Former prisoners	1.9
Former probationers and probation violators	.4
Former voluntary patients	3.2
C. Addiction status of readmissions:	
C. R. V.,[1] parole violators, probation violators, relapsing to use of drugs	2.6
C. R. V.,[1] parole violators, probation violators, not relapsing to use of drugs (no data obtained for other readmissions)	1.9
9. Offense:	
Illegal sale of narcotics	37.5
Illegal purchase or possession	26.0
Forging narcotic prescriptions	4.6
Violation of other drug laws	5.4
Violation of other laws	4.3
Conditional release, parole and probation violators	4.5
Voluntary patient, not a law violator	17.7
10. Sentence:	
No sentence (voluntaries)	17.7
Probationers	11.2
1 year or less	.5
1 year, 1 day	9.8
Over 1 year, 1 day, under 2	18.5
2 years, under 3	24.6
3 years, under 4	11.8

Data	Percentages
10. Sentence—Continued.	
4 years, under 5	2.1
5 years or over	3.8
Average sentence: 2.4 years.	
11. State from which received:	
Texas	15.3
Louisiana	9.1
Illinois	7.3
New York	6.5
Kentucky	6.4
Missouri	4.2
Michigan	4.1
Georgia	3.8
Oklahoma	3.5
Tennessee	3.4
Ohio	3.4
California	2.5
North Carolina	2.4
Massachusetts	2.4
Virginia	2.3
Alabama	2.3
Arkansas	2.1
Florida	2.1
New Jersey	1.8
South Carolina	1.5
District of Columbia	1.5
Mississippi	1.4
Washington	1.4
West Virginia	1.1
Indiana	1.0
All others	7.2

[1] Conditional release violators.

TABLE 3.—*Personal history*

Data	Percentages
1. Race:	
White	88.4
Colored	8.9
Mexican	1.2
Chinese	.9
Indian	.5
Japanese	.1
2. Citizenship:	
Native of native born parents	78.8
Native of foreign born parents	12.9
Native of mixed parentage (1 foreign, 1 native)	4.4
Foreign born, naturalized	1.7
Foreign born, alien	1.9
No record	.3
3. Nativity:	
Texas	12.0
Louisiana	9.1
Kentucky	6.8
New York	5.0
Tennessee	4.6
Georgia	4.4
Missouri	4.3
Illinois	3.8
Oklahoma	3.4
Pennsylvania	3.2
North Carolina	3.2
Massachusetts	3.1
Alabama	3.0
Ohio	2.8
Virginia	2.6
Arkansas	2.5
Mississippi	2.5
California	2.4
S. Carolina	1.9
Michigan	1.8

Data	Percentages
3. Nativity—Continued.	
Indiana	1.6
Minnesota	1.4
Iowa	1.2
Florida	1.2
Other States	7.2
U. S. possessions	.6
U. S., State not given	.5
Foreign countries	3.6
No record	.3
4. Chronological age:	
19 or less	1.4
20 to 24 years	7.0
25 to 29 years	11.3
30 to 34 years	15.7
35 to 39 years	22.1
40 to 44 years	15.7
45 to 49 years	11.9
50 to 54 years	6.8
55 to 59 years	4.3
60 and over	3.8
Average age: 39.1 years.	
Median age: 38.3 years.	
5. Religious training:	
Protestant	45.2
Catholic	25.4
No preference	24.8
Hebrew	4.1
Greek Catholic	.2
Other	.1
No record	.2
6. Childhood adjustment:	
Apparently normal	57.2
Incorrigible, i. e., truant, runaway, etc.	21.4
Antisocial—juvenile delinquency	7.8
Shut-in type with feelings of inferiority	5.4

TABLE 3.—*Personal history*—Continued

Data	Percentages
6. Childhood adjustment—Continued.	
Antisocial with feelings of inferiority	1.4
Considered a model child	.9
Model child with feelings of inferiority	.5
Model child with shut-in type personality	.2
No record	5.2
7. Education:	
No schooling	3.1
Primary grades (1 to 4)	13.0
Secondary grades (5 to 8)	48.8
High school and business school	23.5
College	4.3
Graduate, medical school	3.6
Graduate, other professional colleges	2.4
Post-graduate college work	.2
No record	1.1
Average grade: 8.0.	
Median grade: 8.3.	
8. Occupation:	
Domestic and personal service	30.9
Manufacturing and mechanical industries	21.7
Trade (merchandise, stores, etc.)	12.9
Professional and semiprofessional	9.3
Transportation	8.3
Clerical	7.1
Agriculture	4.7
Mining	1.7
Public service	1.6
Semiskilled	.3
No occupation or no record	1.5
9. Adult environment:	
Metropolitan deteriorated section	24.4
Urban deteriorated section	19.4
Semirural good neighborhood	12.7
Urban good neighborhood	10.7
Surburban good neighborhood	9.6
Surburban deteriorated neighborhood	8.5
Rural good neighborhood	5.8
Metropolitan good neighborhood	5.4
Semirural poor environment	2.1
Rural poor environment	1.2
No record	.2
10. Economic adjustment:	
Supported wholly or partially by illegal means	34.3
Shifting occupational adjustment	23.4
Steady employment, moderate circumstances	14.3
Steady employment, marginal circumstances	12.2
Nomadic worker	6.0
Dependent (completely or partially)	5.2
Semilegitimate means of support (gambling, book-making, etc.)	4.2
No record	.4
11. Sexual adjustment:	
Casual heterosexual experiences	38.3
Marital discord	31.6

Data	Percentages
11. Sexual adjustment—Continued.	
Married, apparently normal adjustment	26.2
Total loss of sexual desire due to drugs	1.6
Conflicts over homosexuality	.8
Overtly homosexual	.5
Sexual perversions	.2
Conflicts over masturbation	.1
No record	.7
12. Marital status:	
Single	33.1
Married, congenial	26.2
Married, noncongenial	3.0
Separated	8.3
Divorced	14.0
Widower, not remarried	6.3
Divorced and remarried, congenial second marriage	3.5
Divorced, remarried, uncongenial second marriage	2.1
Widower, remarried, congenial second marriage	.9
Widower, remarried, noncongenial second marriage	.5
Common law wife	1.9
No record	.2
13. Number of children:	
Single	33.1
Married, no children	36.0
Married, 1 child	15.3
Married, 2 children	8.2
Married, 3 children	3.8
Married, 4 children	1.4
Married, 5 or more children	1.9
No record	.3
14. Social adjustment:	
Acceptable before addiction, poor after	53.0
Poor both before and after addiction	35.7
Acceptable despite addiction	10.2
Poor before, good after addiction	.2
Not an addict, but poor adjustment	.3
No history	.6
15. Reaction toward vice:	
Strongly alcoholic	26.9
Gambler	8.6
Engages in all forms of vice to excess, including prostitution	5.5
Alcoholic and gambler	5.0
Social drinker only	1.7
Social drinker and gambler	.7
Tolerant toward vice, moderate drinker, gambler, etc.	50.1
No record	1.5
16. Military history:	
No military history	76.7
United States World War	17.2
United States Spanish American War	.6
United States peacetime	5.0
Foreign military service	.2
No record	.3

TABLE 4.—*Family history and relationships*

Data	Percentages
1. Familial diseases and psychopathic determinants:	
Physical diseases such as cancer, diabetes, etc., only	16.3
Drug addiction or alcoholism only	7.4
Drug addiction or alcoholism, and physical disease	7.1
Apparently excellent family background	2.7

Data	Percentages
1. Familial diseases and psychopathic determinants—Continued.	
Drug addiction or alcoholism, and subpsychotic disorders	2.6
Subpsychotic mental disorders only	2.4
Criminality only	2.3
Drug addiction or alcoholism, and insanity	1.9

TABLE 4.—*Family history and relationships*—Continued

Data	Percentages
1. Familial diseases and psychopathic determinants—Continued.	
Drug addiction or alcoholism, and criminality	1.5
Insanity only	1.5
Physical disease and subpsychotic disorders	1.4
Insanity and physical disease	1.4
Physical disease, drug addiction or alcoholism and criminality	1.1
All other combinations	8.7
No history	41.7
2. Continuity of home:	
Home intact up to age of 18 years	55.8
Death of father	15.3
Death of mother	9.2
Death of both parents	6.0
Separation of parents	2.5
Divorce of parents	7.4
Discord of parents with occasional separation	1.9
Otherwise unsatisfactory home conditions	.4
Born out of wedlock, parents unknown	.1
No record	1.4
3. Rearing of inmate:	
Reared by both parents (normal)	54.6
Reared by mother only	14.5
Reared by father only	2.4
Reared by father and stepmother	3.7
Reared by mother and stepfather	5.8
Reared by relatives	7.4
Reared in an institution	1.4
Ran away from home at an early age	5.3
Remained home, worked for self-support	.8
Foster parents	1.3
Reared by sister or brother	1.4
No record	1.4
4. Family relationships:	
Other siblings, congenial, average discipline	47.4
Other siblings, congenial, poor discipline	26.6
Only child, congenial, poor discipline	6.9
Other siblings, noncongenial, poor discipline	6.5
Other siblings, congenial, strict discipline	4.6
Other siblings, noncongenial, strict discipline	3.6
Only child, congenial, average discipline	1.8
Only child, noncongenial, poor discipline	.6
Only child, noncongenial, strict discipline	.6
No record	1.4
5. Family attachments:	
Apparently normal	77.6
Loose family ties	11.1
Mother fixation	3.3
Hatred for stepparent	1.6
Hatred for father	1.3
Unusual attachment for father	.7
Mother fixation plus hatred for father	.4
Dislike for mother	.1
Dislike for siblings	.1
No information	3.8
6. Economic status of parents:	
Dependent	1.6
Marginal	57.3
Comfortable	37.3
Well-to-do	1.9
Wealthy	.1
No record	1.8

TABLE 5.—*Past medical history*

Data	Percentages
1. Childhood diseases:	
Ordinary diseases with no sequellae	88.5
Chronic diseases	5.3
Infectious diseases with sequellae	3.4
Trauma with sequellae	2.2
No record	.6
2. Adult diseases:	
Ordinary diseases with no sequellae	42.9
Chronic diseases	44.5
Trauma with sequellae	6.6
Chronic diseases and trauma	2.9
Infectious diseases with sequellae	2.2
Other combinations of the above categories	.3
No record	.6
3. Mental diseases:	
No history of mental disorders	82.4
Neurotic tendencies	8.4
Neuroses, not requiring hospital care	.4
Neuroses requiring hospitalization	.9
Alcoholic psychoses	2.0
Other psychoses	1.6
Nervous breakdowns, unspecified	3.4
No record	.9
4. Venereal diseases:	
No history or no record	41.3
Gonorrhea	33.4
Syphilis	5.1
Gonorrhea and syphilis	20.0
Other	.2

TABLE 6.—*Clinical findings*

Data	Percentages	Data	Percentages
1. Medical findings:		4. Physical summary—Continued.	
Abnormalities and congenital malformations	0.2	Combination of the above 2 categories	0.2
Diseases of the blood and lymphatic system	.7	Partially correctable defects interfering with normal function	2.2
Diseases of the bones and cartilage	16.5	Uncorrectable defects, partially compensable	3.1
Diseases of the circulation	25.9	Chronic diseases, not requiring hospital care	15.6
Dental diseases	99.2	Chronic diseases, requiring hospital care	1.8
Diseases of digestive tract	11.3	Death	1.4
Diseases of ears, nose, and throat	29.4	5. Basic intelligence test used:	
Endocrine disturbances	1.9	Army Alpha	55.4
Defective vision and diseases of the eye	46.5	Army Beta	3.1
Diseases of the genitourinary system	21.5	Stanford-Binet	21.2
Hernias	8.4	Pintner-Patterson	5.9
Diseases of the joints	10.5	Ferguson form boards	1.2
Diseases of the muscles	3.6	Grace Arthur point scale	.2
Diseases of the nervous system	5.8	Otis	.1
Parasitic diseases	2.1	Not examined	12.9
Diseases of the respiratory tract	7.7	6. Mental ages:	
Diseases of the skin	6.1	8 years 11 months or less	1.4
Tuberculosis	5.4	9 years to 9 years 11 months	1.4
Tumors (benign and malignant)	3.7	10 years to 10 years 11 months	3.4
2. Blood and spinal fluid serology:		11 years to 11 years 11 months	8.6
Blood, Wassermann and Kahn negative	76.9	12 years to 12 years 11 months	14.2
Blood, Wassermann and Kahn positive	14.1	13 years to 13 years 11 months	15.2
Blood negative, spinal fluid negative	2.7	14 years to 14 years 11 months	14.6
Blood positive, spinal fluid positive	.9	15 years to 15 years 11 months	10.3
Blood negative, spinal fluid positive	.2	16 years to 16 years 11 months	10.1
Blood positive, spinal fluid negative	3.3	17 years to 17 years 11 months	5.2
No record	1.9	18 years or over	2.7
3. Venereal diseases (active):		Not examined	12.9
No disease or clinically inactive	73.7	Average: 13 years 8 months.	
Gonorrhea, acute and chronic	5.8	7. Psychiatric classification:	
Latent syphilis	16.9	Psychopathic diathesis	54.5
Gonorrhea and latent syphilis	1.9	Inebriate personality	21.9
Heredosyphilis	.1	Psychopathic personality	11.7
Other	.2	Psychoneurotic	6.3
No record	1.4	Normal individual accidentally addicted	3.8
4. Physical summary:		Psychosis associated with addiction	1.4
Minor defects, able for manual labor	66.4	Addiction due to psychosis	.1
Cosmetic defects, correctable	.9	Not an addict (?)	.3
Correctable defects interfering with normal exertion	8.4		

TABLE 7.—*Institutional adjustment and evaluation of individual*

Data	Percentages	Data	Percentages
1. Attitude toward institution and officials:		2. Attitude toward work—Continued.	
Anxious to be of service, abides by regulations	42.6	Good knowledge, willing	18.1
Shows no resentment	27.6	Good knowledge, does more than asked	21.7
Violates rules if he thinks he won't be caught	3.3	Refuses to work, though able	.4
Disciplinary action—reprimanded	4.6	Unable to work	5.3
Disciplinary action—segregated	5.4	No report	10.8
Disciplinary action—loss of good time	.2	3. Relationship with fellow patients:	
Recommended for transfer as detrimental to station	2.5	Likes to work with others, accepted by the group	71.9
Recommended for transfer plus loss of good time	.4	Fits in well, thinks for himself	6.5
Voluntary patient, uncooperative	12.8	Grudgingly accepted, disliked	4.6
Insane, unable to cooperate	.6	Ridiculed and made fun of, but accepted	3.4
2. Attitude toward work:		Considered a leader, looked up to	1.9
Poor knowledge, shirks work	4.4	Outlawed by the group—stool pigeon	1.9
Poor knowledge, but willing	1.8	No report	9.8
Poor knowledge, does more than asked	.4	4. Custodian's estimate of individual:	
Average knowledge, shirks work	4.8	Pleasant, agreeable, normal	48.1
Average knowledge, but willing	28.8	Keeps by himself, talks little, but equable	15.2
Average knowledge, does more than asked	2.8	Constant complainer, frequent sick line visitor	7.8
Good knowledge, shirks work	.7	Very talkative, but sociable and agreeable	7.1
		Suspicious, irritable, paranoid	4.6

TABLE 7.—*Institutional adjustment and evaluation of individual*—Continued

Data	Percentages
4. Custodian's estimate of individual—Con.	
Queer behavior, suggesting insanity	2.9
Escape problem	2.1
Very talkative, noisy, disagreeable	1.8
Keeps to himself, surly, disagreeable	.9
Suspected of homosexuality	.7
No report	8.8
5. Insight:	
Believe drugs are beneficial, but will stay off because of legal risk	65.3
Believe drugs are beneficial, but loss of social esteem outweighs benefit	5.6
Believe drugs harmful from every standpoint	27.4
No record	1.4
No drugs used	.3
Future plans:	
Live at home with relatives, but no job	48.4
Live at home with relatives, has a job	12.4
No home to go to, no job, but has friends	8.4
No home to go to, expects a job	7.0
No home to go to, no job, no friends	4.6
Transferred to another institution	3.9
No home, but has a job	1.0
Expects to seek help from charitable agency	.5
Home in poor environment, no job	.4

Data	Percentages
6. Future plans—Continued.	
Discharged against medical advice	11.8
Death	1.4
No record	.2
7. Prognosis:	
Average	41.9
Poor	37.1
Above average	7.9
Guarded	6.5
Below average	2.4
Hopeless	1.2
Good	.7
Dependent upon specific environmental factors	.6
Death	1.4
Not an addict (?)	.3
8. Rehabilitative measures:	
Physical accentuated	61.0
Physical and psychiatric accentuated	14.1
Minimum measures	12.8
Physical and vocational accentuated	6.8
Psychiatric accentuated	2.7
Physical, psychiatric, and vocational accentuated	1.4
Vocational accentuated	1.0
Vocational and psychiatric accentuated	.2

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