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A "FEASIBILITY ESTIMATE" OF A POLICY DECISION TO EXPAND METHADONE MAINTENANCE

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A major problem with traditional forms of policy analysis is that they ignore political and bureaucratic factors that determine whether a given policy can be adopted and successfully implemented. A method for making "feasibility estimates" of specific policy proposals includes the following steps: (1) identifying the major activities and policy choices logically implied by the general policy proposal; (2) gauging the sensitivity of the desired outcomes to the particular ways in which the activities are carried out or the policy choices resolved; (3) locating political and bureaucratic factors operating in the local setting which will affect the character of the activities and the choices; and (4) making a prediction about the actual performance of the government in adopting and implementing the policy proposal. These four steps are used in evaluating the feasibility of a proposal to expand methadone maintenance.

In 1970, New York City was struggling with an epidemic of heroin use. The number of heroin users was variously estimated at 70,000 to 300,000.[1] These estimates implied that between 4 and 35 percent of the city's male ghetto population and between 2 and 13 percent of the school-aged population were using heroin.[2] The annual rate of growth in the number of users was estimated at approximately 10 percent.[3]

This level of heroin use was associated with deteriorating conditions not only among the users themselves but also among the general

[1] Mark H. Moore, "*Policy Towards Heroin Use in New York City*" (unpublished Ph.D. dissertation, Harvard University, Cambridge, Mass., 1973), pp. 93–107.

[2] *Ibid.*

[3] Alan Craig Leslie, "A Benefit-Cost Analysis of New York City's Heroin Addiction Problems and Programs—1971" (Teaching and Research Materials, Kennedy School of Government, 1972), p. 4.

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population of the city. Heroin use became the leading cause of death for adolescents.[4] A large percentage of users abandoned the idea of self-support; many enrolled in welfare programs or borrowed from their families.[5] More than half of the swelling numbers of people arrested for property and violent crimes were found to be heroin users.[6] Indeed, it was estimated that each of the thousands of heroin users had to steal more than $8,000 per year to support his habit.[7] Not surprisingly, one-third of the people living in a New York City community reported that they were afraid to leave their homes at night.[8]

In responding to this problem, the city employed a variety of policy instruments. It is useful to think of these instruments as forming two different lines of defense. The first line was to prevent new people from experimenting with heroin use. Crucial policy instruments here included drug education programs, employment and recreation programs for youth, narcotics enforcement efforts that made it somewhat difficult to buy heroin safely,[9] and, in those communities where heroin use was so widespread as to constitute a major social crisis, early detection programs.[10]

The second line of defense was to improve the condition of the thousands of people who were already chronic, daily users of heroin. By 1970, a variety of approaches (including jail, civil commitment, and therapeutic communities) had already been tried in maintaining this second line of defense. In fact, the city was littered with the hulks of "comprehensive approaches" to the problem that had failed. But in 1970 a new hope dawned: methadone maintenance. A dramatic expansion of methadone maintenance promised a significant improvement in the condition of the thousands of people who were already chronic users of heroin.

[4] Alan Thalinger, "A Study of Deaths of Narcotics Users in New York City—1969" (New York: Health Service Administration, New York City Department of Health, Health Research and Training Program, 1970).

[5] Richard D. Brotman and Alfred M. Freedman, "Continuities and Discontinuities in the Process of Patient Case for Narcotics Addicts" (New York: New York Medical College, 1965), p. 105.

[6] The Panel on Drug Use and Criminal Behavior, *Drug Use and Crime* (Washington, D.C.: National Institute of Drug Abuse, 1976), p. 64, Table 7.

[7] Alan Craig Leslie, *op. cit.*, p. 7.

[8] Paula Kleinman and Deborah S. David, "Protection Against Crime in a Ghetto Community" (New York: Columbia University Press, July 1972), Table D-1.

[9] For a detailed design and analysis of the effects of such a program, see Mark H. Moore, *Buy and Bust: The Effective Regulation of an Illicit Market in Heroin* (Lexington, Mass.: D.C. Health and Co., 1976).

[10] Moore, "Policy Towards Heroin Use in New York City," pp. 532–80.

The faith in methadone maintenance rested on two regularly used forms of policy analysis. First, standard benefit-cost analyses of different treatment modalities indicated that methadone was far and away the most cost-effective program. It attracted more users, retained them for longer periods of time, seemed to allow marked improvement in legitimate employment, and resulted in substantial reductions in crime—all at about one-quarter to one-half the cost of other treatment programs.[11] Second, a slightly more sophisticated analysis focusing on the interdependence of different programs for supervising chronic heroin users concluded that the overall policy toward current users could be improved most dramatically by a very large expansion of methadone maintenance programs.[12]

While faith in these forms of policy analysis was then strong (and remains so today), some analysts and decision-makers believed that these traditional forms needed to be supplemented by an explicit and systematic appraisal of the process by which the government would adopt and actually implement the proposed policy. Such an appraisal would prevent an analyst from giving *useless* advice by proposing a policy that could not in practice be adopted, or *bad* advice by leading the policy-makers to expect one set of results when in actual experience the results would be quite different because of the vagaries of the implementation process. Unfortunately, no standard method or form existed to guide this appraisal; it had to be developed from scratch.

Presented below is a relatively primitive, self-conscious effort to produce a "feasibility estimate." The purpose is to consider carefully and systematically how political and bureaucratic factors will affect the actual implementation and ultimate performance of a large-scale methadone maintenance program. While the analysis presented here did, in fact, identify major trouble spots in the implementation of a large-scale methadone maintenance program, it is presented primarily to reveal the logic and form of the analysis rather than to present

[11] See Leslie, "A Benefit-Cost Analysis of New York City's Addiction Problems and Programs," *op. cit.;* Raul A. Fernandez, "Estimating Benefits of Programs for the Rehabilitation of Heroin Addicts" (Cambridge, Mass.: Kennedy School of Government, Harvard University, 1972); Edwin T. Fujii, "Public Investment in the Rehabilitation of Heroin Addicts" (Palo Alto, California: Stanford University, 1972); William H. McGlothin et al., "Alternative Approaches to Opiate Addiction Control: Costs, Benefits and Potential" (Washington, D.C.: Bureau of Narcotics and Dangerous Drugs, 1972).

[12] Moore, "Policy Towards Heroin Use in New York City," pp. 176–251. See also Gilbert Levin, Edward B. Roberts, and Gary B. Hirsch, *The Persistent Poppy* (Cambridge, Mass.: Ballinger Publishing Co., 1975).

specific information about methadone maintenance.[13] It is the method rather than the particular case that is important.

I. The Need for an Implementation Analysis of Methadone Maintenance

The extremely favorable view of methadone maintenance that results from traditional analysis is sufficient to raise the issue of expanding methadone maintenance to the top of the agenda of heroin policy choices. These traditional analytic procedures, however, permit neither a very precise nor a very accurate estimate of the set of consequences that will actually result from a decision to expand methadone maintenance.

Imprecision occurs simply because the analysis is done in terms of a very general conception of a methadone maintenance program. Included in the general conception are a variety of specific forms of the program. Since the specific forms can have widely varying results, the possible outcomes of adopting a general policy to expand methadone maintenance must vary widely.

Inaccuracy results from the lack of any analysis of the political and bureaucratic factors that will determine the specific shape of the program. After all, a complicated political and bureaucratic process intervenes between the recommendation to expand methadone maintenance programs and the appearance of operating methadone maintenance clinics on the street. Unless the analyst has considered how this process will shape the program that actually emerges, he will incorrectly estimate the relative probabilities of different forms of the program emerging, and, therefore, incorrectly estimate the relative probabilities of different outcomes.

An improved estimate of the likely consequences of a decision to expand methadone maintenance dramatically can be made if one carefully describes the crucial activities and policy choices that will give specific shape to the program, then thinks about who will engage in these activities and make these choices, and finally considers what factors will influence them. The specific steps in the analysis are the

[13] For an analysis of what actually happened with respect to methadone maintenance in New York City, see "Methadone Maintenance in New York City (B)" (Cambridge, Mass.: Kennedy School of Government, Harvard University, 1976).

following. First, the analyst must identify the major activities and policy choices logically implied by the general idea of a methadone maintenance program. Second, he must gauge the sensitivity of different components of the *outcomes* to the particular way the activities are carried out and to the policy choices. Third, he must identify the political and bureaucratic factors influencing the choices and activities. Finally, he offers a prediction about the final shape of the program.

II. The Specification of Significant Activities and Choices in Methadone Maintenance Programs

In specifying governmental outputs, we are interested in the particular way in which activities logically implied by the concept of the methadone maintenance program will be performed. Our attention is focused on those activities that are likely to have a decisive impact on the actual substantive results of the program. Our objective is to maximize aggregate net improvements in the behavior and condition of current users who can be admitted and treated in a given period or, more specifically, the magnitude of the *net improvements* in health, dignity, and autonomy, and criminal activity and contagiousness that result from treatment.[14]

Activities and decisions that influence the *number* of users in methadone programs include (1) recruitment efforts, (2) criteria for admitting people to the program, and (3) criteria for expelling patients from the program.[15] It is obvious that each of these functions could be performed in a way that resulted in more or fewer users being enrolled in the program. If large investments were made in recruiting, if eligibility standards were loose, and if nobody were expelled from the program, the program could grow very quickly. If contrary policies were followed, the program would grow slowly and reach its

[14] For a discussion of how the objective of "maximizing aggregate net improvements" differs from the objective of "maximizing the number of cures" and why the objective should be to maximize aggregate net improvements, see Moore, "Policy Towards Heroin Use in New York City," pp. 179–86.

[15] Obviously, drop-out rates will also influence the number of users in methadone programs. For the purposes of this analysis, the drop-out rate is treated as a *result* of decisions made about the design of other aspects of the program rather than a specific design variable. Moreover, the drop-out rate shows up in the magnitude of the average net improvements.

maximum size at a very small scale. Thus, program size depends critically on how these activities are performed and how the criteria are established.

Policies and procedures that have a relatively large impact on the *net improvements* in users include (1) the comprehensiveness and accuracy of the system for monitoring drug use by methadone patients; (2) the size of the methadone doses prescribed; (3) the volume and types of personal services provided (e.g., psychological counselling, vocational counselling, housing and welfare assistance, legal aid); and (4) the extent to which broad aspects of a user's behavior and condition other than his drug use are monitored and sanctioned by the treatment programs (e.g., his employment status, his criminal activity, and so forth). If drug use is unobserved, if doses are large, if few personal services are supplied, and if no one in the program investigates the user's economic status, criminal activity, or association with non-users, then one set of results will occur. If users are observed closely while consuming methadone, if they are provided with large amounts of ancillary services, and if they are closely observed with respect to drug abuse and employment, then another set of outcomes will occur. Depending on how one values the relative importance of preventing contagion, increasing the economic independence of users, and protecting the users' civil liberties by refusing to set up strong behavioral incentives, one can adjust the design of the program's activities to produce his preferred result.

Note the important interdependence between these two major classes of policies and actions. If the program is attractive to users (i.e., if it provides large amounts of methadone on an easy schedule, fails to monitor their behavior closely, and provides many ancillary services), the program will attract users in large numbers. If it is unattractive because it involves too close a scrutiny of their lives and too few personal benefits, it will necessarily have a smaller ultimate size and require greater expenditures for recruitment even to reach this smaller size. The relationship between the number of users that can be attracted and the individual net improvements that can be achieved is probably inverse. As the activities are adjusted to insure improved health, economic independence, and reduced crime and contagion, the program will become less attractive to users; as the policies and procedures are adjusted to guarantee a large-scale pro-

gram and rapid expansion, the program will become less effective in producing net improvements for individual users.

Table 1 differentiates methadone maintenance programs according to how the functions implied by such programs are performed. Given these differences, the questions become: How are different aspects of the desired outcome affected by the different activities? Which final actions are politically and bureaucratically easy to achieve and therefore likely to occur? And, which final actions are difficult and therefore unlikely to occur?

III. Sensitivity of the Outcome to Different Activities and Policies

In this section, we investigate the issue of which outputs are likely to have particularly important effects on different features of the substantive outcome. Given our brief experience with the program, the estimates are speculative. These judgments are crucial, however, to gauging the likely outcomes of alternative methadone maintenance programs.

A. Policies and Procedures that Influence the Potential Scale of the Program and the Rate of Expansion. Probably the two most important actions influencing the potential scale of a methadone maintenance program are the dose policy and the amount of supervision. If both are liberal, many users will be attracted—perhaps as many as 50 to 75 percent of the existing population of heroin users. If both are conservative, relatively few will be attracted—perhaps as few as 10 to 20 percent of the current population. Consequently, a large program demands a liberal dose policy and little supervision.

The second most important decision affecting the size of the program is whether or not to accept users arrested for criminal offenses, either before trial as a condition of bail, or after trial as part of their sentences. Over 40,000 users are arrested each year in New York City.[16] Refusing to accept this group cuts off a large pool of users. Accepting users from this source could, by itself, fill up a vastly expanded methadone program.

[16] Moore, "Policy Towards Heroin Use in New York City," p. 208, Table II.C.4.

Table 1. ALTERNATIVE TYPES OF METHADONE MAINTENANCE PROGRAMS

Type of Methadone Program / *Final Actions*	*Final Actions Affecting Scale*			*Final Actions Affecting Net Improvement*		
	Recruitment Efforts	*Admission Criteria and Validation Procedure*	*Expulsion Criteria*	*Dose Policy*	*Personal Services*	*Level of Supervision*
I. Pilot, experimental methadone	None	Stringent criteria, careful validation	Stringent	High dose; close supervision	Many kinds; high level	Broad and intensive
II. Beth Israel protocol	None	Stringent criteria, careful validation	Moderate	High dose; close supervision	Many kinds; moderate level	Broad and moderate
III. Controlled, "barebones" methadone	None	Stringent criteria, careful validation	Moderate	Low dose; close supervision	Few kinds; low level	Broad and moderate
IV. Massive, "barebones" methadone	Slight	Loose criteria, casual validation	Loose	Low dose; moderate supervision	Few kinds; low level	Broad and moderate
V. Massive, "robust" methadone	Strong	Loose criteria, casual validation	Moderate	High dose; close supervision	Many kinds; high level	Broad and intensive

The third most important activity is eligibility determination. Note that the *standards* for admission are probably unimportant. Even if one takes a very conservative position and admits only people who are over 27 and have been addicted for five or more years, a large minority of the using population will be eligible for treatment; the number of eligible users will be greater than the number of places available.[17] More important than the *standards* are the *procedures* used to decide whether or not a particular user in fact meets the eligibility standards.[18] If great pains are taken to verify an applicant's identity, age, history of addiction, and criminal record, admission will be slow. If fewer pains are taken, admission can be speedy. Thus the validation procedures will determine not only the ultimate size of the program, but also the rate at which the program can grow to that size.

B. Policies and Procedures that Improve Health, Enhance Personal Dignity, and Reduce the Number of Criminal Offenses. The single most important factor in improving health, enhancing dignity, and reducing criminal offenses among users is nothing more than the regular provision of oral methadone. This simple action creates sufficient stability and space in the lives of users to allow a dramatic change in behavior if the users desire it. In producing this effect, the size of the dose seems to have little impact. Small doses have minor health advantages,[19] but the differences between doses of different sizes in affecting the behavior of users are relatively insignificant. In this sense, methadone is a "technical fix."[20]

[17] Approximately one-third of the users in New York City in 1970 were likely to be eligible under these criteria. See *ibid.*, p. 146, Table I.B.17 (a).

[18] The process of verifying eligibility can be seen as a standard screening problem. The individual must show that he has particular attributes. He presents information that is more or less closely correlated with those attributes. The testing procedure can involve observations of varying numbers of attributes, and can be more or less stringent in accepting evidence that a particular attribute is present. The ultimate decision to accept depends not only on the results of the test, but also on the criterion that was adopted. Thus, the screening procedure involves both a decision about the kind of test and the criterion adopted. Depending on these decisions, one can affect both the number of errors and the types of errors (e.g., mistakenly excluding someone who was in fact eligible or mistakenly including someone who was in fact *not* eligible). Presumably, more expensive tests reduce the total number of errors.

[19] See Avram Goldstein, "Blind Controlled Dosage Comparisons with Methadone in 200 Patients," in *Proceedings of the Third National Conference on Methadone Treatment* (Washington, D.C.: National Institute of Mental Health, 1970), pp. 31–37.

[20] The phrase is taken from Dorothy Nelkin, *Methdaone Maintenance: A Technological Fix* (New York: George Braziller, 1973). The argument was made originally and most eloquently in Vincent Dole, Marie Nyswander, and Mary Jeanne Kreek, "Narcotic Blockade," in *Archives of Internal Medicine* 118 (October 1966).

Perhaps the second most important element affecting the shape of users' lives is the scope of the program's supervision of daily life. Users' lives are monitored through urinalysis, interviews with counsellors and nurses, and required reports on earnings. Various privileges in treatment are adjusted to the users' level of performance in the areas of drug abuse, crime, and employment. Consequently, methadone programs necessarily produce strong incentives for users to alter their behavior. In effect, these incentives and the structure they impart to users' lives fill the vacuum left by the disappearance of the compelling requirements of illicit heroin use; the functional demands of the users' lives change dramatically.[21]

A further activity that affects the magnitude of net improvement in the behavior of users is the recruitment process. Evidence suggests that a problem of adverse selection exists: those users who are not behaving badly now or who are likely to get better by themselves in the future are the first to volunteer for treatment, while those who *are* behaving badly now and will continue to behave badly unless they get into the program are more likely to hang back.[22] If no effort is made to recruit the hard-core users, the available places will go to users who do *not* create problems. The ultimate result will be nothing more than the subsidization of users who would have rehabilitated themselves. If recruiting is aggressive, or if some of the patients accepted have

[21] For an eloquent description of the discipline exerted by the need to maintain illicit use of heroin, see Edward Preble and John Casey, Jr., "Taking Care of Business—The Heroin User's Life on the Street," in *International Journal of Addictions* 4 (1) (March 1969).

[22] This judgment is based on observations of a "maturing out" phenomenon in heroin addiction, and analyses of the characteristics of people who volunteer for and remain in methadone maintenance programs. With respect to the first issue (i.e., "maturing out"), see the following sources: John C. Ball and Richard Snarr, "A Test of the Maturation Hypothesis," in *Committee on Problems of Drug Dependence* (National Academy of Science, National Research Council, 1969); Henrietta Duvall, Ben Locke, and Leon Brill, "Follow-up Study of Narcotics Drug Addicts Five Years After Hospitalization," in *Public Health Reports* (3) (March 1963); John O'Donnell, "The Relapse Rate in Narcotic Addiction: A Critique of Follow-up Studies" (Albany: Narcotic Addiction Control Commission, 1968); and "A Follow-up of Narcotic Addicts: Morality, Relapse and Abstinence," in *American Journal of Orthopsychology* 34 (1964); Alex Richman and Barry Humphrey, "Epidemiology of Criminal Narcotic Addiction in Canada," in *United Nations Bulletin on Narcotics* XXI (1) (January–March 1969); Lee Robins and George Murphy, "Drug Use in a Normal Population of Young Negro Men," in *American Journal of Public Health* 57 (1) (1967); George Vaillant, "A Twelve Year Follow-up of New York Narcotics Addicts: I. The Relation of Treatment to Outcome," in *American Journal of Psychiatry* 122 (1966); "II. The Natural History of a Chronic Disease," in *New England Journal of Medicine* (December 8, 1966); and Charles Winick, "Maturing Out of Narcotic Addiction," in *United Nations Bulletin on Narcotics* XIV (1) (January–March 1962).

With respect to the characteristics of people in methadone programs that indicate that they are older and more stable than most users, see Marvin Perkins and Harriet Bloch, "Survey of a Methadone Maintenance Treatment Program," *American Journal of Psychiatry* 126 (10) (April 1970).

recently been arrested, a large share of the treatment can be provided to hard-core users. While this policy may produce fewer "cures," the magnitude of the aggregate "improvements" may well be greater."[23]

Perhaps least important in influencing the dignity and autonomy of users is the provision of ancillary personal services. Few users make use of these services when they are available. Moreover, even in lavishly funded programs these services are so limited that common sense suggests they are likely to have little effect. These speculations are supported by the tentative findings of studies comparing different levels of these services; they indicate no significant differences between users receiving many such services and users receiving none.[24] Thus, in the relevant range it does *not* appear that increasing the level of ancillary services will increase the net improvements of users.

C. Policies and Procedures that Influence Contagion or the Spread of Opiate Use. The establishment of a methadone maintenance program can influence the rate at which opiate use spreads in three different ways. First, non-addicts may be admitted to the program.[25] Second, current patients may distribute their doses to methadone non-addicts. Third, if the program becomes very large and the current heroin supply system does not shrink, new users may enjoy lower prices in the illicit market for heroin. Each of these effects can result in increased heroin use among people who have not previously used it.[26]

Given these possibilities, three characteristics of the program are likely to have a major impact on the spread of opiate use. Probably the sheer scale of the program is the most important. Not only does scale influence the price of illicit heroin to "not-yet users," but it also affects the amount of illegally diverted methadone. If the program is very large, even a low frequency of admission errors and a small likelihood of drug diversion by patients will result in large quantities of drugs becoming available to non-addicts.

[23] For the distinction between "cures" and "net improvements," see Moore, "Policy Towards Heroin Use in New York City," pp. 179–86.

[24] Personal conversation with personnel of the Illinois Department of Mental Health, Bureau of Drug Abuse (December 1972).

[25] This is one kind of error that can be made in the screening procedure described in footnote 18. For a discussion of the severe screening problems that British clinics face in admitting people to heroin maintenance clinics, see Griffith Edwards, "The British Approach to the Treatment of Heroin Addiction" in *Lancet* (1) (1969).

[26] This assertion depends, of course, on the assumption that levels of price and availability of

A second characteristic importantly affecting contagion is the "dose policy" of the program. If patients are allowed to take their doses of methadone home, the potential for diversion is greater than if they were required to consume their methadone at the clinic. Similarly, large doses offer a greater potential for diversion than small. Patients naturally prefer larger doses and a liberal take-home policy. So, if the program's dose policy is to be attractive to users, it will have a greater impact on the spread of opiate use than if it follows a policy of small doses consumed on the premises.

A third important characteristic is the procedure used to determine eligibility. Along with a set of eligibility standards (e.g., age, years of addiction, no enrollment in other programs), there must be a procedure allowing the intake personnel to decide whether an individual is eligible. It is often difficult to verify a patient's statements about his name, age, years of addiction, or status in other programs. Users may have several sets of identification, carefully culled from wallets stolen over several years. They can simulate symptoms of addiction. As a result, verification of a patient's statements will be time consuming and expensive. Intake personnel will therefore make many Type I and Type II errors (admitting people who should be rejected and rejecting people who should be admitted).[27] If they err on the side of Type I errors, opiate use will increase.

Thus, if the program that actually emerges from the implementation process is large, has a liberal dose policy, and follows loose intake procedures, the substantive result may be an important increase in the rate at which opiate use spreads to non-users. If the program is kept small, if users are not allowed to take doses home, and if eligibility decisions are made carefully and conservatively, then the effect on contagion will be slight.

D. Policies and Procedures that Influence Costs. While it is true that all characteristics of a methadone maintenance program have an impact on costs, some activities are much more expensive than others. Probably the most expensive is the provision of ancillary services (e.g., job counselling and psychological counselling). Even when supplied at modest levels, these services comprise one-third to one-half of the

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opiates will affect levels of experimental use. For a discussion of this point, see Moore, "Policy Towards Heroin Use in New York City," pp. 406–448.

[27] See footnote 18.

operating costs of a methadone program.[28] If they were expanded to levels where they could plausibly influence the behavior of users, they could easily double the average cost of treating methadone patients. Compared with these costs, all other activities seem inexpensive.

A second activity that is potentially costly is seeking to increase the scope of the program's supervision over users' lives. In order to monitor patients' progress in areas such as drug abuse, unemployment, and crime, the program must hire personnel to ask questions, give tests, and verify patients' statements. This activity can be very expensive. A sense of the potential magnitude of these costs can be gained by looking at the costs of urine testing, which is a relatively reliable and inexpensive way of monitoring drug use. Urine tests cost $2 per test exclusive of the cost of supervising the provision of the sample.[29] If testing were increased from two to five times per week, the annual cost of treating a methadone patient would rise from about $2,000 to $2,300 a year—an increase of 15 percent. It should be clear from the experiences of the Welfare Department that monitoring other aspects of a user's behavior and condition would be even more costly, probably less reliable, and certainly more disruptive.

A third activity that is expensive is an accurate process for determining eligibility. Accurate verification of the statements of prospective patients would be expensive not only in staff time, but also in terms of the speed with which the program could be expanded. To make accurate eligibility determinations while maintaining a rapid rate of expansion could easily require expenditures for an intake staff to be increased by a factor of three or four.

Thus, a program that provided many ancillary services, maintained a high level of supervision over users' lives, and carefully evaluated a person's eligibility would be four to five times as expensive as a program that provided fewer ancillary services, failed to supervise current users, and performed only a superficial eligibility determination.

E. Conclusions: Dominance and Basic Tradeoffs for Alternative Methadone Programs. In sum, tentative estimates of the effects of various ways of implementing an expanded methadone maintenance program suggest the following conclusions:

[28] "Proposed Budget," Methadone Maintenance Program Internal Memorandum, New York City Services Administration, 1970.

[29] *Ibid.*

1. A great deal of money can be saved by not investing in ancillary services. They are very expensive and add little to the net improvement of users.

2. A large investment in recruitment efforts is not necessary to maintain a fast rate of expansion and achieve a large-scale program. Relatively small changes in the character of the program to make it attractive to users and easy to enter will have a large impact on the number of users who apply and are admitted.

3. A difficult tradeoff exists between maintaining a fast rate of expansion and inhibiting the spread of heroin use. All the actions that permit a fast rate of expansion (e.g., liberal dose policies, superficial eligibility determinations, and the like) also create a large potential for diversion. Moreover, a fast rate of expansion will result in a situation where users who remain in the illicit market for heroin will face lower prices for heroin.

4. A difficult tradeoff also exists between inhibiting the spread of opiate use and encouraging the rehabilitation of patients. Liberal dose policies are judged to be more "therapeutic" than stringent dose policies. But liberal dose policies create a slightly greater potential for diversion.

5. The harsh tradeoffs between contagion, scale, and rehabilitation can be softened by spending money on more accurate eligibility determination. Unfortunately, this has only a marginal effect and is very expensive.

6. The tradeoffs can also be softened by increasing the level of supervision over users' lives. This may even have a beneficial impact on the behavior and condition of users. The problem is that such supervision is very expensive, both in resource terms and in the decreased attractiveness of the program to users.

IV. Political and Bureaucratic Factors Influencing the Character of the Program

While an analyst might have preferences about how the activities discussed above *should* be performed, how they actually *will* be performed depends on how political and bureaucratic factors influence the people who design and implement the program. We can identify several important factors affecting implementation.

A. The Pre-Eminence of the Beth Israel Program. Methadone maintenance is an extremely controversial program. It earned respect and credibility only as the result of a cautious experimental development within the prestigious confines of Beth Israel Hospital.[30] The experimental protocol called for high doses, high levels of ancillary services, careful screening, and modest levels of supervision. In the light of the controversy about the program in general and the success of this particular form, a strong incentive exists for all new programs to adhere closely to this particular protocol. Straying too far from orthodoxy invites bitter criticism; clinging to orthodoxy offers the powerful protection of demonstrated success.

The form of the Beth Israel program is likely to have an important effect on any new program for an additional reason: Beth Israel monopolizes all the professional knowledge about how to run a methadone program. To secure experienced doctors and nurses, a program manager has to go to Beth Israel, or have people trained there. Once there, the personnel will be indoctrinated in the Beth Israel protocol.

Finally, it is likely that Beth Israel will have first refusal of any additional money for methadone maintenance, and can probably even veto a program proposed by others. Consequently, any large new program in methadone maintenance would either be operated by or informally approved by Beth Israel.

For all these reasons, it is likely that any new program will look very much like the Beth Israel protocol. This will be costly in two important respects: the new program will probably be forced to buy large amounts of ancillary services, and it will probably be cautious in expanding.

B. Clinic Sites and Community Opposition. A second important factor influencing methadone maintenance programs is the reluctance of most communities to house a facility. Methadone clinics quite naturally become places where addicts congregate. Local residents fear the crime, the potential availability of heroin to their children, and the violence and confusion that might surround police use of methadone clinics as places to find and arrest suspects or fugitives. Consequently,

[30] See Diana Gordon, "Fighting Drug Addiction in New York City" (Cambridge, Mass.: John F. Kennedy School of Government, Harvard University, 1971) for a brief institutional history of methadone maintenance in New York City.

every community wants some other community to accommodate the methadone clinics. The major effect is to slow the development of methadone maintenance programs. Ultimately, this factor may also establish an upper limit to the size of the program.

C. Shortages of Necessary Resources. A third factor affecting the shape of a methadone maintenance program is a general shortage of basic resources, including doctors or nurses trained to operate methadone maintenance clinics. Moreover, the supply of required professionals cannot easily be increased because of several key institutional factors. First, the work poses few interesting professional challenges. Second, the patients are likely to be relatively unpleasant. Third, the wages are likely to be kept low by civil service restrictions. For all these reasons, staffing the program will be difficult.

The urinalysis facilities available may also turn out to be an important constraint. Estimates indicate that the city would be able to test only 200 urine specimens a day. Private facilities are willing to do the tests at $5 a day. The city could expand its testing facilities, but such processes tend to be very slow. For example, it took New York several years to install equipment to expand the processing of blood tests for a lead poisoning program.[31]

Thus, the rate of clinic openings is likely to be seriously constrained by a shortage of personnel and urinalysis facilities. The city administration could maintain pressure to expand rapidly, but only at the price of understaffed clinics lacking adequate testing facilities. Such an expansion would result in small net improvements, significant numbers of Type I errors (admitting people who were not eligible), and a great potential for diversion of methadone to non-addicts.

D. Elaborate Procedures for Leasing and Renovating Space. A fourth factor influencing the development of the program is the incredibly elaborate procedures necessary to lease and renovate space in New York City. The procedure is described in Figure 1. One should note the large number of clearances required and the vague criteria by which decisions are made. Again, the effect of this red tape will be to either slow the development of the program to a turtle's pace (if the

[31] Diana Gordon, "The Lead Poisoning Case," Draft Case Study (Cambridge, Mass.: Kennedy School of Government, Harvard University, 1971).

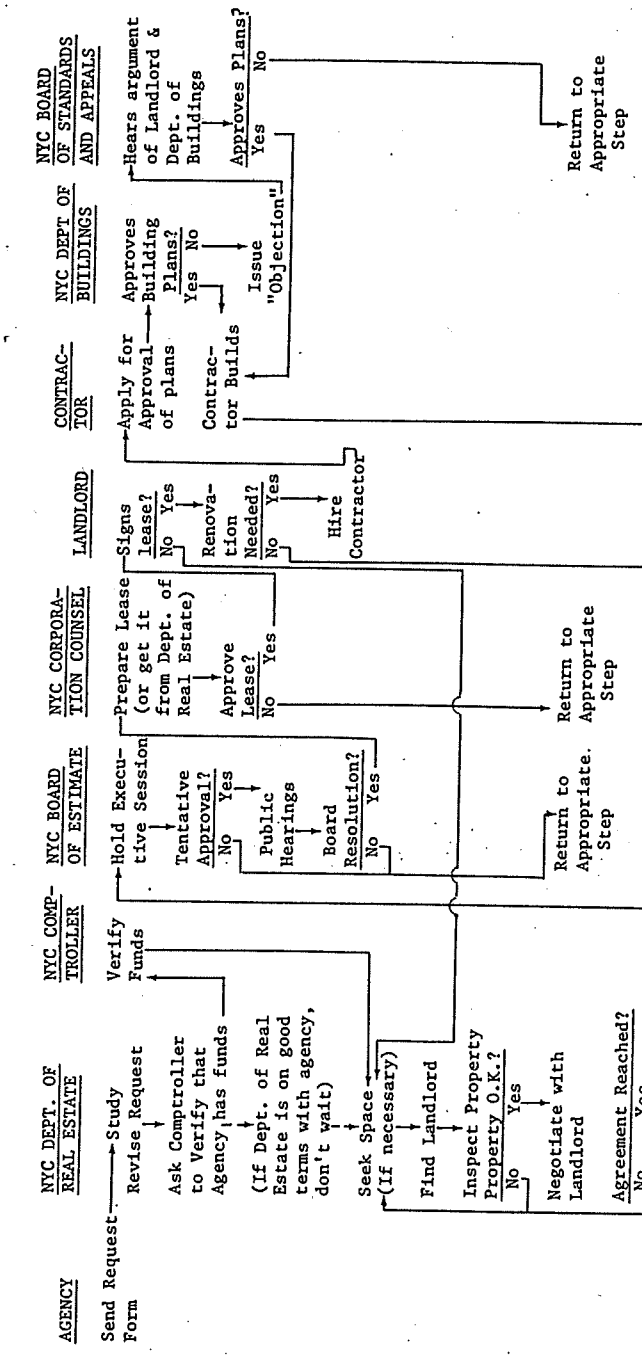

Figure 1. PROCESSING AN AGENCY'S REQUEST FOR SPACE IN NEW YORK

procedures are followed), or to endanger its political viability (if the procedures are circumvented or manhandled).

E. Incentives for Program Managers. So far, all the political and bureaucratic factors have militated against a rapid expansion of the program. These observations might lead to the conclusion that the harsh tradeoffs between rapid expansion and inhibiting the spread of heroin addiction will be resolved in favor of the latter. Such a conclusion is correct insofar as these factors will sharply constrain the potential scale of the program.

Two other factors, however, influence the program's impact on the spread of opiate use: eligibility determination and the dose policy. Since eligibility and dose must be decided in individual cases at specific clinic sites, individual clinic managers can have a decisive influence on how these decisions are made despite general policy directives from the top. Moreover, program managers will for the most part have a strong incentive to adjust procedures in a way favorable to the rapid expansion of the program and inimical to controlling contagion, for they care about filling their treatment slots quickly. Hence they will try to make their program more attractive by offering a liberal dose policy. In addition, they will be fairly liberal in determining eligibility. The implication, then, is that while there may not be many clinics operating, those that do operate are likely to become important sources of diversion.

The program managers have two other incentives inimical to maximizing the potential benefits of a methadone program. First, because the administrators will tend to be M.D.'s, they will be strongly in favor of voluntary treatment and will resist any form of coercion. This means that they will resist on ideological grounds any program that places addicts in treatment as a condition of bail, probation, parole, or a suspended sentence. They will also resist any effort to increase the scope of the program's supervision of individual users. Thus, they will be cut off from a major source of hard-core users, and will fail to exploit an opportunity to motivate improvements in user behavior.

Second, because the program will be evaluated in terms of the number of users "retained" and "cured" rather than the "aggregate net improvement" of users in treatment, incentives to "cream" the best candidates from the group of applicants will be strong. Only

people who look as though they do not pose serious problems to themselves and society now, and who are likely to show improvement in the future, will be accepted. These incentives, taken together, imply that the program will *not* insure large net improvements in the behavior of users. It will concentrate on "good users" and will not dramatically change their behavior.

In sum, the program administrators are likely to focus their programs on the wrong population and to operate them in a way that neither secures large net improvements in the behavior and condition of users, nor guards against significant drug diversion.

V. A Prediction About the Outcome of a Decision to Expand Methadone Maintenance

The analysis presented here leads to a prediction about the likely outcome of a policy decision to expand methadone maintenance, a prediction that is significantly different from the expectations created by traditional forms of policy analysis. Many factors operate to compromise the potential of the program. The likely result of a policy decision to expand methadone maintenance rapidly will be the following:

1. *The program will expand at a slow rate and reach its ultimate limit at a small scale. These facts imply a failure to achieve potential economies of scale.*

This prediction results from three factors: community opposition to clinic sites, elaborate procedures for leasing and renovating space, and inadequate (and relatively inelastic) supplies of key resources.

2. *The program will not be focused on the correct population of users, nor will it provide enough supervision to secure large net improvements. These facts imply that the average net benefits of the program will be smaller than expected.*

This prediction results from a consideration of the attitudes and incentives of the M.D.'s who will operate the program. They will take volunteers who are behaving well now, and will resist taking hard-core users. In addition, they will be reluctant to supervise their patients' behavior and condition too closely.

3. *The programs that do operate will create a significant potential for diversion.*

This prediction results from noting that program administrators will have strong incentives to fill their programs quickly. As a result, they will establish relatively liberal dose policies and will err on the side of inclusion rather than exclusion in admitting patients.

4. *The program will invest heavily in ancillary services that will have little impact on the behavior and condition of users.*

This prediction results from observing the enormous power of the Beth Israel program in influencing other programs to adopt its protocol. Because this protocol includes extensive ancillary services, the new program will have extensive ancillary services.

In sum, the program will be smaller, costlier, and less effective than it needs to be. While it is still worthwhile to recommend this policy, expectations about its success should be much more modest than those engendered by traditional forms of policy analysis.