The Methadone Illusion

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Although it is difficult to determine the actual extent and rate of increase of heroin addiction in the United States, the country is in the midst of what has been called an "epidemic of concern" (*1*) regarding this drug and its use. Oral administration of methadone, a synthetic drug similar to heroin, is rapidly becoming the treatment of choice for the heroin addict (*2*). Three years ago, fewer than 3000 heroin addicts were receiving methadone in medically supervised programs. In April 1971, a program was inaugurated to maintain at least 20,000 addicts on methadone in New York State alone (*3*), and bills are now pending in several state legislatures to establish methadone maintenance programs large enough to accommodate the entire estimated addict population of the respective states.

There are at this time 275 methadone programs that have been licensed by the Food and Drug Administration, and the number is growing (*4*). Editorials in many influential newspapers urge the easing of restrictions affecting the use of methadone.

The Food and Drug Administration and the Bureau of Narcotics and Dangerous Drugs issued on 2 April 1971 more "flexible" guidelines for the dispensing of methadone. These guidelines loosened earlier provisions that had prohibited the administration of methadone to pregnant women, children, and addicts with serious mental or physical ailments. Also deleted was an earlier provision that limited dosage and that required all methadone programs to aim toward curing patients of dependence on any drug (*5*).

Objective of Examining the Methadone Model

In this article, we consider carefully the full range of possible social and personal effects of the large-scale adoption of the methadone maintenance model for the treatment of heroin addiction.

The rapidly increased use of methadone may prove to be a prime example of how offering solutions to a problem that is not well understood may ultimately lead to far more serious consequences than those inherent in the problem itself. If heroin use were "the problem," then methadone might well be the answer. If, however, physical, psychological, and social costs of drug use for the person and the community are "the problem," then methadone may well contribute to the problem rather than to the solution: one need only consider that the methadone "solution" must surely reinforce the popular illusion that a drug can be a fast, cheap, and magical answer to complex human and social problems.

Drug use, whether legal or illegal, exacts a range of costs, both visible and invisible, short- and long-range, interpersonal and social (*6*). The decision to use any drug, therefore, especially a potent one, involves a consideration of these costs. As with the ecological disasters that now beset our physical environment, the consequences of drug use may not become apparent until irreversible damage has occurred. Hopefully, however, the ecological disasters will teach us to consider more carefully the full range of consequences of decisions and policies before they become firmly entrenched.

Rationale of Methadone Maintenance

The methadone maintenance technique was developed 7 years ago by two New York City physicians, the husband-wife team of Vincent Dole and Marie Nyswander (*7*). They began with a small, selected group of addicts for whom the then conventional rehabilitation techniques of incarceration and psychotherapy had failed. They found that it was possible to induce the addicts to substitute oral intake of the synthetic opiate methadone for intravenous intake of heroin. Eli Lilly & Company, which produces the drug for "investigational use," describes methadone as a "synthetic narcotic analgesic with multiple actions quantitatively similar to those of morphine. . . . Methadone is a narcotic with significant potential for abuse with dependence-producing characteristics" (*8*).

Since Dole and Nyswander were of the opinion that heroin addiction produces permanent and irreversible physiological changes such that the addict will have a lifelong "hunger" for opiates, they considered the substitution of a legal and supposedly "better" opiate as a feasible solution for the dilemma of heroin addiction. On what grounds, however, is methadone considered a "better" drug than heroin? A major reason given is that methadone is legal, a "medicine" prescribed by physicians, whereas heroin is illegal, a "drug" purveyed by criminals. This, however, may be viewed as having little to do with the actual properties of the two drugs. Heroin itself, when first developed at the turn of the century, was hailed by some physicians as a desirable substitute for morphine in the treatment of morphine addiction (*9*).

Another point frequently stressed by many advocates of methadone programs is that heroin produces euphoria and methadone does not (*10*). Furthermore, it is stated that methadone, within a certain range of dosages, produces cross-tolerance (or a "blockade effect" as Dole terms it) such that a person who has taken methadone is unable to experience any euphoria from a subsequent use of heroin.

This argument assumes that it is desirable to deprive an addict of a pleasurable experience and that methadone does not produce euphoria. Yet we should remember that methadone and heroin are very similar drugs, and both may be taken into the body through a variety of routes. When either is taken orally, the effect produced is gradual and the organism is able to adapt to slowly increased concentrations of the drug in the blood. When either drug is injected intravenously, the effect is

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much more sudden and subjectively dramatic: the organism's adaptive mechanisms are briefly overwhelmed, producing the "rush" of euphoria. Thus, there is some basis for saying that oral administration—*not* the particular drug—results in a lessening of euphoria (*11*).

Furthermore, both drugs, when used regularly and in consistent dosages, will ultimately produce less profound effects as the individual's tolerance develops. Once tolerance to either of these drugs has developed, neither will produce much in the way of euphoria, although injection of either may still provide a fleeting shadow of the original effect.

Thus the claim that individuals in maintenance programs obtain no euphoria from methadone may be a function of the fact that, once the user is adapted to large, regular doses of the drug, administrations of this regular dose produce little experiential effect. The same, however, may be said of heroin.

As for the "blockade" effect of methadone, this phenomenon is produced by administering high daily doses of the drug [many times the amount once recommended for the alleviation of the pain of cancer (*12*)]. With this high dosage, the body is probably not affected by smaller, additional amounts of heroin. A sufficiently massive dose of heroin, however, will still override this "blockade" and produce experiential effects. It should also be added that methadone does not establish cross-tolerance with the nonopiate drugs, such as stimulants, barbiturates, and alcohol; it has been noted that these drugs seem to be used by sizable numbers of methadone maintenance patients to gain the euphoria otherwise denied them. In a recent study of 40 methadone maintenance patients by Carl Chambers and Russell Taylor, it was found that 82 percent of the patients had used at least one detectable drug (detected by urinalysis); 77 percent of the total group had used heroin concurrently with methadone; 30 percent used barbiturates; and 25 percent used amphetamines. The median length of maintenance treatment at the time of the study was 22 months (*13*).

Effects of Drug

What about effects other than the subjective sense of euphoria? The advocates of methadone often claim that on a program of methadone maintenance there are virtually no effects whatsoever from the drug—that the users are merely "normalized," much as diabetics are normalized by insulin (*14*). From the scanty evidence available, this does not seem to be the case, although there may be a subjective sense of "feeling normal" for some addicts (a sense not achieved by other individuals who report feeling "drugged" when under the influence of methadone).

Although there is a dearth of scientific comparisons of the performance and everyday behavior of methadone maintenance patients with that of nondrugged individuals or with "drug free" ex-addicts (*15*), many observers report that addicts who are maintained on methadone are somewhat somnolent, tire more easily, and require more sleep than do nondrugged individuals. Their reflex actions are somewhat abnormal. They frequently perspire more profusely and are often constipated. Sexual impotence also occurs, especially in older men, although this fact has received little public attention (*16*).

Withdrawal from methadone may sometimes be more intense and prolonged than withdrawal from heroin because of the high dosages of methadone used. Severe muscle aches and cramps are common, and hospitalization is often necessary (*17*).

The Case against Methadone

Drug action is not specific. Specificity of drug action is to a considerable extent a fiction that has served to promote the neglect of the range or multiplicity of drug effects. As with any potent drug, the effect of methadone is not only in the physiological realm, but also in the complex of psychological and social processes connecting the individual to his physical and human environment.

Thus methadone not only reduces the hunger for heroin, it affects respiration, digestion, and sexual behavior; it also, as does any opiate, affects social and psychological behavior. We can expect methadone, like other opiates, to slow and reduce perception and responsiveness, to dampen feeling, and to narrow the range of human experience.

Drugs, furthermore, affect not only the person taking them, but all of those persons in close contact with him: his children, spouse, and parents (*18*). Methadone administration, especially methadone maintenance, places those who share the social life of the addict into a relationship with an individual who uses a potent narcotic. The addict's family and associates thus live with the limitations in responsiveness, alertness, and potential for feeling that the drug imposes on the addict.

Even these effects on the addict, his family, and his interpersonal environment, as undesirable as they may be, are not our major concern in the wholesale adoption of the methadone solution to heroin use. We believe that a social policy with respect to drugs such as methadone has far-reaching effects on the community as a whole.

The decision to use methadone on a large scale supports, and indeed reinforces, a drug-oriented approach to the solution of social and personal problems. Such a decision, apparently taken with only the heroin addict as the target, may have untoward consequences for large groups of persons not yet inducted into the use and misuse of psychoactive drugs, in that it legitimizes the use of drugs to regulate the disturbances of social life. For example, what effect does it have on the young who are rejecting the drug route or on the former addicts who wish to live a drug-free life to see society commit itself to dispensing a drug as potent as methadone?

Since methadone is heralded, and is becoming accepted, as the least costly and most efficient treatment for addicts, methadone treatment is tending to replace all other kinds of treatment (*19*). When it is advocated or required as the treatment for *all* addicts, the methadone solution forces a technological management approach that is in opposition to efforts to replace a reliance on drugs with a reliance on persons and creative social arrangements.

The advocates of methadone often derogate the effectiveness of the efforts to reconstruct the interpersonal and social relationships of the addict (*20*), efforts that are exemplified in the work of therapeutic communities such as Phoenix House or Daytop in New York City. When some successes of such efforts are grudgingly admitted, the admission is often coupled with the thought that the rehabilitated addict has developed a dependency on the program. In equating a reliance on artificial chemical agents with a need to maintain vital and supportive human contacts, the advocates of methadone

reveal a lack of appreciation of those very factors that initially propelled an individual into taking drugs. Such a comparison between reliance on drugs and reliance on persons overlooks the obvious fact that few, if any, persons are ever "on their own," that we are all dependent on people, that we are sustained and shaped through the support of our family, friends, co-workers, and, indeed, through the social networks and associations in which we are located. In the case of the addict, such social arrangements have often been deficient and incomplete. He has, in the past, been unable to be dependent upon other human beings.

Appeal of the Methadone Solution

In order to understand the considerable appeal the methadone solution has for officials, the medical profession, and the public, we must be aware of the background of heroin use and the factors surrounding the increase in its use.

The "heroin problem" has varied roots. One lies in the unjust social arrangements that have inflicted suffering on certain segments of the population. One reaction to the excessive pain of social and economic deprivation has been the ingestion of chemical agents, which, as they anesthetize the individual against pain, may also provide him briefly with considerable pleasure. The majority of addicts in New York City are blacks and Puerto Ricans. James Baldwin is said to have observed that what kept Harlem quiet for many years was the combination of "Jesus and Junk" (*21*). Alcohol serves quite similar functions for large numbers of persons who are low on the social ladder and who have limited access to social and economic resources and to other sources of pleasure.

The promotion, application, and use of chemical agents constitutes another set of determinants for the so-called heroin problem. Consider that we live in a country where in 1970 more than 225 million prescriptions for tranquilizers, sedatives, and energizers were written by physicians (*22*); where the virtues of drugs in providing instant relief from all sorts of trouble, real or imaginary, are extolled incessantly in the advertisements carried by the mass media; where the Pied Pipers of the youth culture announce astonishing revelations from the use of drugs; and where promises of spectacular scientific "breakthroughs" in drug application are touted daily in popular and serious publications. Why should anyone be surprised that many young people experiment, use, and become addicted to drugs of all sorts, including heroin?

It is therefore ironic that society turns for advice and counsel on the solution of the "heroin problem" to the very same groups and persons who are already party to widespread drug use and misuse.

Society turns to the professional media specialists, some of whom write copy for the use of "good" drugs while planning campaigns against the use of "bad" drugs.

Society, through its official representatives, turns to the medical profession in matters relating to drugs. Yet physicians themselves have a sense that they, as a group, overprescribe and overuse psychoactive drugs in the practice of their profession (*23*). It is important to remember that some members of the medical profession advocated the use of opium as a treatment for chronic alcoholism and, according to some historians of drug usage, helped introduce heroin as a weapon against morphine addiction (*24*).

Currently, the treatment of choice advocated for heroin addicts by certain members of the medical profession is methadone. Thoughtful spokesmen of the medical profession, mindful of these earlier failures, urge caution and restraint in the adoption of quick solutions and reject the physician's role as "universal expert," but they are not heard by those responsible for formulating policy.

Policy decisions are often made by officials and political figures on city, state, and federal levels who must appear to be dealing with a problem of great concern to the public, even though they cannot really attend to those very social factors and conditions that create and sustain the problem.

Methadone appears, for several reasons, to offer a medical and scientific solution that makes it respectable. It appears to give important results at low cost in the great public concern about addiction-related crime (results in the form of reduced crime and arrest rates for addicts participating in the program). However, the methadone approach does not touch the roots of the drug problem, which are inextricably bound up with current social arrangements and inequities; with the glorification of technology, and especially of drugs; and with inadequate public control over specialized business interests and policies (for example, aggressive promotion of drugs by the pharmaceutical industry). Methadone permits the illusion of a solution.

Finally, we must consider the claim of the proponents of methadone that the addicts in their programs manifest a reduction in criminal behavior (*25*). The difference in criminal behavior between heroin addicts and methadone addicts is in great measure a function of differences in financial need. Heroin is many times more expensive than methadone (which is often provided without charge), and this price differential is a function of the illegality of heroin.

It should also be kept in mind that in some methadone programs participants are helped to secure jobs and welfare payments, whereas heroin addicts are not. Law enforcement officials are sometimes willing to defer arraignments on crimes committed by methadone patients or to make special arrangements so as not to disrupt the treatment program (*26*).

Reduction in crime would, of course, also be accomplished by making heroin legally and cheaply available. In particular, the mortality rate from overdoses of heroin would be reduced considerably by controls over the potency and purity of the drug. (Indeed, the American concept of methadone maintenance was presaged by the British policy of maintaining addicts on whatever drug and route of administration their habit dictated.)

Such a solution is generally held to be morally unacceptable to many Americans, who would rather go the methadone route if assured by experts that it is a "good" drug (like "medicines" such as insulin or digitalis). The legalization of heroin is also not acceptable to us because it abdicates the struggle for human solutions to man-made problems.

It should be added that not all of the criminal behavior of drug users is the result of the financial necessities of procuring drugs. Drug use of many sorts is associated with crime (indeed, alcohol is the drug most frequently associated with crimes of violence), but this association is not necessarily causal. For instance, several studies of drug addicts have found that a large proportion had been arrested for criminal acts before they became addicted (*27*).

The personal history and social circumstances that dispose people toward using drugs also dispose people toward committing crimes. A study of addicts in England reveals that approximately 34 percent were arrested for crimes, despite the fact that these addicts have been able to obtain their opiates legally and inexpensively (*28*). This figure should serve as a warning that making opiates (whether methadone or heroin) easily accessible can possibly lessen, but will by no means eliminate, the criminal activity of drug takers, whose social and interpersonal skills are severely deficient and whose access to legitimate work is often restricted by their background and location.

Conclusion

The "heroin epidemic" only represents the top of the iceberg. To mistake heroin for the problem confronting us is naive. The problem is an ever-increasing "internal pollution" through the ubiquitous use of psychoactive drugs; and its social, psychological, and human consequences are threatening all persons, not merely those who are the unfortunate end product of the process —the drug addicts.

It is indeed tragic that this issue is so poorly understood that the president of the American Psychological Association, Kenneth Clark, in his presidential address called for the development of "anti-aggression" drugs, to be administered to national leaders.

What is required are profound changes in the professional and public understanding of the promotion and use of all psychoactive drugs. We need to concern ourselves with the entire spectrum of drug use, not just the use of heroin. To think that the use of another drug can solve the profound and complex task facing us is indeed an illusion.

Reference and Notes

1. H. David, "Memorandum to participants in the ad hoc meeting on the 'Heroin Addiction Epidemic' problem," National Research Council, Washington, D.C., 3 May 1971.
2. Methadone itself has been available to the individual addict through illegal channels since its invention during World War II by German scientists, who used it as an inexpensive substitute for morphine in the relief of pain.
3. V. P. Dole, *J. Amer. Med. Ass.* **215**, 1131 (15 February 1971).
4. *New York Times*, 18 April 1971, p. 69.
5. San Francisco *Chronicle*, 2 April 1971, p. 5.
6. H. L. Lennard, L. J. Epstein, A. Bernstein, D. C. Ransom, *Science* **169**, 438 (1970).
7. V. P. Dole and M. E. Nyswander, *Arch. Intern. Med.* **120**, 19 (1967).
8. *Product Information Leaflet* (Eli Lilly & Company, Indianapolis, Ind., 1971), p. 1.
9. "In 1898 morphine was acetylated, and early trials indicated that the product cured both opium and morphine addiction. It was received with such enthusiasm and high hopes that it was named from 'hero': *heroin*" [S. Cohen, *The Drug Dilemma* (McGraw-Hill, New York, 1969), p. 71].
10. For example, *Newsweek*, 5 July 1971, p. 31.
11. F. Meyers, personal communication.
12. *Physicians' Desk Reference* (Eli Lilly & Company, Oradell, N.J., 1970).
13. C. D. Chambers and W. R. Taylor, "Patterns of 'Cheating' among methadone maintenance patients," paper presented at Eastern Psychiatric Research Association Meeting, New York, N.Y., 7 November 1970.
14. Most diabetics, interestingly enough, are not "controlled" by insulin, but through diet. In this respect, too, the comparison between insulin and methadone is erroneous.
15. We can see some usefulness of methadone in the short run for purposes of enabling addicts to withdraw from heroin. In the case of individuals who have been addicted for many years, the substitution of methadone for heroin may relieve the addict of criminal association and the threat of long prison sentence. Such use of methadone, however, should not be misrepresented as a treatment or a solution. If methadone will continue to be administered to large groups of persons, it is essential to assign high priority to research on drug effects (including social and interactional effects) and on the consequences of the adoption of this "solution." Such research should proceed from a comprehensive framework that encompasses both medical and social issues and, we hope, address itself to some of the questions that have been raised in this article.
16. The informational pamphlet distributed by Eli Lilly & Company (*8*) reassures the physician on this point: "Most males report a reduction in libido during the first two to six months. They can be reassured that this effect of methadone maintenance is usually temporary."
17. Other potential health hazards in the use of methadone are mentioned (*8*): "With patients who are concurrently receiving . . . other central nervous system depressants (including alcohol), respiratory depression, hypotension, and profound sedation or coma may result . . . may obscure the clinical course of patients with head injuries . . . in patients with a substantially decreased respiratory reserve . . . may decrease respiratory drive while simultaneously increasing airway resistance to the point of apnea . . . may obscure the diagnosis of acute abdominal conditions or their clinical course. . . . In severe overdosage . . . death may occur."
18. H. L. Lennard, L. J. Epstein, A. Bernstein, D. C. Ransom, *Mystification and Drug Misuse* (Jossey-Bass, San Francisco, 1971), pp. 85–88.
19. For example, an article in the San Francisco *Chronicle*, 14 October 1971, p. 4, stated that "the San Francisco Health Department's plans for expanded drug treatment programs will provide services for nearly 3000 heroin addicts, including adolescents, ex-prisoners, and returning Vietnam veterans."
20. For example, "What still remains to be demonstrated . . . is that Synanon, Phoenix House, Daytop and other programs can finally return large numbers of residents to the community as rehabilitated or 'cured' . . . . It obviously becomes exceedingly difficult, in fact, impossible, to evaluate the effectiveness of any treatment program which does not relinquish patients into the community and never finishes treatment—which would be the main test of effectiveness" [L. Brill, *Int. J. Addict.* **6**, 45–50 (1971).
21. J. Baldwin, quoted by F. H. Meyers, E. Jawetz, A. Goldfien, *Review of Medical Pharmacology* (Lange Medical Publications, Los Altos, Calif. 1970) 2nd ed., p. 42.
22. L. K. Altman, *New York Times*, 14 March 1971.
23. D. Lewis, Statement to the U.S. Senate, Small Business Committee, Subcommittee on Monopoly (92nd Congr., 1st Sess., 22 July 1971), pp. 465–507.
24. J. R. Black, *Lancet-Clinic* **20**, 537 (1889).
25. A leaflet soliciting donations for a methadone clinic in San Francisco claims that methadone is a "medicine" that is a cure for crime.
26. Special legal status is conferred on addicts who enter or participate in methadone programs. Two examples suffice: a bill has recently been introduced into the California State Legislature to permit addicts to receive licenses to drive, even though state law prohibits the operation of a vehicle while under the influence of narcotics. In a similar vein of motivating addicts to participate in methadone programs, Francis Curry, director of the Department of Public Health of the City of San Francisco, said recently that he will seek court permission to defer charges against 50 addicts with criminal records who have recently been arrested for felonies. If they volunteer for methadone treatment, the charges would be dropped (San Francisco *Chronicle*, 14 October 1971), p. 4.
27. For example, I. P. James, quoted by E. May, *Harper's Magazine*, July 1971, p. 60.
28. G. V. Stimson and A. C. Ogborne, *Bull. Narc.* **22**, 13 (1970).

29. We are grateful to Frederick Meyers, professor of pharmacology at the University of California, San Francisco, for sharing with us a measure of his formidable knowledge on opiates and opiate addiction. Charles Winnick, a long-time student of drug addiction and research director of the American Social Health Association, provided us with helpful suggestions. Steven D. Allen, research associate, Family Study Station, University of California, San Francisco, collaborated in the preparation of this article.