TREATMENT

A REPORT OF THE COMMISSION OF INQUIRY INTO THE NON-MEDICAL USE OF DRUGS

CANADA

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Ottawa, 1972

January 21, 1972.

The Honourable John Munro, P.C., M.P.,
Minister of National Health and Welfare,
Brooke Claxton Building,
Tunney's Pasture,
Ottawa, Ontario.

Sir,

The Commission of Inquiry into the Non-Medical Use of Drugs, established under Order-in-Council P.C. 1969-1112, has the honor to submit the attached report of its findings, conclusions and recommendations with respect to the treatment of the adverse physical and psychological conditions resulting immediately from non-medical drug use, as well as severe disturbances of normal functioning caused by prolonged non-medical drug use.

Respectfully yours,

Gerald Le Dain
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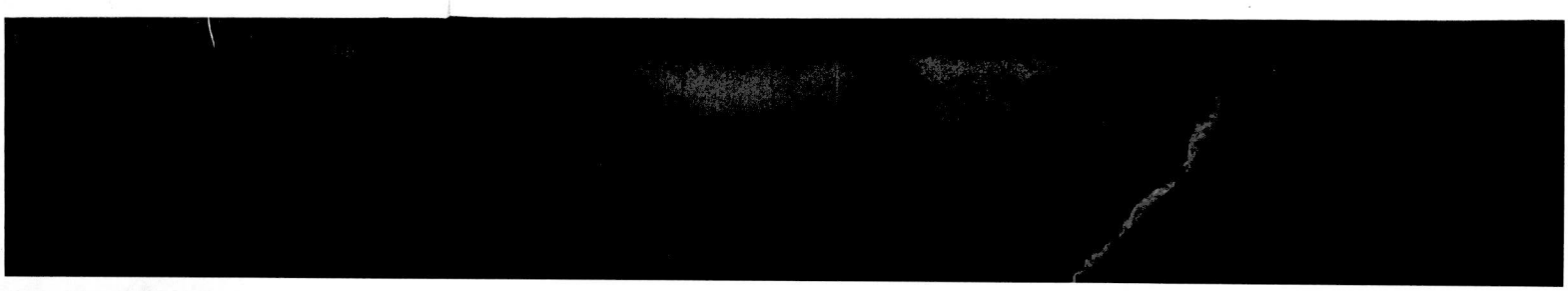

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PREFACE

The Commission of Inquiry into the Non-Medical Use of Drugs was established May 29, 1969, by Order-in-Council 1969-1112. By its terms of reference, it was required to:

(a) marshall from available sources, both in Canada and abroad, data and information comprising the present fund of knowledge concerning the non-medical use of sedative, stimulant, tranquilizing, hallucinogenic and other psychotropic drugs or substances;

(b) report on the current state of medical knowledge respecting the effect of the drugs and substances referred to in (a);

(c) inquire into and report on the motivation underlying the non-medical use referred to in (a);

(d) inquire into and report on the social, economic, educational and philosophical factors relating to the use for non-medical purposes of the drugs and substances referred to in (a) and, in particular, on the extent of the phenomenon, the social factors that have lead to it, the age groups involved, and problems of communication; and

(e) inquire into and recommend with respect to the ways or means by which the Federal Government can act, alone or in its relations with Government at other levels, in the reduction of the dimensions of the problems involved in such use.

The Order-in-Council establishing the Commission also directed us to submit an interim report to the Minister of National Health and Welfare. This requirement we met in 1970, and on June 19 of that year, our *Interim Report* was tabled in Parliament. The purpose of that report was to convey our initial understanding of the subject matter of the inquiry and to make such recommendations as we felt were urgent, and for which we believed we had a sufficient basis at that time. It was our purpose to put the phenomenon of non-medical drug use in some perspective, to identify the issues, and to provide the basis for further discussion of the subject by the people of Canada.

With respect to this latter goal, the Commission, subsequent to publication of the *Interim Report*, undertook a second round of public hearings in every province of Canada. Simultaneously, we initiated a program of intensive research into what we believed were areas of our mandate which required significant further investigation. One of these was the subject of the present report—the treatment of adverse physiological and psychological conditions resulting immediately from non-medical drug use, as well as severe disturbances of normal functioning caused by prolonged non-medical drug use and resulting mainly from physical or psychological dependence.

It will be recalled that in our *Interim Report*, we confined our examination of treatment for the effects of non-medical drug use to certain problems of immediate urgency—for example, the medical response to immediate, short-term, toxic effects of drug use. At that time, we were unable, because of the pressures of time, to extend our investigations more broadly into this complex, though vitally important area of social response. This we have done in the intervening period and our findings are the subject of this report.

The present report must be viewed as the final and complete statement of our findings, conclusions and recommendations with respect to the treatment of effects of non-medical drug use, although it will, subsequently, be incorporated in a Final Report in which all of our findings, conclusions and recommendations will be contained. It should be noted that we do not, at this time, put forward our views with respect to the subject of compulsory treatment. We believe this subject is more appropriately considered in that section of our Final Report which will deal with the legal policies which sould prevail with respect to a number of aspects of non-medical

drug use.

We are grateful for the valuable assistance provided from many quarters in the preparation of this report. We have been fortunate in having had access to the experience and expertise of members of those professions who have had extensive contact with the treatment of drug use effects, especially in Canada, the United States and the United Kingdom. Both in our travels and in consultations in Canada, these people have given unstintingly of their time and advice. In particular, we must express our thanks to Dr. James E. Anderson, of the Faculty of Medicine, McMaster University, Hamilton, Ontario, who directed the Commission's studies which formed the basis for the present report. The diligence and thoroughness of Dr. Anderson and his research team facilitated our task greatly. Special mention must also be made of Dr. A. L. MacFarlane, of Hamilton, Ontario, who made a major contribution in the preparation of the section of this report which deals with short-term medical management. Finally, we are grateful for the work of many members of the Commission staff who assisted both in the research and in the publication of this report.

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I. INTRODUCTION

In this report we intend to discuss the various methods of treating the adverse physical and psychological conditions resulting immediately from non-medical drug use, as well as the severe disturbances of normal functioning caused by prolonged use and resulting mainly from physical or psychological dependence. In the first part of this section we shall examine the concepts of sickness and treatment. This will be followed by a brief description of those conditions which call for immediate medical intervention. Finally, we shall outline the various goals and kinds of therapeutic intervention.

Traditionally, drugs have been among the most powerful weapons in the therapeutic armamentarium of most doctors. And traditionally, doctors have been assumed to be experts in all matters concerning the effects of drugs on human beings. This was a reasonable assumption 30 or 40 years ago. Today, however, with the number of drugs used in the treatment of specific diseases increasing constantly, and with so many new drugs appearing which are not used primarily for the treatment of diseases, no physician can reasonably claim to be an expert on all drug effects.

Psychopharmacology, the rapidly growing science of drugs which influence consciousness, mood and behaviour, has been in existence for only two decades, but it has come to occupy an important though controversial position in our lives and thinking, raising issues in a wide variety of fields, including foreign policy, law enforcement, public health and personal ethics. This may be the reason why the entire subject of psychotropic drugs has left the medical profession divided, indecisive, and poorly prepared to deal with it, or even understand it. It is, in fact, the first large scale public health problem in which medicine has not assumed a major leadership role and which few individual physicians have faced squarely. Medical education, both undergraduate and continuing, has utterly failed, in terms of its response to psychotropic medical and non-medical drug use, to keep up with the rate at which this problem of public health has grown in recent years.

Guidelines on the management of psychotropic drug-related problems are difficult to establish, since the problems involve all of society and its institutions. Few physicians can bring themselves either to give or to accept advice on the handling of troubled young people today; a doctor's help in cases of non-medical drug use is often strongly questioned by his patient population. Drug education and even treatment are now being left largely in the hands of users and former users, detached street workers and other paramedical personnel who are often well informed and able to provide constructive help, but who in such cases provide information and advice that are questionable and controversial. The very emergence of innovative services the major function of which is to act as mediators, moderators and translators between patient and therapist, is a dramatic indicator of how relatively inept and unresponsive the medical profession has been.

The Meaning of Sickness

By sickness we mean a condition which calls for an intervention which may be characterized as treatment. If there is no agreement on what constitutes sickness, there can be no agreement on the need for treatment. Those who perceive a person as sick would consider treatment necessary, and those who perceive him as healthy would consider it unjustified.

Who is sick? Is it 'sick' to use illicit psychotropic drugs occasionally? Where do we draw the line between acceptable recreational use of legal drugs like alcohol and

tobacco and excessive use such as that indicated by alcoholism? And if there is no general answer to these questions, which special criteria determine the non-medical use of psychotropic drugs for which treatment is unquestionably required?

Some people think that everyone using an illicit drug must be sick in some way, just as some people think that anyone who performs a delinquent act must be sick. Others think that only persons who become dependent on psychotropic drugs should be regarded as sick. Finally, there are those who believe that only immediate adverse reactions to psychotropic drugs require therapeutic intervention and that this should be confined to meeting the emergency.

Thus, the very definition of sickness has become a controversial issue. And the issue is no longer a matter for intellectual discourse alone; it has entered the forum of public, emotionally charged, and even politically loaded debate.

The word sickness is synonymous with disease and illness. Another widely used term expressing the quality of being sick, ill or diseased, is 'pathological'. Physicians frequently speak of pathology not only when they refer to sickness generally but also in referring to any impairment, however mild or momentary, of the normal structure or functioning of an organism. They might refer to a simple boil as a "pathological condition of the skin" or a charleyhorse as a "pathological condition of the musculo-skeletal system".

Even among physicians there is no longer unanimous agreement on the meaning of sickness, particularly when this term embraces psychological or psychiatric sickness. Some psychiatrists in recent years have argued heatedly that schizophrenia, a psychosis the symptoms of which have long been considered to be among the most typical of the major mental diseases, is not a sickness at all but a kind of different life style, characterized by a mental disintegration which may, in the final analysis, have a salutary effect on the growth of the personality.[3,4] Some sociologists claim that schizophrenia is simply a convenient label which society has applied to certain people who fail to behave in accordance with social conventions. And one persuasive psychiatrist has even proclaimed that all functional (non-organic) mental sickness is a 'myth', since such mental diseases do not fit into the medical model of sickness, which refers primarily to disorders caused by demonstrable organic lesions.[5]

As another dramatic example of the extent of disagreement on the meaning of sickness, the establishment, particularly the medical establishment, refers frequently to a drug-dependent person as being sick. However, this person in turn may be equally convinced that it is the society which is sick.

At least five different models of sickness or pathology are now needed to cover all the meanings various people in our society may attach to these terms. Even these five models, each implying a different set of criteria of what constitutes sickness, do not offer any general agreement on the meaning of the word sickness. Nevertheless, they do reveal at least an understanding of the roots of *disagreement* as to its meaning.

The Five Models of Sickness (Illness; Disease; Pathology):

(1) THE BIO-MEDICAL MODEL.

Structural or chemical alterations of a living organism which can be objectively demonstrated, which tend to reduce the normal life expectancy of the organism in part or in its entirety, and which are not consequences of natural life processes such as pregnancy or aging.

Examples: inflammation; tumor; wasting (atrophy); trauma; poisoning.

(2) THE ACTUARIAL MODEL.

Significant deviations from the normal structure or functioning of an organism, when this norm is determined by the statistical average within the general population.

Examples: dwarfism; high blood pressure; confusion; fever; myopia; impairment of judgment; reduced capacity for perception of reality (reality testing), as manifested in hallucinations, delusions or in grossly distorted moods, for example, feelings of exaggerated well-being.

(3) THE FUNCTIONAL MODEL.

Loss or disturbance of functions which for some time had been contributing to an individual's well-being and/or social integration, provided that the individual resents this loss or disturbance and that it is not the consequence of natural life processes.

Examples: loss of memory (amnesia); loss of muscular power (asthenia); loss of drive (apathy); loss of sexual potency (impotence); loss of capacity for enjoyment (anhedonia).

(4) THE EXPERIENTIAL MODEL.

Experiences which are characterized by suffering (dysphoria) which may lead to partial or complete incapacity of the individual and which are not obvious and expected consequences of life events (for example, a catastrophe or death in the family).

Examples: neurotic anxiety states; neurotic or psychotic depressions; hypochondriasis; any painful or disagreeable condition.

(5) THE SOCIAL MODEL.

Asocial or anti-social behaviour reflecting a distinct and progressive change in the individual's ordinary personality; that is, a change in his habitual way of acting or in his normal life style and involving some causal and temporal connection between the observed change of behaviour and the external agents or pathological conditions which may have led to the change.

Examples: social withdrawal; juvenile delinquency; promiscuity; loss of ambition; social parasitism.

Not surprisingly, physicians draw their criteria of pathology most frequently from the bio-medical and the actuarial models, probably because these are the most objective and quantifiable criteria. Also not surprisingly, the average person is most strongly motivated to seek help from a doctor by the experiential and functional models of sickness—precisely because their criteria are most *subjective* and thus most directly convincing to the patient.

Sickness and our Cultural Value Systems

The most controversial model of sickness today is the social model. It is not based on objective demonstrability, as are the bio-medical and actuarial models, nor on immediate self-evidence, as are the experiential and functional models, but rather on a system of moral values which tie health, integrity and normality closely to social acceptability.

Many people, for example, are deeply convinced that an individual's lack of ambition and indifference toward success in our society are signs of sickness. These observers may also be convinced that many of the widely used psychotropic drugs, if used under non-medical conditions, evoke these same 'symptoms of pathology'.

At the same time, many other, equally articulate people point out that there has been no definite evidence to date that drugs regularly produce such symptoms. Furthermore, they argue that even if drugs are responsible for provoking strange behaviour in certain persons, we have no right to call these persons sick. There are, for instance, an estimated 17 million Sanyasis (holy men) living in India's forests and mountains who manifest a complete lack of drive towards the goals of our Western society and complete indifference towards our conception of success. Yet these people do not consider themselves sick, nor do they consider their behaviour pathological. Finally, this argument might conclude, if there is any sickness involved here at all, it is to be found not in the individual but in the society on which he turns his back.

Another example: while most physicians will consider as pathological any drug effect which interferes with the proper functioning of the central nervous system—for instance, such perceptual distortions as hallucinations—some anthropologists might argue that among the young Crow Indians precisely those who *failed* to have hallucinatory visions to advise them on the choice of their career were considered to be 'abnormal'.[2] A strict application of the actuarial model would solve this dilemma, however, since a statistical approach to the young Crow Indians would have revealed among them a preponderance of such hallucinations, which then would have to be considered a 'normal' phenomenon.

Despite important areas of disagreement, there are, however, certain emergency conditions which would be universally regarded as pathological, and for such conditions the need for rapid therapeutic intervention (treatment) would be recognized by almost everyone.

Conditions Requiring Therapeutic Intervention

Under 'ideal' conditions, psychopharmacologists and psychiatrists are the professional specialists who today might be expected to be best able to treat or otherwise deal with the physical, mental and behavioral effects of psychotropic drugs. But the widespread non-medical use of psychotropic drugs frequently leads to medical 'emergencies' in which, in the absence of appropriate specialists, any available physician may be expected to assume responsibility for treatment. However, initial diagnosis that an emergency exists often must be made by someone who is not even a physician, but simply a person—usually a friend or bystander—close to the afflicted individual at the time of the emergency.

In most cases it is not difficult to determine when a drug use experience has developed into a dangerous complication or emergency. The following list gives some examples of emergencies which might develop quite suddenly—and (to a bystander) inexplicably—if an individual reacts in an alarming or uncontrollable manner to drug use as a result, for example, of overdosage, unsuspected adulterations of the drug, or unpredictable hypersensitivity, and which demand immediate medical intervention:

(1) *Shock*, which is characterized by pallor, cold sweat, rapid and shallow breathing, weak and rapid pulse and general weakness;

(2) Uncontrollable, *persistent vomiting*;

(3) *Stupor*, or persistent loss of spontaneous responses lasting longer than two or three hours;

(4) *Severe panic* which does not respond to ordinary reassurance;

(5) *Delirium*, or prolonged, agitated confusion;

(6) Uncontrollable *irrational or anti-social behaviour* which suggests a psychotic reaction;

(7) Prolonged *loss of consciousness* and *coma*—sometimes with very slow breathing which differs from ordinary fainting in that the individual does not recover rapidly when placed in the horizontal position;

(8) *Convulsions.*

If any one of these emergencies is observed or suspected in an individual who is known to have used a drug recently, regardless of whether the drug use was medical or non-medical, self-prescribed or ordered by a physician, it is advisable to consult a physician immediately. He may then confirm the diagnosis of an emergency and assume responsibility for recommending or administering the necessary treatment. His recommendation may be, of course, to transfer the affected person to a hospital.

Other Drug-Related Medical Complications

Other dangerous conditions which may be connected with non-medical drug use and should be referred to medical examination and treatment without delay, include:

(1) Hepatitis;

(2) Abscesses and skin infections;

(3) Thrombosis of veins;

and, less commonly:

(4) Tetanus;

(5) Endocarditis;

(6) Malaria.

All but one of these conditions (thrombosis of veins) are medical complications which may result when unsterile needles are used for the injection of drugs, such as speed (amphetamines), barbiturates or heroin. Another recently reported medical complication, resulting from careless injections of drugs of unknown quality, is the development of granulomas (little tumors) within the tissue of the lungs. These granulomas can be caused by the injection of talcum powder which is known to be commonly mixed with heroin.[1]

Psychiatric Complications

Certain psychiatric complications of non-medical psychotropic drug use—although not emergencies in the strict sense, since they may develop over some time—nevertheless require prompt examination and treatment by a physician. Such complications are:

(1) Psychotic disorders, usually of the paranoid type, (for example, fixed ideas of persecution);

(2) Severe and persistent depression;

(3) Severe and persistent impairment of attention and concentration;

(4) 'Flashbacks'—or recurrent, intense 'echo effects' resembling previous hallucinogenic drug experiences, often weeks or months after having used the drug.

There appears to be fairly general consensus that the above conditions of impaired personal functioning and vitality in drug users require treatment by a physician. This consensus is shared by users and non-users of drugs, young and old, conformists and non-conformists, and by people with a primarily biological, as well as those with an essentially behavioural, orientation.

The Meaning of Treatment and Therapy

The word therapy is derived from the Greek word *therapuein*, which means to nurse or to take care of. Thus, the words therapy, therapist and therapeutic are specific in meaning and are almost always related to the care of the sick. However, the expressions 'treatment' and 'therapy' are often used interchangeably. This semantic marriage has, over the years, reinforced the widespread assumption that a person who needs or receives treatment is sick.

But the word treatment goes beyond dealing strictly with sickness or sick people. It derives from the Latin word *tractare*, which means 'to handle' or 'to manage'. When we say that somebody is treating his child, his employee or his dog well, we do not mean to imply that the recipients of this treatment are sick. We may even speak of the treatment a painter gives his canvas before he paints on it. In the medical context, treatment may be thought of as the effective management or handling of a condition calling for therapeutic intervention.

Goals and General Types of Treatment

There are several fundamental types of medical treatment (or therapy) which are differentiated by their final goals. The most desirable treatment aims at a *complete cure*. But a cure is only possible if the cause of the disease is known, because a complete cure includes, in addition to the alleviation of symptoms, also the sure elimination of the cause. Examples of complete cures are the surgical removal of an inflamed appendix or the elimination of pneumonia bacteria by penicillin.

Physicians today, unfortunately, cannot always aim at a cure in many of the pathological conditions they meet, because either they do not yet know the cause of the sickness (as, for example, in cancer, arthritis, arteriosclerosis and functional mental illness) or because the causes are so multiple, subtle or imprecisely defined (as, for example, in drug dependency), that the goals of treatment must be restricted to the *alleviation of the effects* of the sickness, as distinct from the *removal of causes*.

This second type of medical treatment is called *compensatory*, since it compensates for the factors which bring about the pathological functioning by intervening somewhere between the levels of cause and symptoms without, however, removing the cause. Such treatment may enable a patient to function, for all practical purposes, like a healthy person—that is, free from symptoms—for a considerable period of time. Examples of this form of treatment are insulin therapy of diabetes, dialysis for patients suffering from severe kidney disease, anticonvulsant treatment of epilepsy and, possibly, modern drug therapy of schizophrenia.

The third type of medical treatment is the most commonly administered but also the one that is most modest in its aims. It is called *symptomatic treatment* because it aims only at the suppression of symptoms, or undesirable manifestations, of the sickness. Examples of this form of treatment are the use of aspirin for headache, the use of laxatives for constipation or lozenges for hoarseness, and the talking down of an anxious person from a bad LSD trip.

Symptomatic treatment is more superficial than curative or compensatory treatment,

and it is usually more easily administered. But when performed by somebody who does not fully understand its implications, it might also cover up a dangerous pathological process making disastrous, unchecked inroads. For example, prolonged symptomatic treatment of persistent headache or hoarseness might conceivably cover up the existence of cancer.

Specific Methods of Therapeutic Intervention

The particular method of therapeutic intervention which is indicated in cases of non-medical drug use depends upon the type and stage of drug involvement of a particular patient. An outline of these stages follows:

(1) *Drug-Bound.*

(a) Drug dependent (physically or psychologically), but controlled and 'non-toxic' (not having an acutely bad drug reaction).

Examples: the extremely rare, young heroin or speed user whose habit is two years old and who always has taken good care of his physical health, who carefully sterilizes his needles, has not been arrested and has never needed special help for overdosing or freaking out; the socially acceptable problem drinker.

(b) Dependent and not controlled but not toxic.

Examples: the speed user who has permitted himself to become undernourished, who has (perhaps due to needle sharing) developed skin infections and hepatitis, but who still has not needed emergency treatment for freaking out; the well established troublesome alcoholic who does not yet require hospitalization for his condition.

(c) Dependent, uncontrolled and toxic.

Examples: the speed or heroin user with a long-standing habit who has for sometime been in bad physical condition, suffers from hepatitis, has been arrested frequently and must be admitted periodically to medical facilities for detoxification or treatment of acute drug emergencies; the alcoholic in delirium tremens.

(2) *Drug-Free.*

(a) Free from physical dependence, but not necessarily from psychological dependence.

Example: an alcoholic or heroin or barbiturate addict who has been successfully withdrawn from physical dependence, who no longer shows physical abstinence symptoms, but who has a high risk of relapsing because his psychological need and craving for the drug might return at any time.

(b) Free from physical as well as psychological dependence.

Example: the fortunate small number of former heroin-dependent users who now are completely free from the drug.

The following is a brief outline of eight specific avenues of therapeutic intervention for problem drug users. Some of them will be examined in detail as they apply to each type of drug discussed later in this report in the section on Short-Term Medical Management.

(1) *Detoxification* is frequently a first step in the symptomatic medical treatment of acutely threatening psychological or hypersensitivity reactions to non-medical drug use such as 'bad trips', overdose and adulterated drugs. These critical conditions may include shock, coma, convulsions or severe panic. Detoxification

may consist of 'talking down' of the patient—mainly involving personal emotional support—or the judicious use of certain tranquilizers and sedatives as well as specific chemical antidotes when each is indicated.

A common and disturbing habit among self-appointed or poorly informed therapists to drug users suffering from 'bad trips' is either to resist the use of *any* drug which may shorten the reaction, or to administer indiscriminately large quantities of tranquilizers, especially Valium®. This type of uninformed, generalized treatment sometimes has the result of prolonging a 'bad trip' instead of shortening it. Such tranquilizers now are quite frequently obtained without prescription or through a Valium® black market, which, the Commission has been told in public hearings, has recently developed in Canada.

(2) *Psychiatric treatment* is indicated when 'bad trips' and other complications arising from non-medical drug use are prolonged or extremely pronounced—for example, a prolonged psychotic or depressive reaction. Such treatment may involve hospitalization or may consist of outpatient treatment depending on the circumstances.

A particular type of psychiatric treatment—*psychotherapy*—comprises a great variety of therapeutic approaches, all of which have in common the characteristic of the non-use of physical agents and of complete reliance on psychological mechanisms to modify the patient's behaviour in the desired direction. One may make a greatly simplified classification of psychotherapy into three categories:

(a) Those approaches which are *exploratory* and *interpretive*, aiming at the discovery of unconscious conflicts which are assumed to be rooted in the patient's past, and helping him to work his problems through after he has understood the symbolic meaning of his disturbed behaviour. Psychoanalysis and similar types of prolonged psychotherapy belong in this category.

(b) Those approaches which concentrate on the establishment of an intense *personal relationship* with the patient which is meaningful and important to him and allows the therapist to serve as an effective model—much like a parent—thus gradually modifying the patient's behaviour and value system in the desired direction. This type of psychotherapy falls into the category of relationship-therapy.

(c) Those approaches which consider pathological behaviour as learned habits, no longer serving any useful purpose, and aim at the removal of undesirable symptomatic behaviour by helping the patient to *"unlearn"* it. This is done by desensitizing him to the situational stresses which habitually elicited this behaviour, or by teaching him through conditioning and similar, often very sophisticated, techniques to avoid the undesirable behaviour (by consistently punishing it) or to seek the production of more desirable behavioural responses (by consistently rewarding them). This type of psychotherapy is referred to as *behaviour therapy*.

Finally, it is to be remembered that all of these psychotherapeutic approaches can be used individually or in the treatment of groups of patients, referred to respectively as individual or group psychotherapy.

It is relationship therapy which has so far produced the most favourable results in the treatment of chronic drug dependence.

(3) *Consultation and advice* may consist simply of instruction such as the use of sterile needles for drug injection, or it may involve improving nutrition and sleeping habits. It may also involve psycho-social support, such as drop-in centres for 'rapping' and community health clinics. This type of treatment is now being offered through many innovative services by other, more experienced

drug users, ex-addicts who are often employed by social agencies, detached workers, and trained medical personnel.

(4) *Controlled maintenance* is a system allowing drug-dependent people to make legal use of the drugs on which they are dependent. Such drug users are required to register in the system and to receive and take their drugs under controlled conditions and in specially designated centres.

(5) *Substitution maintenance* is the controlled substitution of one drug addiction for another, for example, methadone/for heroin. This method is imperfect and highly controversial; nevertheless, it is widely regarded as the best available treatment today for most heroin-dependent individuals.

(6) *Blockade of drug effects* by chemical antagonists prevents the occurrence of all physical, psychological and behavioural effects of psychotropic drugs and protects the drug-dependent person against drug-hunger and drug-seeking behaviour. Thus protected from all possible adverse effects, but also 'immunized' against the pleasurable effects of the drug as long as the antagonist is administered, the drug-dependent person may eventually 'extinguish' his drug habit and remain drug-free without the antagonist. We do not yet have antagonists to all psychotropic drugs, and those which are known still have certain drawbacks. However, research in this area is active and promising.

(7) *Withdrawal* from physical dependence on drugs ranging from heroin to alcohol—in jails or hospitals—is relatively easily achieved in the course of two to three weeks, regardless of the drug involved. Techniques to achieve this type of withdrawal are well established and include a variety of methods, from the sudden and brutal 'cold turkey' treatment to the supportive use of gradually decreasing doses of methadone or sedatives.

(8) *Therapeutic Communities* provide a protective and remedial environment for drug-dependent persons who can accept the strict discipline and basic philosophy which characterize these groups. Communities of this type are often administered by people who were formerly dependent on drugs themselves. The rules of these communities require complete abstinence as well as submission to encounter therapy in which each individual is confronted by his peers with the evidence of the 'stupidity' (rather than the 'sickness') of his drug-dependent behaviour. In return, the communities offer mutual support and active help towards the re-education and rehabilitation of each individual.

Whatever the technique, withdrawal from physical dependence invariably creates an unstable psycho-social condition in the patient, who remains constantly threatened by the prospect of a return to his drug-dependent behaviour. With heroin-dependent patients, the chances of also losing their psychological drug dependence in the process of physical withdrawal, and remaining abstinent, vary, according to the different methods of treatment, from 3 to 20 per cent. With alcoholics, the chances of remaining abstinent have been variously reported as anywhere from 10 to 60 per cent.

II. THE TREATMENT OF OPIATE DEPENDENCE

There are many varieties of dependence on opiate narcotics. Most widespread in Canada and the United States today is dependence on heroin. However, a significant number of persons are also dependent on codeine, morphine, opium or the synthetic Demerol®. The newest type of opiate dependence is found among those using methadone either on medical prescription as substitution therapy, or non-medically and illicitly, by obtaining their drug from the black market. There are also many ways in which opiate-dependent persons may administer drugs: intravenously, subcutaneously, by swallowing, sniffing or smoking.

Of all types of drug dependence, an established opiate dependence is probably least amenable to successful treatment. Despite massive expenditures over a period of many years on a wide variety of treatment programs, their success rates continue to be unacceptable by ordinary medical standards.

Vaillant (1970) reports that among heroin addicts, for reasons unrelated to any particular treatment, two per cent become abstinent each year. Also, a disproportionate two per cent of addicts die each year of those addicted for five years or less.[38]

The most important single factor associated with eventual abstinence appears to be a history of a stable pattern of employment prior to addiction. Moreover, a significant majority of those who achieve permanent abstinence develop a substitute dependence of some kind, such as alcoholism, excessive eating or dependence on a therapeutic community.

TREATMENT AIMED AT TOTAL ABSTINENCE FROM NARCOTICS

The following measures, some of which will be examined in greater detail later, are the five most common forms of treatment where the therapeutic goal is *total abstinence*:

(1) *Forced withdrawal* in a prison, hospital, therapeutic community or some other place, by physically depriving the patient of heroin.

(2) *Long-term hospitalization* with gradual withdrawal reinforced by psychotherapy, special counselling and milieu therapy.

(3) *Imprisonment* with or without any therapy and post-discharge follow-up. The main emphasis here may be on the punitive, corrective or deterrent aspect.

(4) *Involvement in therapeutic communities* which may offer a wide range of personal and social rehabilitation services but may also place severe restrictions on personal freedom. This kind of treatment is usually voluntary and depends on the active cooperation of the drug-dependent person.

(5) *The use of Narcotic Antagonists* (chemical blocking agents), which neutralize the effects of opiate narcotics, (for example, cyclazocine, naloxone). This kind of treatment is usually carried out in conjunction with other rehabilitative programs.

Thus, many different types of treatments have been proposed and are being employed in an effort to cope with opiate dependence, including prolonged psychoanalysis, therapeutic commmunities, counselling, compulsory confinement and surveillance by probation officers. However, all forms of treatment have so far met with very limited success.

Several investigators have studied samples of several hundred voluntary first admis-

sions to opiate withdrawal programs. The relapse rate to narcotics varied from 90 to 95 per cent. Vaillant followed 132 opiate-dependent persons over a period of 12 years and found that only three per cent achieved abstinence for a year or longer following hospitalization. Short imprisonment was equally ineffective: following 358 short imprisonments of these 132 addicts, only three per cent remained drug-free for a year or longer. Of those who remained abstinent, virtually none attributed their abstinence to help received from hospitals or physicians. Vaillant concludes: "In short, the conventional medical model for the treatment of narcotic addiction is simply not effective."[38]

TREATMENT UNDER CONFINEMENT

The effect of the prison system on the drug user will be discussed in greater detail in that part of our Final Report which deals with the role of law generally, but brief reference may be made here to some conclusions of the Commission's research in this field which have a particular bearing on treatment.

Oakalla

Oakalla is a Canadian penal institution where many illicit drug users are incarcerated without any attempts at therapeutic management being made. A member of the Commission's research staff has made a field study of the conditions existing there and arrived at the following conclusions:

> Life in east wing is the criminal subculture of the street moved indoors under lock and key. No attempt is made to challenge the inmate's criminal values, perceptions or lifestyle....Many of the inmates take pride in the fact that they are considered the least trustworthy, most disruptive inmates in the provincial system. The staff, having accepted this fact, have resigned themselves to acting solely as custodians, thus adding further support to the inmate's criminal status....Disruptive and illegal acts within the wing tend to enhance one's status whereas any movement vaguely resembling the adoption of square john values is ridiculed. For the vast majority of inmates, the process of survival within the east wing totally rules out rehabilitation.
>
> For the heroin addict, life in the east wing is hardly less therapeutic than the drug scene at the corner itself. The virtues of heroin use are continually reiterated, heroin is the main topic of discussion, and attempts to get drugs legally from the prison doctor and illegally from the outside are a pastime with the wing. Although being in east wing drastically reduces the amount of illicit heroin use, it does not reduce the importance of the drug in the inmate's life. In or out of east wing, heroin appeared to be the prime motivating factor to the addicts. Most of the addicts view incarceration as just another aspect of heroin use. Incarceration in east wing may act to deter some inmates from committing subsequent criminal acts but its deterrent value appears far out-weighed by the negative effects it has on other inmates, introducing them to heroin use, and providing them with the criminal contacts and knowledge which will encourage subsequent crime.[35]

Canadian Remedial Experiments in a Correctional Setting

Alex G. Brown Memorial Clinic

Beech and Gregersen (1964) reported on a three-year follow-up of a program for addicts in Mimico, Ontario, which is part of the province's network of correctional institutions.

Before they were admitted into the program, the drug-dependent persons were screened to eliminate individuals with severe personality disorders, low motivation, poor institutional adjustment, and long criminal records. Although only potentially good risks were admitted to the program, more than half were again taking drugs at

the end of three years.

After a single period of treatment, 16% were definitely drug free and 21% questionably drug free. After two periods of treatment 9% were definitely and 14% questionably drug free.[2]

Vanier Centre for Women

Vanier Centre for Women is a cottage-style complex, opened in January 1969, where female illicit drug users are confined and subjected to a remedial program designed "to modify the attitudes of those in its care...to such an extent that their actions upon release will be essentially law-abiding rather than law-breaking, and to provide them with the kind of training and treatment that will afford them better opportunities for successful personal and social adjustment."

The present program was developed by a group of mental health professionals. They felt that the techniques of the therapeutic community treatment method appeared to afford the most promising means of establishing a framework within which several educational, vocational, and therapeutic methods could be applied.

A member of the Commission's research staff reported the following statements made by inmates who were interviewed about the program:

> "There is no drug program at Vanier. If a girl is a junkie for twenty years she will not change in six months."
>
> "People have to be ready to change. The user leaves here and makes up for lost time."
>
> "The whole atmosphere blows the mind, and you need a fix to straighten out."[7]

Of the twenty-four drug users interviewed, seven said they will continue to use hard drugs ('speed', cocaine, 'bombers', MDA, morphine, heroin, psychedelics). Soft drugs (marijuana, hashish) would continue to be used by six residents. Six were uncertain as to what drug use pattern they would assume upon release. Five of the residents hoped to remain clean but were concerned about their weak willpower.

Matsqui

Another Canadian treatment experiment, including a controlled, sophisticated and expensive investigation to study the effects, was conducted in recent years at Matsqui, which was built as a special institution for the treatment of drug-dependent persons. An experimental method resembling the therapeutic community framework was employed there as the main type of treatment for one group of inmates, while another group did not receive special treatment and served as a control. The evaluation, which was very well conducted, unfortunately demonstrated that treatment in this special institution has been clearly unsuccessful.

Following discharge from the institution, the average percentage of time spent in illegal employment by members of the treatment unit was significantly higher than in the case of members of the control group, and their average illegal earnings were much higher than the control group's. The rates of use of prescription opiates were about the same for the two groups, but the pilot treatment unit had higher illegal and total opiate use.

These results led Murphy, the researcher in charge of the project, to the hypothesis that the pilot treatment unit program inadvertently promoted a "well-adjusted, well-educated dope fiend"[31] successful in getting himself over the barrier from the illegitimate world to the legitimate. But the greater self-understanding, formal education, and greater social skills gained in the superior treatment unit were enough to help him to be more successful in the illegitimate world. Hence, he was able to earn on an average over $1,000 per month illegally, while still living on relatives, friends, and

welfare. He did as well as the control group member in obtaining legitimate opiates (methadone) and four times as well in obtaining illegal opiates.

A member of the Commission's research staff drew the following conclusions from Murphy's evaluation of the Matsqui experiment, as well as from her own observations:

> ...of the two types of treatment attempted, the more sophisticated and more generously financed had the worse results....The institution managed to achieve an atmosphere unlike the usual penitentiary atmosphere. The quality of the research done on the treatment programs has been better than any done elsewhere in Canada, and ranks with the best in the international literature....with an estimated 80 per cent recidivism rate for Matsqui men, it would take an enormous change for claims of even a modestly successful program to be made. No grounds for predicting a sudden breakthrough appear, and we think it more realistic to consider Matsqui the latest unsuccessful attempt at the institutionalized treatment of addicts.[29]

American Civil Commitment Experiments

The most important American civil commitment programs for the compulsory treatment of the drug user are the federal program under the *Narcotic Addict Rehabilitation Act of 1966*[42] (NARA) and the state programs in California[43] and New York.[44] There are also important programs of an essentially voluntary nature in Illinois,[45] Massachusetts,[46] and New Jersey.[47] It is noteworthy that Massachusetts originally had a system of compulsory commitment but replaced it by a voluntary system effective on July 1, 1971. There are civil commitment statutes in many other states, but these appear to be among the most important of the current programs.

The civil commitment programs in the United States are a response to two main factors: the relatively unsuccessful experience with institutional treatment in the federal hospitals at Lexington and Fort Worth, and the decision of the United States Supreme Court in *Robinson v. California*[48], in which it was held that it was unconstitutional to punish a person for being addicted, since this amounted to cruel and unusual punishment in violation of the Eighth and Fourteenth Amendments of the American Constitution. The issue in this case was the constitutional validity of a California law which made addiction a criminal offence, but the Supreme Court, in a statement which was not necessary to the decision of the case, expressed the view that it was constitutionally permissible for a state to impose compulsory treatment for addiction. It is on the basis of this statement that the federal government and various states have established modern civil commitment programs. The constitutional validity of some of these programs has been affirmed by lower courts,[49] but the issue has not been directly dealt with by the Supreme Court since the dictum in the *Robinson* case.

The ground for civil commitment is generally addiction, but in some jurisdictions "imminent danger of becoming addicted" is also a ground. This gives doctors and the courts a very wide discretion. What constitutes being an addict for purposes of the civil commitment legislation is usually defined in fairly broad terms. The definition in the federal *Narcotic Addict Rehabilitation Act of 1966* (NARA) is fairly typical and reads as follows:

> 'Narcotic addict' means any individual who habitually uses any narcotic drug...so as to endanger the public morals, health, safety or welfare or who is or has been so far addicted to the use of such narcotic drugs as to have lost the power of self-control with reference to his addiction.[50]

Under the American statutes civil commitment arises in basically three ways: first, upon petition by an addict, a relative, or a third person; secondly, in the course of a criminal process as an alternative to continued prosecution; and thirdly, after conviction, as an alternative to imprisonment or other penalty.

Although commitment upon application of the addict is in the first instance voluntary, the legislation usually provides that once committed the addict is obliged to remain in custody for treatment in the same way as if he had been committed voluntarily, except, as we shall see, it generally stipulates a shorter maximum period of commitment for voluntary cases.

Some statutes give persons other than a related individual the right to apply for the civil commitment of an addict. Under the California law anyone who believes that a person is a narcotic addict or is in danger of becoming one can report this belief under oath to the district attorney, who may then petition a Superior Court for commitment. Further, any peace officer or health officer who has "reasonable cause" to believe that a person is an addict may take the person "for his best interest and protection" to a county hospital. The person in charge of the hospital admits the alleged addict upon the written request of such an officer. If, upon examination, the person is found to be an addict, the director of the hospital so informs the district attorney, who may petition a superior court for a commitment order. The New York law also provides that anyone who believes someone to be an addict may file a petition for commitment.

An order for civil commitment may be made in the course of a criminal process, while a charge is pending, or after conviction. When it is made while a charge is pending, the addict is usually given a choice between treatment and continuation of the prosecution. Civil commitment under these circumstances may be regarded as voluntary because of the election of the accused, but it must be recognized that there may be an element of compulsion operating in such a case in the choice offered to the accused between compulsory treatment and the probability of ordinary imprisonment. The accused is not faced with a truly free choice but rather the least distasteful of two unpleasant alternatives. Whether he chooses one or the other will presumably depend upon their probable effects on him, in particular, which is likely to result in the longer period of confinement. When civil commitment is elected while a charge is pending, the prosecution is usually suspended. In some cases the court may proceed to completion of the trial but further disposition is deferred. Some of the legislation expressly provides that in such cases civil commitment is not a criminal conviction. (This is presumably a reflection of the holding in *Robinson v. California* that it is unconstitutional to make addiction a criminal offence.)

When civil commitment is ordered after criminal conviction, it is generally imposed upon the offender. In some cases, however, the offender may be offered a choice between civil commitment and regular criminal law disposition.

Civil commitment statutes in the United States generally stipulate a maximum period for which a drug user may be committed. These maximum periods vary considerably from one jurisdiction to another. Generally speaking, they range from six months to as long as ten years. Three years would appear to be the average. It is generally provided that where commitment is ordered following conviction it should not be for a longer period than the sentence which might otherwise have been imposed for the offence of which the offender stands convicted. A distinction is generally made, in stipulating maximum periods of commitment, between voluntary and involuntary commitment. A shorter maximum period is generally stipulated for voluntary commitment in order to encourage users to submit to it. In California, for example, the maximum period for involuntary commitment is seven years, with a possiblity of three additional years, whereas the maximum period for voluntary commitment is two and a half years. It has been suggested that police will often persuade an individual to choose voluntary commitment, with its shorter maximum period, by indicating to him the consequences of involuntary commitment.

The statutes generally provide that certain kinds of offenders will not be eligible for civil commitment. The main categories which are usually declared to be ineligible are those charged with or convicted of a crime of violence or trafficking in prohibited

drugs. An exception is sometimes made for trafficking which is shown to be for the prime purpose of supporting the user's habit.

The statutes generally provide procedural safeguards to assure that the justification for commitment is established by a fully adversary process that protects the rights of the individual. The safeguards include full notice to the individual of the proceedings for commitment and of the nature and implications of commitment; the right to be represented by counsel; medical examination by competent physicians; the right to bring evidence and to cross-examine; the right to trial by jury on the issue of addiction or imminent danger of becoming addicted; and the right to judicial review of the order of commitment.

It is often expressly provided in the modern statutes that civil commitment should not be imposed unless there are adequate treatment facilities and personnel and the user is one who is likely to benefit from the treatment. How far these conditions are met in practice is, of course, another question. A distinction must obviously be drawn between the establishment of something that purports to be a treatment program and its relative effectiveness.

Civil commitment programs generally involve commitment to a treatment facility for an initial period of confinement. A minimum initial peroid may be fixed or it may be left to the discretion of the authority having custody. There is generally provision for release from inpatient to outpatient status if the authority having custody is satisfied that the user is ready for such release. Any violation of the conditions of release is treated like a violation of probation, and the patient may be returned to confinement or brought before a court and have his status redetermined. Generally, a person may be committed more than once, but in some cases prior commitment for treatment is a ground of ineligibility.

The legislation varies as to the nature of the authority to whom custody of the addict is given. Under the federal legislation an addict who is committed outside the criminal law process, or while a charge is pending, is committed to the custody of the public health authorities. An addict who is committed after conviction is placed under the jurisdiction of the law enforcement authorities. In California the civil commitment program is under the jurisdiction of the Department of Correction. Whether jurisdiction is given to the public health authorities or to the law enforcement or correctional authorities is thought by some critics to be important. It is said that where the correctional authorities have jurisdiction it reinforces the impression that compulsory treatment is merely imprisonment under another name.

Generally the legislation is not very explicit as to the conditions which justify release to outpatient status and ultimate discharge. Within the limits imposed by the maximum periods of detention, these matters are generally left to the discretion of the authority having custody of the patient. Satisfactory completion of treatment, which is the condition of discharge, would appear to require that the user comply with the conditions of his commitment and generally co-operate with the authorities, and that he remain drug-free for a certain period of time. Under the federal act, treatment "includes confinement and treatment in an institution under supervised after-care in the community and includes, but is not limited to, medical, educational, social, psycholological, and vocational services, corrective and preventive guidance and training, and other rehabilitative services designed to protect the public and benefit the addict by correcting his anti-social tendencies and ending his dependence on addicting drugs and his susceptibility to addiction". Thus treatment would appear to be oriented towards abstinence or cure.

Where an accused has been committed while a charge is pending, and he successfully completes his treatment, the charge is dismissed. When an addict who has been committed is returned to the criminal process the time which he spent in commitment

is credited to his sentence.

Voluntary treatment programs such as those in Illinois and Massachusetts provide that addicts may elect treatment while a charge is pending against them. Under these laws addict offenders may also be placed on probation on condition that they submit to treatment. There is similar provision for treatment on probation under the law of New Jersey.

The civil commitment program in California has been the subject of some critical evaluation. John C. Kramer, who was Chief of Research for three years at the California Rehabilitation Center, to which the addicts are committed, has made a critical evaluation of the program, which is summed up in the following conclusions:

1. The program is not sufficiently useful in rehabilitating addicts to justify its continuation without major modification.
2. Despite the hopes of its initiators that it would be a therapeutic alternative, it has become largely an extension of the punitive approach to the control of opiate addiction.
3. As a corollary to the above, the structure of the program entirely resembles prison programs and has almost no elements which resemble hospital programs.[23]

He reports that of the first 1,209 inmates released to parole, one in four remained in good standing one year later, and about one in six after three years. He pessimistically states that:

> Many, if not most, of the successful candidates...were not really addicts or have merely found a technique to outwit the tests for drug use....
>
> ...the rehabilitation success of the civil addict program with group therapy seems to be no better than that of the regular prison programs for addicts in California.[23]

Roland W. Wood, Superintendent of the Center, expresses a more favourable opinion as reflected in the following evaluation:

> Compulsory in-patient treatment, close and continuing supervision in the community, and anti-narcotic testing are making it difficult for the committed addict to escape or evade treatment, thereby overcoming a problem that has plagued other large-scale treatment efforts in the United States.
>
> Of the men and women transferred to out-patient status, 37 per cent have remained drug-free in the community for one year; about 20 per cent have been drug-free and crime-free for two years. Approximately 500 men and women—about 15 per cent of those who could possibly have been discharged—have achieved three drug-free years and have been discharged, the vast majority of them on their first release; others, of course, will accomplish the three years on their second or subsequent attempts.
>
> Less than 5 per cent of all the men and women transferred to out-patient status have been convicted of a felony committed while out-patients, in contrast to a felony conviction rate of almost 70 per cent of admissions and a combined misdemeanor—or felony—conviction rate of 80 per cent.[40]

The civil commitment program carried out under the provisions of the *Narcotic Addict Rehabilitation Act of 1966* (NARA) in the National Institute of Mental Health Clinical Research Center in Lexington, Kentucky, has just been evaluated and found to have given unsatisfactory results. Langenauer and Bowden reported on a follow-up of the first 252 male narcotic addicts treated under the provisions of NARA. They conclude:

> One of the goals of the NARA program is to enable addict patients to function in their communities with the help of aftercare counselling and supervision. To a large extent, this was not accomplished during the period we studied. By the end of the eighth month, 42 per cent of the patients had been recommended for recommitment. From the fourth month on, 20 to 30 per cent of the patients in each month were evading aftercare, recommended for recommitment, or both.[26]

THERAPEUTIC COMMUNITIES

The treatment modality which has so far produced the best therapeutic results where the goal has been total abstinence is the "therapeutic community", characterized by programs such as Synanon, Daytop, Odyssey and Phoenix House. These will be discussed in more detail later. However, these programs have limited appeal to many addicts, who drop out early. Furthermore, this type of program, although less expensive (about $10–$15 a day per addict) than treatments associated with confinement, may lead, in those who remain in the program, to a dependence on the program itself, making it difficult for the patient to leave the therapeutic setting.

TREATMENT WITH NARCOTIC ANTAGONISTS

Narcotic antagonists are assumed to occupy the same cellular sites in the nervous system as do the opiates. Because of this they will block the effects of narcotics and prevent the experiencing of euphoria. Dependence on the narcotics does not develop because they never reach the receptors in the cells. Antagonists themselves may produce mood-altering (agonistic) effects of varying severity, but tolerance to these develop as the dosage is gradually increased. Antagonists may also produce a physical dependence with abstinence syndromes, but they do not give rise to psychological dependence.[27]

It is known that following withdrawal from chronic opiate use physiological abnormalities persist for as long as six months and that relapse is particularly common during that period. During this time, the use of opiate antagonists may be of considerable value in the prevention of re-addiction. Ex-addicts who are maintained on an opiate antagonist, after experimenting with self-administration of opiates, soon cease the use of opiates for lack of reinforcement.[16]

Nalorphine is a potent antagonist of opiates which produces an immediate abstinence syndrome when injected in a dependent person. It is used diagnostically to determine the presence and extent of physical dependence on opiates. Its continued use is limited by its brief duration of action.

Cyclazocine is the most effective and best studied of the antagonists. It is potent when administered orally once or twice a day, and after a few days or weeks a high degree of tolerance develops to its undesirable effects. When protected by cyclazocine, it is almost impossible to take a lethal overdose of heroin or morphine. A summary of the results of five programs on trial since 1968 was made in June 1970 by Fink. It included 450 adult male addicts. Of these, 40 per cent have continued in treatment, twenty for more than three years and 60 for more than one year. Almost all report continued experimentation with opiates which decreased in frequency as they continued using cyclazocine. A 20 per cent rate of re-addiction was associated with discontinuation of cyclazocine.[16]

Jaffe (1970) describes the operation of a cyclazocine program as follows:

> Withdrawal of heroin is accomplished using decreasing doses of methadone.
>
> 48–72 hours after the last dose of methadone, testing is done by administration of 3 mg. of Nalorphine subcutaneously. If there is no discomfort, an additional 4 mg. is given 10 minutes later. If there is no increase in pupil size, gooseflesh, or discomfort, cyclazocine may be begun 24 hours later.
>
> Oral administration begins with 0.1 to 0.25 mg. which is increased in 0.25 mg. daily increments until stabilization at 6–8 mg. daily.
>
> Undesirable effects are minimized by slowly increasing the dosage in accordance with the individual's response.

An abstinence syndrome appears 24–48 hours after the last dose.[19]

Drawbacks to a maintenance program with cyclazocine consist mainly in the high incidence of unpleasant side effects, which may include depression and psychotic reactions, as well as in the relatively short duration of its protective effect, which makes it necessary to administer cyclazocine at least every 24 hours, and preferably twice a day.

Another opiate antagonist—naloxone—is practically free of agonistic effects of its own and is thus more acceptable to patients. However, its high cost in sufficiently high doses and its very short activity—from 3–5 hours only—in lower doses have so far impeded its successful use in treatment programs.[25,41]

Research continues to develop other antagonists. An ideal antagonist would have these characteristics:

(a) it would be a potent specific antagonist to narcotics;
(b) it would have minimal or no psychotropic action or adverse side effects of its own;
(c) it would be effective for long periods of time. It is virtually certain that it will be possible to develop a form of administration which will—perhaps by implanting the antagonist—block all effects of opiates for periods of weeks or months.

TREATMENT AIMED AT LESS THAN TOTAL ABSTINENCE

If the therapeutic goal is *not total abstinence*, there are currently three types of treatments available:

(1) *Dispensing the user's opiate (for example, heroin) in dependence-maintaining amounts to users.*
(2) *Gradually decreasing the extent of the drug dependence through dosage reduction*, backed by therapeutic or social support and follow-up.
(3) *Substituting for the user's opiate another opiate narcotic*, such as methadone, which has somewhat more acceptable pharmacological and social effects than the user's opiate.

HEROIN MAINTENANCE

The so-called "British System", operating in Great Britain under the *Misuse of Drugs Act 1971*, allows specially licensed physicians, who are attached to special drug treatment centres, to prescribe heroin as well as methadone to those who have voluntarily registered for treatment.[15] The reasons advanced for this practice stress the probability that more heroin-dependent persons would register voluntarily for treatment if they could continue to receive the drug to which they have become adjusted. As a result they become known to the authorities who can assist them in various ways, not only with their dependence but also in achieving better social and occupational adjustment. It is also assumed that a certain small number of heroin dependent persons might not respond as well to methadone substitution maintenance as they would respond to continued heroin maintenance. Finally, it is posited that the dispensing of legally available heroin would lead to a considerable reduction of the illegal

market and consequently in time to a reduction of the number of heroin users.

However, these assumptions have not gone unchallenged. Three main arguments are usually brought forward against the continued use of heroin, even if legally available to the user under controlled conditions. In the first place, there are good medical reasons to reject a treatment procedure which would continue to use the intravenous method of drug administration—the method to which the habitual heroin user is accustomed. Unpredictable and dangerous hypersensitivity reactions may occur when heroin is administered intravenously, and, although these reactions are rare, they may be fatal; and indeed, it is estimated that fatalities occur once in 100,000 such injections. From the general medical point of view, intravenous injections of any substance are always more hazardous than oral administration or other forms of injections. However, physicians in the United Kingdom say that addiction to the 'needle' may be almost as great as to the drug.

Another reason why many experts prefer methadone to heroin in controlled opiate maintenance is that the effect of heroin is of shorter duration than that of methadone, so that abstinence symptoms occur earlier and make more frequent administration of the drug necessary. For an opiate-dependent person who is regularly employed—but also for those who are not employed—it might be very inconvenient to have to attend the clinic or another centre authorized to administer the opiate more than once every 24 hours and thus increase the probability that the patient would drop out of the program. Finally, there seems to be general agreement that intravenous injections of heroin produce more intense euphoria than orally taken methadone, and more intense euphoria is more likely to impede possible social rehabilitation by interfering with normal day-to-day functioning of the individual, and keep him preoccupied with the waiting for the next 'fix'.

As to the reduction of the illegal heroin market, the supporters of methadone maintenance, who would not allow any legal heroin, argue that the illegal market for heroin would be reduced automatically if our efforts to find most heroin-dependent persons and treat them with methadone could be made successful, because a person treated adequately with methadone would soon extinguish his heroin habit through lack of reinforcement resulting from the absence of any heroin effects.

The British statistics which show that registered opiate addicts under maintenance treatment function better socially than they did prior to treatment do not distinguish between persons maintained on heroin or methadone. As for the third assumption, that the number of heroin addicts would drop if heroin would be legally available, it should be noted that in Britain in 1968—one year after the introduction of the new legislation which made heroin legally available in special treatment centres—ten times as many new cases of opiate addiction were being recorded as in the ten years previously. This was interpreted in Britain as evidence that more heroin users had been induced to register because of the new legislation. The number of cases seen in 1969 was considerably lower than in 1968.[3] There is no documented evidence available for the assumption that more heroin dependent persons would register for treatment if they could continue to receive heroin legally, nor is there well established proof that any person who can be successfully maintained on heroin could not, at least, be maintained equally well on methadone.

Bewley (1970) states that "During the two years after the clinics were started there was a decrease in the total amount of heroin prescribed and an increase in the amount of methadone."[4] Also, according to James:

> Clearly the events of 1968 have led to a reduction in the over-prescribing of heroin and have succeeded in weaning a proportion of the narcotic addicts from heroin onto methadone—and nearly all off intravenous stimulant-drugs altogether.[20]

Thus, it is evident that in Britain there is a tendency on the part of the specially

licensed physicians to restrict sustained maintenance treatment with opiates to methadone. A telephone survey by the Commission in 1971 of several clinics in London revealed that the practice of prescribing heroin for addicts varies from clinic to clinic but on the average appears to have been reduced to about 50% of all cases.

It is necessary now to state our own view as to whether heroin should be made legally available in Canada for the treatment of opiate dependence, and if so, to what extent and under what conditions.

The *Single Convention on Narcotic Drugs, 1961* requires the parties to it to restrict the use of the opiate narcotics to medical and scientific purposes. Parties are left free, however, to prohibit the use of these drugs for all purposes.

In Canada, most of the opiate narcotics which have a clearly established medical value (such as morphine, Demerol®, codeine and methadone) are made legally available for medical purposes under strict controls. Heroin is a notable exception. Canada prohibited the legal importation of heroin in 1955 in response to a resolution of the Economic and Social Council of the United Nations urging states to abandon its use for medical purposes. The only countries in which it is used to any extent for medical purposes at the present time are Great Britain, Belgium and France. Great Britain uses by far the largest quantities. Although heroin could be made available, under the terms of the *Single Convention*, for the treatment of opiate narcotic dependence, Canada does not permit the legal supply of it for such purposes. It is totally prohibited. Thus, while doctors are not prohibited (as a matter of professional regulation or ethics) from prescribing heroin, if they could obtain a legal supply of it, it is for practical purposes not available to them unless they have a stock of it which was acquired before it was legally prohibited. In effect, the prohibition of the legal availability of heroin for medical purposes in Canada is a matter of administrative regulation. Its importation or manufacture could be licensed under the *Narcotic Control Act*, but the administrative authorities choose not to do so.

Because it is legally prohibited for all purposes at the present time, and because of its potential for harm, we believe that the burden is on anyone who advocates that heroin be made legally available to present convincing reasons why it should be so. We ourselves have had considerable difficulty in achieving a measure of agreement on this point, and such agreement as we have been able to reach contains important differences of emphasis which we shall attempt to convey here. The issue, as we see it, is not whether heroin should be generally available to anyone who wishes to use it, but whether it should be available to doctors for administration in cases in which they judge it to be a necessary phase of treatment. In what sense can the administration of heroin by a physician be regarded as a means of treating heroin dependence? The immediate treatment goal, insofar as the administration of heroin is concerned, is obviously not cure or abstinence, but management of the dependence. Heroin maintenance may, however, be a transitional phase in involving a person in a treatment program directed ultimately to methadone maintenance, or even to abstinence, through some other means of treatment such as a therapeutic community. Heroin maintenance is used sparingly in the British system, but its availability in principle is thought to induce some dependents to present themselves earlier to the treatment clinics than they might otherwise do if the clinics were restricted to methadone. Most heroin dependents are not prepared to present themsleves to a methadone maintenance clinic until they have been dependent for at least two years, when they begin to tire of the strenuous effort to maintain their habit through the illicit market and they also find that as a result of tolerance they are no longer able to achieve the same euphoria from the heroin. Heroin maintenance has also been resorted to in Britain when it has been impossible to make a person accept methadone. It may be used during an initial stage while trying to persuade a person to go on to methadone. It may also be administered with the object of gradually decreasing the extent of the drug

dependence through dosage reduction, as part of an overall treatment involving therapeutic or social support and follow-up. In all of these cases the essential object is to transfer the patient from dependence on the illicit market to controlled administration of heroin of reliable quality under medical supervision. The hope is that, having made effective contact with him, it may be possible to direct him into other treatment channels.

The chief argument against making it possible for physicians to administer heroin, where they judge it to be advisable, is that there is a serious danger of abuse that will aggravate the heroin problem in the country by increasing the amount of heroin available for unauthorized use, as well as the number of illicit users. Critics of heroin maintenance point to the abuse by a few physicians which took place under the British system during the mid-1960s. Only a handful of physicians were involved—and they have since been removed—but their excessive prescription of heroin made it a very serious problem. Since then, however, stricter controls have been applied, and there have been no further reports of abuse by physicians.

The danger of abuse is a serious one. We already have evidence in this country of the abuse of methadone maintenance resulting in the creation of pockets of primary methadone dependence. We believe, however, that safeguards can be adopted that will reduce the risk of the abuse to acceptable proportions.

Heroin maintenance, if made legally available, should be regarded as a treatment adjunct to be used in exceptional cases. There are several reasons why heroin should not be as acceptable to physicians as methadone: heroin is usually administered intravenously while methadone may be, and generally is, administered orally; heroin has a shorter action than methadone and therefore requires more frequent administration; and heroin produces greater euphoria (and therefore presumably greater impairment of normal functioning) than methadone. It should be pointed out, however, that there does not appear to be any data based on controlled experiments to verify the operating assumption of those who favour methadone maintenance that it permits more normal functioning than controlled heroin maintenance would permit, nor does there appear to be much knowledge about the dose levels that will keep a person satisfied with heroin maintenance but still able to function reasonably effectively. The greater euphoria with heroin and the shorter action, requiring several administrations a day, is presumed to create a greater degree of absorption in the habit, to the neglect of other activity.

To the extent that opiate maintenance must be resorted to, where it is not possible to effect a cure, we prefer methadone maintenance to heroin maintenance: first, because it reduces the heroin population, and thus the contagion factor which is represented by the heroin user in his contact with those who may be induced by him to take up the habit; and secondly, because it is apparently safer, more convenient, and more likely than heroin to permit effective social functioning. On the other hand, we believe that heroin maintenance should be available to authorized physicians as a useful treatment adjunct for the special cases to which we have referred. It is our belief that because of the natural inclination of physicians, heroin maintenance is likely to be used sparingly and that it is not likely to have a significant effect on the illicit market, one way or another. It will merely introduce a measure of flexibility into the treatment process.

As in the case of methadone maintenance, we believe that heroin should be administered only by physicians accredited to specially authorized treatment centres, and then only after a panel of three physicians in the centre have approved such administration. It should be administered on the premises, and the patient should be required to remain on the premises until he is judged fit to leave. There should, of course, be careful record kept and reports made to the government of all such administration. We would contemplate that the treatment centres which are authorized to administer methadone (under the conditions which we recommend elsewhere)

would also be authorized to administer heroin.

It would be wrong to conceal the fact that some of us have varying degrees of misgiving about this proposal, but none of them are strong enough to warrant dissent from the proposal itself. Some of us are not as strongly convinced as others of the necessity or even the utility of the measure. Some of us fear abuse more than others, notwithstanding the requirement of approval by a panel of three physicians. It is felt that such approval, in analogous cases, such as abortion, has often proved to be very much of a pro forma matter. It is also felt that without clear criteria to guide them, physicians may end up yielding to the pressure of patients to go on to heroin rather than to take methadone, and that it would be cleaner and simpler if methadone only were available. On balance, however, we believe that the availability of heroin maintenance will increase the capacity of the overall treatment process to win patients from the illicit market and for this reason it is a justified experiment. There is a feeling that the user of methadone is more likely to stay out of the illicit market than the user of heroin and to have less motive than the latter to persuade others to take up heroin and that for this, and the other reasons indicated above, heroin maintenance should be regarded as a last resort, to be used only in very exceptional circumstances. The problem for physicians will be to maintain the psychological pressure in favour of cure, and failing that, methadone maintenance, when the patient knows he is legally permitted to administer heroin. It is an experiment that would have to be watched very closely.

Needless to say, if heroin maintenance is to be approved, under these strict conditions, for the treatment of opiate dependence, arrangements will have to be made to license the manufacture or importation in approved quantities to meet the requirements of the accredited clinics.

GRADUAL DECREASE OF THE DOSE OF OPIATE

In a working paper produced for private circulation in July 1970 (and subsequently published) by Drs. Gay, Bathurst, Matzger and Smith, an approach to short-term heroin detoxification on an outpatient basis is described as it was developed at the Haight-Ashbury Free Clinic.

Between November 1969 and May 1970 over 450 patients were seen, mainly in the 20–25 year old age group. Limited goals were the use of symptomatic treatment to decrease the patients' habits and to set the stage for long-term psycho-social rehabilitation. These were the results of the six months' trial: 56% dropped out before they were 'clean', (38% after only one visit); 22% still in treatment; 5% clean for more than one month; 12% 'chipping'—using less than once/week; 5% resumed habit.[17]

Boyd (1970) describes a treatment facility with similar aims in London, England, for heroin addicts under the age of 18. The technique used is gradual withdrawal. He states that:

> One of the most striking features of dose reduction in the teenager is the finding that he can reduce his methadone daily intake from an initial dose of around 90 mg to a comparatively low dose of 20 mg. At this point, however, he will entrench himself, and he may do so until he is much further along with his task of maturation.[6]

In 18 months' experience, 131 applied for help, of whom 87 were accepted for treatment. Of these, 39 were lost for various reasons, while 48 are still attending. Of the latter, eight are off all drugs, 35 are maintained on low doses of methadone, and five are maintained on opiates at the same or higher dosage than when they began treatment.

Boyd makes these generalizations from his experience with his adolescent patients.

(1) Compulsory treatment has been unprofitable.

(2) Individual psychotherapy has been successful (contrary to general opinion in dealing with adult addicts).

(3) The psychiatrist functions first of all to take over from the drug, establish a human relationship and then act as a bridge to other relationships, the most important of which is one with a member of the opposite sex who is not involved with drugs.

(4) Short-term inpatient status is not effective. Youngsters too quickly withdrawn immediately leave the unit and quickly return to drugs.

(5) Some consistent personality factors are present: Intense suspicion of other people, especially adults in authority, chronic depression, difficulty in heterosexual relationships (boys often react to adult women explosively and have a great need for adult masculine attachment), guilt feelings and extreme sensitiveness, awareness of emptiness and failure, low tolerance to anxiety and frustration, and a compulsive need for instant gratification.

(6) The outlook for many seems grave.[6]

METHADONE MAINTENANCE

At present the substitution maintenance treatment which substitutes methadone for heroin seems the most promising of all available approaches to the opiate narcotic dependence problem.

As mentioned before, the general experience with the traditional, psychologically oriented treatment of heroin addiction has been most unsatisfactory, at least when dealing with adults. Rejecting the traditional treatment approach, Drs. Dole and Nyswander in the early 1960s began to experiment with the use of methadone to block heroin hunger and to continue the regular administration of methadone rather than to use the drug only during the process of complete withdrawal from opiates.[9,11] In 1965 the New York Department of Hospitals was sufficiently interested in this new approach, which aimed at making an heroin-dependent person a self-sustaining member of society rather than to withdraw him completely, to award a contract for $1,380,000 to enable Drs. Dole and Nyswander at the Beth Israel Medical Center to study the rehabilitation of the "hard core mainline heroin addict."

The relative success of this program was startling: rather than the usual two or three per cent rate of cure at such places as Riverside,[34] the methadone program showed that over 80% of those who entered it had become socially productive.[12,13,14] This new method of treatment, based on a new perspective and different therapeutic goal, was enthusiastically received by many, with the result that today there are over 200 methadone clinics in the United States. At the present time the methadone program in New York State serves more than 5,000 people at a cost of about $1,000–$2,000 per person for the first year and $500 to $1,000 a year thereafter. Fifteen million dollars in state funds have been allocated for methadone treatment in 1971.

However, opposition to the methadone program has also been expressed from several quarters. It has been said that methadone is simply another drug which caters to the addict population and reinforces rather than alleviates the drug problem.[1] Many claim that methadone maintenance is still an unproven experimental program and that further expansion should be limited until more research has been carried out.[30,34]

Dole and Nyswander (1968) believe that opiate abuse can generate a "narcotic hunger" which may last for the duration of the addict life. It seems possible that "a basic character defect might lead to drug use and this in turn to an irreversible addiction in which subsequent behaviour of the subject is determined by conditioned

reflexes or by metabolic changes in neurons, following repeated exposure to narcotic drugs."[12] This theory assumes that the physical "narcotic hunger" which develops in those exposed to heroin, morphine or other opiates will not yield to any amount of psychological treatment alone.

Goals of the Methadone Program

The success of methadone programs is generally measured in terms of social or cultural criteria rather than psychological ones. A return to a normal life style based upon employment, marriage and stability of social interaction is the prime criterion of success. However, the expectation of a normal life style characterized by emotional maturity and complete abstinence in addition to a law-abiding, productive existence is an ideal which in practice is seldom achieved. Because of this, some methadone programs arrange their goals hierarchically. The foremost expectation is that all patients who are treated will become law-abiding citizens, although they might not become productive, mature or drug-free. The next level is to achieve a status in which patients are law-abiding and gainfully employed. The Dole-Nyswander work from New York indicates that 80% of all patients after a year of the program return to what is termed a socially redemptive existence.[12,13,14] These figures have been challenged but have in general been also achieved in Dr. William Wieland's clinic in Philadelphia,[39] Dr. Jerome Jaffe's clinic in Chicago[18] and at Mount Sinai Hospital, Minneapolis.

Pharmacological Characteristics of Methadone

Methadone hydrochloride is a synthetic analgesic opiate differing relatively little in effect from the other opiates. However, in contrast to morphine, it produces neither nausea nor lethargy. It reduces the desire for narcotics and prevents heroin withdrawal symptoms.

As a substitute dependence (see above discussion of "Heroin Maintenance"), methadone is preferable to heroin because its usual mode of administration is by the oral route and its effects persist longer, that is, from 24 to 48 hours instead of 6 to 12 hours for heroin. There is also a slower development of tolerance for methadone. The methadone withdrawal syndrome is delayed in appearance and less intense but somewhat more prolonged in duration than that of heroin. During withdrawal from heroin or morphine, anxiety begins prior to the time of the next scheduled 'fix'; physical manifestations of withdrawal reach their peak between 48 and 72 hours and gradually subside within seven to ten days. With methadone, complaints are minimal until the third day; symptoms of withdrawal peak about the sixth day and then gradually diminish to a minor degree for about 10 to 14 days.

Although conflicting opinions exist regarding the degree of euphoria produced by methadone, it is now most generally accepted that methadone may produce a sustained feeling of well-being but not the intense peak of euphoria which is characteristic of heroin.

The Operation of a Methadone Program

The patients for the program are usually 'mainline' (intravenous) heroin users who have been dependent for several years (with a history of one or more withdrawal treatments), who are not psychotic or mentally retarded and who are without substantial dependence upon other drugs. However, increasingly, clinics and physicians are receiving requests for methadone treatment from young heroin users who have often been taking heroin for little more than eight or nine months and at relatively low dose levels.

A proper treatment program is divided into three phases. The *first stage* is stabili-

zation in an unlocked hospital ward for a period of some days or weeks. During this time a complete medical, social and psychological assessment is carried out and an appraisal is made of the work potential of the individual. During this period of stabilization, methadone is substituted for heroin and is gradually increased on a weekly basis. The aim is to block the heroin craving, and this craving must be blocked without creating euphoria, sedation or nausea in the individual. Most clinics initiate the patient at between 20 to 40 mg of methadone per day, with a weekly increase of dosage of 10 to 20 mg per week until stabilization is achieved. Urine is usually collected daily and tested daily for heroin and other drugs. Most hospitals now have gradually reduced the required stay in the hospital, since Jaffe's work with a totally ambulatory program has demonstrated that the hospital stay made little real difference in the successful outcome of the treatment.[18]

The *second stage* begins when the patient leaves the hospital to live in the community. This stage commences once the heroin-free individual reaches a stabilized dosage of methadone. Normally he returns each day to the hospital or clinic to pick up his maintenance medication which is taken in the presence of a staff member. At this time he also gives a urine specimen. After a specified drug-free period, dosages may be picked up once or twice a week and the *third phase* is reached when the individual, who is now referred to as an 'ex-addict', becomes a socially 'normal', self-supporting individual. The differences between stage two and three are, of course, subjective and differ only in the degree of social advancement and rehabilitation.

Major General Features of Programs

Selection of candidates for a methadone maintenance program varies from acceptance of any applicant to careful screening for those patients who are thought to be most likely to succeed with this approach.

Dispensing is most commonly done by administering methadone dissolved in Tang® under supervision. Daily visits to the clinic are almost universal during the first part of the program, with gradual spacing of visits made possible by issuing doses for self-administration as the clinic develops trust in the individual patient.[a] The maximum released at any clinic is a one-week supply.

Monitoring is done by the testing of urine, usually collected under supervision at the clinic. Analysis for the major drugs of non-medical use is commonly done, but there is wide variation in how each clinic deals with the patient who shows drugs other than methadone in his urine.

Adjunctive therapy is an important feature of some programs but is absent in others in which the dispensing of methadone and its control is the only activity. Where adjunctive therapy is provided as another form of support it includes individual and group therapy, family counselling, vocational retraining, and job placement. Some studies have shown no significant improvement in eventual outcome in those receiving extra assistance. Dole (1969) points out that "there has been very little need for psychotherapy."[12] In a study of 47 programs, Trigg (1970) reports that 19 offer only methadone as their single treatment modality.[36] Trussell (1970), however, states that "it is not just methadone that results in our data of success, it is the various supporting services."[37]

Major Controversial Areas

Foetal Effects on the child of a pregnant mother maintained on methadone are relatively minor and manageable.[28] No congenital abnormalities have been linked to the drug. Addiction of the new born is indicated by the fifth postnatal day with the appearance of withdrawal effects: first loss of appetite, then by the tenth day irritabil-

ity, increased perspiration and respiratory rate, and in some cases an elevated temperature. By the 17th day the infant has apparently returned to normal. Out of a group of 19 such children born in the Bernstein Institute, Paul Blatman found that 6 of the 19 suffered mild symptoms of addiction which he defined as twitching and slight irritability, and 5 of the 19 had moderate symptoms, marked irritation and diarrhea which required control by some medication. However, 8 out of the 19 were totally asymptomatic.

Adolescents on Methadone. In recent years there has been a widespread abuse of narcotics by school-age children, especially in the city of New York, and a vast increase in heroin-related deaths among teen-agers. Various methods of drug prevention are being discussed but little attention is being paid to the treatment of totally addicted adolescents. Federal guide-lines in the United States recommend that no individual under the age of 21 be admitted to a methadone maintenance program. Many feel that this restriction should be dropped to avoid "the years of criminality, incarceration and misery which might be avoided by involving adolescents with a methadone based program."[33]

Prognosis for adolescents in such a program varies greatly. At Johns Hopkins University 30 addicts under the age of 19 were treated with methadone. None of these had ever been successfully detoxified on an outpatient basis, although many had tried on their own or had gone to a private physician for this purpose. Many instances of involuntary detoxification had occurred in institutions such as jail, but these were ultimately unsuccessful. The individuals spent an average of $30 a day for heroin. The average stabilized maintenance dose was close to 60 mg, somewhat below the average for most patients. Of the 30 patients, 13 dropped out of treatment without notice. None of those who left the maintenance or detoxification program did so on medical advice and none were discharged for drug use per se. The remainder are still in the methadone maintenance program. There are several noteworthy differences between the adult and adolescent addict. The adolescent sometimes does not alter his life style and will continue in school or at work while drug-dependent. He has great fear of withdrawal symptoms, but his self-image is not always that of a hard-core addict. Nightingale (1970) states, however, that he has observed, and believes with others, that the adolescent does not differ significantly in his drug habits from the adult.[33]

Parents may be mobilized as a valid force to keep the adolescent doing well in treatment, once progress has occurred, but they do appear less effective in initiating treatment or motivating their child for treatment.

Many directors of clinics are afraid that putting an adolescent on methadone would establish an opiate dependence which can never be removed. Prior to putting an adolescent into such a program, most feel that elaborate psychological techniques should be used, as well as careful investigation—including hospitalization for several days' observation—to establish whether the adolescent is really physically dependent or simply using heroin as a 'downer' for amphetamines, or using it only occasionally for its euphoric effects ('chipping').

Side Effects. There has been little evidence of toxicity reported in relation to methadone maintenance treatment when dosages are used that are high enough to produce a heroin blocking effect (40–120 mg). Neuromuscular function is relatively unaffected. Many side effects reported by the addicts, such as, impotency, delayed ejaculation, loss of sexual interest, seemed to be present prior to the administration of methadone.[5] An increase in fluid consumption, urinary output and perspiration may be accounted for by the general increase in alcoholic beverages consumed by patients in the program. Constipation is common in the early months of treatment and should be controlled.

Most studies show a general improvement in health and well-being with weight gain

occurring in about 80 per cent of patients. This increase in weight has constituted a problem for some patients, particularly females, and attempts to control it have included the prescription of amphetamines as anorexogenic agents. In the Wieland-Moffett study 70 per cent of the patients were taking amphetamines on a regular basis. This is a very questionable practice, because of the dependence-producing qualities of amphetamines themselves, as well as their doubtful value in long-term weight control.

Dosage. Many workers describe two levels of maintenance dosage: the amount of methadone necessary to avoid narcotic craving and the amount essential to block the euphoric effect of the average street sample of heroin. Whether these are one and the same problem is still a matter of some conjecture.

Dole (1970) feels that a high dosage is essential to block heroin effects, whereas narcotic hunger is reduced with doses as low as 25 mg per day.[10] In their original program, Dole and Nyswander (1968) found that almost all patients could be stabilized on a dosage between 80 and 120 mg daily, and in fact, anyone requiring a higher dosage than 120 mg would probably not benefit from methadone maintenance.[12]

Jaffe (1970) reported on a one-year follow-up of patients stabilized on relatively low doses of methadone (approximately 40 mg per day). These patients represent an unselected group of volunteers treated entirely on an ambulatory basis. Another group was stabilized on 100 mg. Over a 17-week period the groups were compared with respect to arrest rate, social productivity, illicit drug use, and the discharge and dropout rate. There were few differences manifested. The only significant difference was that the low dosage group had a higher incidence of illicit heroin use. This supports Dole's hypothesis that while the hunger is reduced, little blocking action takes place with the low dosage.[18]

Kramer (1970) has stated that:

> ... some programs have experimented with daily doses of methadone substantially below the level required for 'narcotic blockade' and even below that required for suppression of 'drug hunger'. These programs report more heroin use and higher failure rates than do those which use higher maintenance levels.[22]

Most clinics attempt to adjust the dosage to the needs of the individual patient. The wide range of effective dosage may be related to the extent of the patient's habit prior to entrance into the program. In Great Britain, where the potency of street heroin is quite high, higher methadone levels are apparently needed in maintenance programs. This may be relevant to the Canadian scene where better quality heroin is available than in New York, at least to the new younger middle-class adolescent user.[30]

Individual programs differ as to whether the patient is informed of his dosage level. The Toronto Clinic of the Addiction Research Foundation carefully avoids giving this information, while the Bedford-Stuyvesant Clinic in New York prints the dosage on each dispenser. There is some evidence that if the patient is aware of his dosage he may enter into competition with other patients and attempt to manipulate his dosage to higher levels.[18,30]

Illegal Use of Methadone. Considerable concern has been expressed by workers who are convinced of the value of methadone maintenance programs but who are also aware of the great potential for abuse which the availability of legal methadone provides. Even in carefully regulated programs, where administration is strictly supervised and only short-term dispensing is done, some methadone leaks into the illegal market.

Unquestionably, the greatest illicit use occurs in the prescription of methadone by private physicians who have no facilities for laboratory monitoring or social follow-up, who prescribe more than two days' supply for self-medication and for 'self-

withdrawal' (which is, in fact, impossible), and who cannot be certain that they are the sole source of supply for individual patients. Study of prescriptions across Canada shows evidence of serious abuse of this method of obtaining methadone: private physicians carrying large caseloads of methadone patients and individual patients receiving continuing supply from many physicians. We have had other evidence of some physicians being extremely careless in determining the indication for the prescribing of methadone. It is highly probable that under these conditions much of the privately prescribed methadone reaches the illegal market and is contributing to a growing population of primary methadone addicts.

Evaluation of Results

Chicago

Jaffe (1970) reports a study of 60 patients who were randomly assigned to treatment from a waiting list and stabilized on low doses of methadone. One year later, in November 1968, 75 per cent of these first patients were still in treatment and of these 75 per cent were working. Only 15 per cent still showed use of illicit drugs, and some patients expressed interest in withdrawing from methadone. In the period January 1 to September 1, 1968, 79 patients were randomly assigned to ambulatory programs. As of September 1969, 58 were still in active treatment. Of the 21 no longer in treatment, one had died, and four, who dropped out after withdrawing from methadone, were not re-addicted and were working or functioning at socially acceptable levels. Of the 58 in treatment, 17 had voluntarily withdrawn from methadone but continued either in group therapy or in a therapeutic community, and 80 per cent of the group are functioning in socially acceptable roles.[18]

St. Louis

As reported by Knowles, Lahirii and Anderson (1970), the St. Louis program accepted 394 patients in its first year of operation. Of the 103 admitted prior to June 1969, 39 per cent left the program prior to completion, those under the age of 25 years showing a poorer retention rate than the older patients.[21]

Philadelphia

Dr. W.F. Wieland reported to the American Psychiatric Association that between 1964 and 1968 more than 700 hard core heroin addicts had been treated with methadone. Of these, 91 per cent remain under treatment, and 70 per cent are employed, attending school or functioning well, while the other 30 per cent have at least stopped heroin dependence with its attendant criminal behaviour.[39]

Minneapolis

Dr. R.A. Maslansky in his first annual report of the Mount Sinai Hospital Methadone Blockage Treatment Program describes progress to May 1, 1970. During this time 137 patients were referred of whom 92 were accepted on the following selection criteria:

1. At least 21 years old (75% were under 29);
2. Request for treatment was voluntary;
3. Evidence of long-term opiate dependency is irrefutable;
4. Previous reasonable efforts at other programs have been unsuccessful;
5. No legal or medical contraindications to entering the program.

Males comprise 82 per cent of the group. The Minneapolis population is unusual in

that the majority of patients began their drug involvement with codeine-based cough syrup and graduated to other legitimate opium-based pharmaceuticals rather than heroin.

At the end of the first year 72 patients were still in the program. The level of employment increased from 54 per cent prior to treatment to 77 per cent.

Following another six-month period, 49 new cases were added, another 20 lost, leaving 101 still in treatment of whom only 11 are unemployed.

Montreal

Dr. H. Kravitz reported to the Canadian Hospital Association in 1971 that the only methadone program in the Montreal area is a small one, begun in 1966 at the Jewish General Hospital. Of 20 patients treated in the four years, 11 remain. The original three patients are still in the program and are working or going to school.[24]

Toronto

The Addiction Research Foundation of Ontario is operating a two-year pilot study in Toronto directed by Mr. Edward Milligan. Patients selected are over 21 years of age, have been addicted for at least two years, have no real multiple drug problem, and voluntarily seek admission. Of the first 100 patients admitted, 56 are still in the program and are employed. All others have either relapsed, are in prison, or dead.

Baltimore

The Man Alive program, reported by Davis (1970), is unusual in that its patients are part of a private practice. Early success is shown in a 12 per cent loss rate and in the fact that 131 of 146 patients in October 1969 were employed or functioned as housewives.[8]

New York

As the result of previously mentioned favourable evaluations, New York State has designated $15,000,000 for methadone maintenance programs. As many as 20,000 heroin addicts were expected to be receiving treatment by April 1, 1971, as well as the 1,140 patients who are being treated in the facilities of the Narcotic Addiction Control Commission.

Vancouver

The Narcotic Addiction Foundation of British Columbia has operated a methadone maintenance program since 1964, which has provided over 1,000 patients with methadone and social counselling.

The input consists of parolees, referrals from probation officers, as well as those seeking voluntary admission. As of November 1971, about 340 patients were under active treatment. Entry consists of a brief interview and a questionnaire concerning personal history and drug involvement. A screening medical examination is done and a decision made as to whether to attempt ambulatory withdrawal or to aim at a maintenance program. For a pilot experimental period of four months terminating in January 1971, patients were assigned randomly to either medication only or medication plus counselling. The foundation has undertaken an evaluation to determine, from the results of this experiment, the possible value of therapy as measured by length of time patients remain in the program and by success in social adjustment.

Urine samples are taken under supervision for testing in the lab which is in the same

building and handles a load of about 4,000 samples per month at a cost between $1.25 and $2.00 each. Processing is done in batches of 40 and takes about 24 hours, although individual specimens requiring special attention may be tested in about two hours.

Medication is provided in Tang® and consumed under supervision. At first, patients come daily, then they may pick up medication for the week-end and later, if reliable, may pick up supplies for two days at a time.

Various reports have been made concerning the effectiveness of the program during its history. On January 1, 1970, there were 270 patients in the program; six months later only 130 remained.

In a program to examine the abstinence-relapse patterns among heroin-dependent persons receiving methadone treatment on an out-patient basis, the Foundation selected 49 patients (34 males, 15 females) who met the following criteria:

1. They must have first come to the Narcotic Addiction Foundation for treatment on or before December 31, 1966.
2. They must have been in treatment and on a methadone maintenance program for at least 50% of the time between January, 1966 and March, 1970.[32]

This core group of 49 patients had done best in treatment of all patients treated since 1966. They are comparatively old, ranging in age from 28 to 75 with an average age of 45.3. They are long-term addicts: habits range from two to 57 years with an average of 20. Only eight have had no relapses during the period studied; the other 41 have spent an average of 20 per cent of the time on heroin. There is evidence that the older addicts had fewer relapses and that relapses in most cases were stimulated by psychosocial crises, including marital problems. As would be expected, patients with addicted spouses show high relapse rates.[32]

Review of Programs

Kramer (1970) states that after six years' experience there are perhaps 10,000 patients in about 50 programs in the United States, and:

> about 80 per cent of the patients who have started remain in the program and free of dependence on the use of opiates other than methadone....[M]ost have resumed productive lives; the remainder, though unemployed, no longer engage in illicit enterprise.[22]

Summary

The status of methadone maintenance as a major treatment modality for opiate dependence remains controversial. Crucial to most negative attitudes towards methadone maintenance is its acceptance of a substitution addiction as the ultimate solution. Advocates of the therapeutic community approach are perhaps most vocal in their opposition.

Although the approach may be labelled 'experimental', even the most dismal of follow-up statistics provide more consolation and hope than the overall results of programs whose aim is abstinence, particularly the expensive long-term compulsory incarceration of addicts. One may accept philosophically that the ideal management of heroin dependence is personalized therapy aimed at total rehabilitation of the individual and including eventual absence of any drug abuse. Even if such a program would be accepted by a significant proportion of opiate users, the cost of it in dollars and presently non-existent trained personnel would be prohibitive for an opiate-using population in Canada which may be conservatively estimated to be at least 10,000. For better or for worse, methadone maintenance provides to date the cheapest and most effective weapon we have for dealing with large-scale heroin dependence.

Recommendations for Methadone Maintenance Programs

1. **Methadone maintenance programs should continue to be developed as a method for the management of opiate dependence and should exist in all geographical areas.**
2. **Scrupulous care, including a period of residence in a clinic or hospital, should be taken in screening candidates for methadone programs to ensure that they are indeed physically dependent on an opiate.**
3. **Methadone maintenance programs should be developed only—and methadone be available only—in specialized clinics, preferably hospital-based, as part of an overall maintenance program serving an area. The prescription of methadone by private physicians should be terminated except where there is a special arrangement with the clinic, and then under continuing close supervision by the clinic. This exception should be permitted only where auxiliary facilities, including counselling services, laboratory monitoring, and careful control including monitoring by the Food and Drug Directorate may be ensured.**
4. **In special cases where the patient cannot reasonably have regular access to a specialized clinic or authorized physician because of geographical location, private physicians, pharmacists, public health nurses or other suitably qualified persons may be authorized to administer methadone. In such cases, however, the person specially authorized to administer methadone should perform the necessary counselling and monitoring services and should make regular reports to the specialized clinic which has assumed and retained overall responsibility for the patient's maintenance program. Alteration of the dose of methadone should be subject to prior approval by the specialized clinic. This exceptional procedure of administration should be authorized only after the patient's adaptation to methadone has been clearly established.**
5. **All persons who are offered methadone programs should first be clearly informed of the nature of this treatment and of other treatment options available to them.**
6. **All established programs should institute intensive evaluation to identify the characteristics of their patients, the types of patients who remain in the program, and the success rate as measured by the criteria indicated under Goals of Methadone Treatment above. Data gathered should include age, sex, socio-economic background, education, duration of drug use, types and patterns of drugs used in the past, full family and occupational histories and personality profiles. Such data should be available to all the specialized clinics.**
7. **An opiate user should be considered for methadone maintenance only where it has been established that he is dependent on opiate use and where, in the opinion of a physician, it appears likely that other alternatives would not be successful.**
8. **Since the administration of methadone to young persons may be preferable to incurable dependence on heroin, we do not think that such administration should be precluded in principle but that it should be left to the discretion of physicians. When it is administered to persons under 18, such administration should be preceded or accompanied by intensive efforts to effect a cure by psychotherapy.**

RECOMMENDATIONS FOR THE TREATMENT OF OPIATE DEPENDENCE

1. **Because of the high cost of treatment programs and their relative lack of success, major efforts should be directed toward the *prevention* of opiate narcotic dependence, particularly among young people. These efforts should include early identification of high risk persons, particularly chronic amphetamine users.**
2. **Community treatment facilities for dependence on opiate narcotics should have built-in *evaluative and research components.***
3. **Wherever feasible, such facilities should be equipped to provide the full range of treatment programs. Where this is not possible in a single complex, adequate provision should be made, by referral, for giving the patient access to the full range of treatment opportunities.**
4. **The recommended course of treatment in the usual case would be as follows:**
   - **(a) Treatment of acute effects in hospital with gradual withdrawal, using methadone.**
   - **(b) After this stage, and suitable evaluation, the patient should be offered either:**
     - **(i) Individual or group psychotherapy, vocational guidance, job placement and similar rehabilitation measures,**

       or

     - **(ii) Maintenance on a narcotic antagonist with close follow-up on an outpatient basis. Such maintenance should not serve only a 'watch dog' function but should include active intervention in the life of the patient, such as the provision of occupational or educational opportunities and daily assistance in coping with problems. This can only be satisfactorily accomplished if counselling is available during the evening hours.**
   - **(c) In all cases, the physician should make regular, not less than weekly, urine tests to monitor the patient's drug use.**
5. **After a reasonable trial of this program, those who fail should be offered a choice of methadone maintenance or other opiate maintenance (subject to the conditions outlined above), or residence in a therapeutic community.** [See Appendix B for an estimate of costs.]

Because it raises philosophic issues as well as issues of efficacy and feasibility, the question of compulsory treatment can only be properly considered in the whole context of legislative policy with respect to the non-medical user of drugs. In Canada it also raises constitutional issues. We therefore reserve our recommendations on this subject to that part of our Final Report which deals with the role of law generally.

III. THE TREATMENT OF HIGH DOSE AMPHETAMINE (SPEED) DEPENDENCE

No discussion of the treatment of those who become dependent on large doses of injected amphetamines (Speed) is of value without a preliminary profile of the speed user as well as an understanding of the symptoms and signs of speed use.

THE SPEED USER

Canadian clinicians with whom we have spoken have stated that many of the speed users whom they have seen have had the following characteristics:

(1) They have experienced personal, family or legal troubles prior to drug use.

(2) They have had reason to feel inadequate in one or more areas of their lives: poor academic performance, failure to meet parents' expectations, replacement by a younger sibling in their parents' affection, physical disability limiting their full participation in life, or (in males) delayed puberty with resulting doubt concerning their masculinity.

(3) They have a parent whose alcoholism was disruptive to family life during their early years.

(4) They exhibit a coldness toward members of both sexes and usually have had no close friends during their early years.

The suicidal lure of speed use cannot be dismissed lightly, although this aspect is denied by some observers. This is the only drug whose bad effects are overstated in the drug subculture and although most chronic users are forced to seek treatment for complications which frighten them, they keep coming back to the drug. A physician has reported the following cases from Hamilton, Ontario:

> One veteran of the scene came to the clinic with outrage in his voice: 'I thought speed is supposed to *kill*. I've been shooting for two years and I'm still around. What the hell!' One dealer whom I treated for the acute onset of hepatitis coinciding with a crash from a long run was so very ill that he and his colleagues thought he was dying. Afterwards he admitted 'I wanted to die until I realized I really was going to and then I decided I didn't want to after all.'[1]

Boyd (1970) discusses seven basic reasons why adolescents may be drawn to taking drugs. Of these, he considers two critical:

(1) Drugs provide an avenue of escape when stress is overwhelming.

(2) Drugs offer a means of destroying that part of himself with which the adolescent cannot come to terms. Thus, drug use takes on the dimension of a chronic unconscious suicidal pattern.[3]

This investigator considers that when the adolescent starts to use drugs in earnest for the above two reasons "opiate addiction would seem to be almost inescapable for him." It is interesting that these two motives are common to most speed users.[3]

Speeders form a select subset of youthful drug users because they have passed the 'needle barrier'. Most who pass this barrier cannot be considered 'normal', although a few sneak through because of peer group pressure or because of a temporary crisis in their lives. The profound immediate effect of intravenous injection—the 'rush'—cannot be underestimated as a compelling attraction to continued amphetamine use. The majority of those who experience it once will do so again and again. It is even more difficult to find a large sample of people who have used speed intravenously only a

few times. When asked to describe the rush, users fall into two categories:

(a) The chronic user who becomes almost inarticulately ecstatic: "Like you can't describe it....you feel it all over....a total body orgasm...."

(b) The smaller number of occasional users who have been able to "take it or leave it" and who describe the rush enthusiastically but more articulately. "Right away you have this hot feeling...your heart beats fast and so loud you can hear it."

Most workers consider speed users at least as difficult to treat as those addicted to opiates. Long-term follow-up is rare, as speeders weave in and out of treatment facilities and are rapidly lost for statistical purposes.

A Swedish follow-up study of 74 treated, intravenous amphetamine users, reported by Gunne and others (1970), reveals a depressingly dismal record of recovery by speed users. (See Table 1.)

TABLE 1

RECOVERY RECORD OF SPEED USERS

	No Relapse (%)	Now Drug-Free (%)
6 Months Post Discharge	13	16
12 Months Post Discharge	5	12

According to Table 1, then, only 13 per cent of those studied had been free of drugs continuously after six months and only 5 per cent after one year. However, during the year of observation from 12–16 per cent of users had become drug-free on and off, at least for a time.[10]

SYMPTOMS AND SIGNS

Appearance. The chronic speed user is characteristically thin because of malnutrition and because speed use is most common among late maturing males of ectomorphic build. He is usually unkempt, unwashed, and has the characteristic odour of overworked sebaceous glands. He experiences frequent tremors, abrupt mannerisms and tics, especially jaw clenching. His hyperactivity includes scratching and picking his lips and cuticles which show redness, bleeding, and often secondary infection. Acne and other skin infections also are common among speed users.

Physical Examination reveals the following: His blood pressure is elevated and the heart rate often exceeds 150 per minute. Superficial veins show the characteristic 'tracks' with bruising, tenderness, varying degrees of infection and clotting within the veins. Lymph nodes are often enlarged because of infection or insoluble particles which have been injected.

Mental Status. The strung-out user is usually very talkative, indulging in flight of ideas, rapid speech, and incomplete sentences which make comprehension difficult for the listener. His anxiety and tenseness are revealed by his rapid reaction to questions and movements of the examiner and easy distraction by background sounds which startle him. He may experience incidents of paranoia and hallucinations, depending on the duration of the present run and the degree of sleep deprivation. Some appear with a full-blown paranoid psychosis. Compulsive behaviour is common.

Speeders are difficult patients who are hard to love—cold, suspicious, unco-opera-

tive, often violent, totally unreliable. Their coldness usually stems from a longstanding inability to form close attachments or to relate to other people. A negative reaction by other people to their coldness confirms their fears that they are incapable of attracting others to them. Their paranoia is based on fact: they are the object of considerable police attention, they fear discovery and arrest, they usually owe money and have 'ripped off" or 'burned' others who will eventually catch up with them. Moreover, they fear that the person to whom they go to seek help will at best give them an unsympathetic 'hassle' and at worst turn them in to the police. They show a specific distortion of time sense where past and future have become meaningless words. They may agree to keep an appointment for tomorrow at 2:00 only to be agreeable, while in fact they have no concept of what the agreement involves. When they fail to show up they are written off as being untruthful and unreliable.

COMPLICATIONS OF SPEED INJECTION

The Crash

During a *run*, injection of increasingly higher doses occurs every few hours for some days with usually little eating or sleeping. Symptoms and signs increase in severity with length of the run. Eventually a *crash* occurs after withdrawal from the drug, through eventual fatigue and collapse or through taking a 'downer'. Sleep is profound, lasting for 24–48 hours, and during the first few hours it may be impossible to rouse the patient. Following the crash, *withdrawal-like* symptoms appear with severe depression, drowsiness, anxiety, cramps, and hunger.

Overdose

Overdosing occurs because of variation in the strength of street drugs, loss of tolerance following a period of abstinence, or uncontrolled repeated injections in pursuit of a rush. The condition which is usually termed 'overamping', usually shows a rapidly changing pattern of autonomic responses with alterations in heart rate and rhythm, flushing and blanching of the extremities, great anxiety and a feeling of impending death. The patient frequently complains of chest pain and may have difficulty in breathing. He may show signs of paralysis which can be differentiated from a stroke by its unusual pattern and its response to reassurance.

Despite the widely used slogan "Speed Kills", remarkably few deaths have been directly traced to amphetamines. However, the clinical signs of severe overdose may include:

- Agitation, delusions, and hallucinations;
- High temperature;
- Severe acidosis;
- Shock leading to cardiovascular collapse;
- Hemorrhages in various organs including the brain.

Infection

The use of contaminated needles and street drugs results in a variety of local and systemic infections in speed users. Boils, abscesses, and infected veins are common. Hepatitis is increasing as a complication of speed use.

Tetanus is named by Helpern as one of the causes of death among New York City drug addicts:

> Subscutaneous injections or 'skin popping' may also introduce spores of Clostridium tetani

> and give rise to fatal tetanus infection with characteristic symptoms. Such cases are more frequently encountered in women than in male addicts, and death is more likely to occur after hospitalization for the convulsive seizures and trismus. A possible reason why tetanus is less frequent in male addicts is that working men, especially in the labourer class, are more likely to be immunized with tetanus toxoid as part of a prophylactic program designed to combat this disease. In this connection, it is interesting to note that in New York City, in recent years, fatalities from tetanus have been observed almost exclusively in the narcotic addict population. In these cases, it is usually possible by careful searching to find one or more of the indurated or fluctuant deep abscesses containing abundant gray pus from which the tetanus organisms can be cultured.[11]

Although tetanus is not presently a problem in Canada, perhaps because of widespread immunization of young people using speed, the possibility of tetanus developing suggests the importance of giving tetanus booster immunization to identified speed users.

Effects on Liver

A common complication of intravenous amphetamines is the development of hepatitis. There is increasing evidence that liver function is impaired even in speed users who do not develop this infection.

Although we have little documentation, an increasing proportion of patients admitted to hospitals with hepatitis are discovered to be intravenous drug users. They also tend to show persisting abnormal liver function after clinical signs have subsided and they have been discharged from hospital. Liver function tests are rarely performed on these patients prior to the development of hepatitis, and so it remains doubtful whether altered liver function pre-dated the onset of the infection or whether their recovery course from hepatitis is slower than usual.

Dr. Owen J. Kealey, an Ottawa physician, has been studying liver function in chronic amphetamine users. In a personal communication of work in progress he describes liver cell damage and abnormal liver function in chronic intravenous amphetamine users who do not show overt clinical signs of hepatitits. Also the microscopic appearance of the liver is not that of hepatitis. It is uncertain whether the liver damage is related to direct drug effect or to the chronic malnutrition which accompanies the use of speed. He feels that the long-term prognosis for these people is bad and that many will develop cirrhosis of the liver.

A study of intravenous drug users in Savannah, Georgia was reported by the United States Department of Health, Education and Welfare in December 1969. During the year, 33 cases of hepatitis had been reported, including teen-age deaths. A special clinic was set up to investigate a sample of 70 drug users who had used intravenous drugs for periods ranging from two to 12 months. These included eight who had already been hospitalized for hepatitis. An additional 23 had clinical histories suggesting hepatitis or showed abnormal liver function. The presence of Australia Antigen (probably a special virus) in six suggested that they were suffering from so-called 'serum hepatitis'.

Dental Problems

Although the etiology is not clear and may involve malnutrition and lack of oral hygiene as well as the direct effect of amphetamines, speed users rapidly develop severe dental and periodontal disease. The gums and supporting tissue of the teeth deteriorate to the point of loosening—and eventual loss—of the teeth. An excessively high number of caries also is common and caries appear to develop more quickly than in other patients who neglect dental care.

Other Complications

Citron and others reported in 1970 on 14 young drug abusers who developed serious damage to the walls of their blood vessels (Necrotizing Angiitis). Methamphetamine had been used in large dosage by 12 of the patients. Of these, four died of complications.[4]

The intravenous injection of tablets designed for oral use is hazardous because they contain an insoluble, unabsorbable filler (usually talc). Bainborough and Jericho (1970) describe a drug addict who developed lesions surrounding such foreign particles which had been filtered out in the lungs. Lung congestion led to heart failure and death.[2]

TREATING SPEED USERS

General Principles

No drug problem elicits such universal pessimism among those concerned with treatment as the task of reclaiming a chronic speed user. At the Commission's public hearings, though most speakers felt that speed users were in need of treatment, there was a general tone of pessimism regarding the likelihood of success with any form of treatment. No speaker suggested he had the answer, even those who had personally attempted to administer therapy. Rather, possible types of treatment and their problems were discussed. As some observers put it bluntly: "There are no really successful therapies as yet."[8] Initial withdrawal from the drug is relatively easy, but maintaining abstinence is defiantly difficult.[13]

Factors hindering rehabilitation include the difficulty of enticing the speeder to seek help, the impossibility of establishing any meaningful communication while he is strung out, his generally negative behaviour, the lack of facilities for long-term isolation from the environment which supports his life style, and the compelling craving for the drug that results in repeated defection whenever success in rehabilitation appears to be in sight.

'Speeding' is a way of life which, despite all its obvious trauma, many prefer to the straight life—primarily because a sense of adequacy and belonging, lacking prior to drug use, is artificially produced. The sharing of the same needle makes speeders in a real sense blood brothers. They also share the same enemies: other adolescents who will not accept their bizarre behaviour, parents who have contributed greatly to their present alienation, the law enforcement agencies who view them as a scourge on the community.

Since the speeder invariably has a long history of drug abuse, and has long since become accustomed to the mood changes produced by drugs, he has lost awareness of what a drug-free existence entails. He does not view his state as an illness but as something he enjoys profoundly. He is not crying for help to escape a habit; he is demanding that you get off his back and leave him to it, except perhaps to tidy up any unfortunate hazards of the occupation, such as hepatitis.

Any successful form of treatment must take these facts and perspectives into account.

Withdrawal from speed is best achieved in a hospital.[6,7] The abstinence syndrome following intravenous amphetamine use is almost certainly greatly underestimated. The patient will need help with the deep depression and long-term drowsiness following withdrawal and with his urge to 'shoot up just once' to get relief.

Patience needs to be cultivated within the therapeutic team to allow some days of

recovery before exploring the patient's background and underlying problems. Until sleep, rehydration, nourishment and a relatively stable emotional state have been regained, therapy will not only be ineffectual but will precipitate the patient's rejection of the program. As the therapist gains the confidence of the recovering patient it becomes evident, as Tookey (1969) points out, that "the drug itself is not the primary problem....the real issue is a chronic depression around which a life style develops."[15]

Rapid recovery, both physical and behavioural, can be so striking that premature termination of treatment is common—resulting in immediate relapse. Prolonged isolation from outside contacts and careful monitoring of possible clandestine drug use, even in hospital, should be maintained.

Because we lack long-term facilities, premature re-entry into regular society is commonly forced on speed users. During this rehabilitation period the gaps, which have become evident in the patient's life, must be filled. He must learn self-motivation and to assume an independent existence without recourse to his old life style and friends. A return to this familiar social environment will virtually assure a return to the drug scene. Often, when dealing with adolescents, physicians place great emphasis upon a return to "normalcy" which is usually assumed to be the pre-drug state. However, it should be remembered that it was this original state which drove the individual into addiction initially, and unless basic changes are made in this state, relapse is inevitable.

Therapeutic Communities

Therapeutic communities deal with 'speed' users and while no statistical information is presently available, some claim a high measure of success. The problem, of course, is to entice an individual into such a program, particularly when the typical candidate must be motivated enough to "fight his way in". Many speeders refuse to approach such institutions until their life becomes utterly desperate simply because they are not unhappy with their present state.

Dr. Rowen Hochstedler of Odyssey House, in New York, states that intravenous amphetamine users "tend to be harder to treat than the usual heroin addict, as they are even more manipulating" and because they have an irrepressible craving for the drug. On the basis of considerable experience in the treatment of these individuals he comments that:

> ... our general approach to these drug users does not differ significantly from others. We feel that the underlying personality and behaviour disorder is in fact the same disease and therefore can be treated in the same manner that has worked for other drug users.[12]

The Ontario Addiction Research Foundation has recently established a therapeutic community in London, Ontario, which is specifically designed for young speed users. It is too early to assess the effectiveness of this program, but at the end of four months, 12 members of the community were showing apparent progress. The Ontario program resembles that of Odyssey House, in that it has four phases extending over 18 months aimed at preparing the graduate to be a functioning member of society. (This program is described more fully in the section on Therapeutic Communities).

Various proposals are in various stages of implementation to develop 'Speed Farm' type treatment communities which rely on removing the patient from his former environment, the stimulating effect of a totally new setting, the support of peer group approval, and the chance to design new life goals.

The Swedish Experience

Sweden has had to cope with a particularly disturbing amphetamine problem during the last ten years. In 1970 it was estimated that there were about 10,000

intravenous amphetamine users in that country.[9] A specially appointed Government Committee published the following recommendation in 1967:

> With regard to the treatment of abuse of drugs the Committee considers that this is primarily a task for the psychiatrist. In the Committee's opinion it is not advisable to establish an independent treatment organization for abusers of drugs side by side with the public health organization, on the model of, for instance, the treatment of alcoholics. On the contrary, the Committee considers that it is preferable that drug abusers should be cared for as far as possible together with other patients. The Committee thus considers that drug abusers, as at present, should to a great extent obtain help from the existing psychiatric treatment facilities.
>
> For those who cannot adapt themselves to this treatment framework, the Committee suggests special measures. These are based on the idea that the 'open care' of drug abusers must be supported by closed psychiatric units with access to well-equipped clinical laboratories. Furthermore, effective after-care is absolutely essential. Therefore, for open care the Committee proposes a strengthening of the special clinics and for enclosed care it suggests wards of 10–12 places....[14]

In 1969 a Government-appointed expert Committee on the treatment of drug addicts worked out further recommendations. Gunne (1970) reports on these as follows:

> Great emphasis is being laid upon patient democracy and the realization of a therapeutic community according to Maxwell Jones. After these recommendations appeared in December 1969 a number of small treatment units have been set up, to some extent under the leadership of local temperance boards in various parts of the country. Many of these units have had no medical advisers or only temporary contacts with a local psychiatrist for specially disturbed patients. To begin with there was much uncritical enthusiasm among the staff and the patients, but this was soon followed by disappointment, drug trafficking and disorganization. Little or nothing was done to evaluate the effect of the treatment.
>
> In other institutions there was instead a development in the direction of a Synanon-type of micro-society. In these cases a central group of patients have taken over the decisions generally enjoined upon the staff. This has led to discharge of abusing addicts while the restored patients tend to stay in the wards for a considerable time, forming a senate of patients which judge and manipulate the behaviour of the rest in a rather rigorous manner. As is the case within Synanon, most patient groups in this situation are opposed to chemical drug control.[9]

Two Swedish studies were undertaken with the special aim of evaluating the success of treatment. In one reform school for asocial girls at Ryagarden, individual and group therapy was started on a regular basis.

Occupational therapy and a rich variety of recreational activities (horseback riding, swimming, skiing) were also offered. The attitudes of the girls changed for the better, in the direction of greater optimism and self-confidence. However, the number of girls running away from the school remained unchanged as compared to a previous control period. Several relapses of drug taking were reported, but no exact figures are available.

Another study in Upsala tried to focus on 'chemical rehabilitation' (urine tests free from drugs). Urine was analysed 2–3 times a week, and 25 per cent of the specimens were positive for drugs. This proportion was eventually reduced to a strikingly low 0.5% and later stabilized at 6%, but only after a strict rule had been enforced that no patient was allowed to walk alone in the park as long as any patients had positive urine tests. Those in charge of the program found that the introduction of necessary restrictions, like the above, did not necessarily eliminate the possibility of establishing a constructive and therapeutic emotional contact with the patients.

In a recent personal communication to our Commission (June 1971), Dr. Gunne

reported that in his community-organized clinic for drug users—mainly amphetamine users—about one-third are admitted on a compulsory basis. However, all of these were acutely intoxicated on admission and obtained voluntary status within a few days after detoxification. There is a drop-out rate of 17 per cent after detoxification—whether admitted voluntarily or compulsorily, while 83 per cent choose to remain as in-patients on the program, which lasts from four to six weeks. The relapse rate is high, but contact with all patients is usually maintained for a period of two years. The staff of the clinics is responsible for the follow-up contacts, by telephone and visits.

Dr. Gunne expressed optimism about a new chemical antagonist which effectively blocks amphetamines and seems to offer great hope for a successful combination of chemical, social and psychological therapies.[10]

Queen Street Mental Health Centre, Toronto

William Clement has described a study of 1,000 chronic speed users in Toronto. Using as the criterion a speeder's ability to function in society without using speed, Clement claims that 40 per cent of Queen Street's patients remained stabilized one year after discharge. The program had three aspects:

(A) *Admission to hospital* for two weeks for evaluation and detoxification. During this time laboratory assessments of liver, kidney and cardiovascular function were made.

(B) *Chemotherapy* of heroic proportions was aimed at controlling abstinence symptoms and treating depression.

(C) *Referral* on a discharge to a 'true believer' program appropriate to fit the psychological needs of the patient, for example, Scientology, Yoga, etc.

Drugs used were:

2 mg Haloperidol qid, PRN (on demand) (Haloperidol: used in treatment of psychotic states marked by agitation, mental confusion, or paranoid symptomatology);

50 mg Orphenadrine qid (Orphenadrine HCL: used in treatment of muscle spasms);

25 mg Amitriptyline qid (Increase to 300 mg per diem in 25 mg increments), (Amitriptyline: used in treatment of mental depression);

25 mg Chlordiazepoxide h.s. (Chlordiazepoxide: a minor tranquilizer, in sleep-inducing dosage);

Vitamine B Forte with C (to eight caps per day), (to support enzyme systems).[5]

Blockage of Amphetamine Effects

Narcotic antagonists, such as cyclazocine, suggest the possible value of agents blocking the effects of amphetamines. One group of such substances are those which inhibit catecholamine synthesis. Gunne and others (1970) used alpha-methyl-p-tyrosine in a clinical trial and found that, although it blocked the effects of amphetamines by the second day of its administration, by the seventh day the effects were returning because of the development of tolerance to the blocking agent.[10] Unfortunately, the rapid development of tolerance renders this drug useless for long-term treatment. Further research is needed to discover other substances, perhaps neuroleptics, which may provide effective blockade for longer periods of time.

Burlington Study

A long term study of speed use in Burlington, Ontario, has given investigators an opportunity to observe both the pattern of use and also how intervention can alter its course.

Treatment is offered through street work and a storefront clinic. Speeders seek help because of medical or legal complications, rather than because they want assistance in stopping speed use. There are no residential facilities in the region for long term rehabilitation of speed users, and so we have at least learned the overwhelming difficulties involved in ambulatory management. Where possible, because of medical complications such as hepatitis, patients are admitted to the hospital for one to two weeks for detoxification. Unfortunately, they then return to the same home and friends who had contributed to the maintenance of their former drug habit. In spite of frequent contact and continued counselling, it has been possible to achieve the goals of abstinence from speed use and responsible social functioning in only about one in four patients. The success rate is improving, as the team is improving its techniques and also now recognizes that results cannot be evaluated for at least a year after original contact with the patient. Persistence in the face of numerous relapses does yield results.[1]

SUMMARY

Some overall *generalizations* are possible:

(1) Most speed users have personal or social problems predating their drug use. Unless these are relieved, treatment will not be successful. Alternatives to drug use must be provided.

(2) Rehabilitation is a *long* process requiring great persistence and acceptance of the fact that practically all speed users relapse following initial detoxification.

(3) Detoxification is best carried out in hospital, and this withdrawal stage must be supported by drugs. [See section on Short-Term Medical Management—Amphetamines—later in this report.]

(4) Motivation to stop drug use is minimal. Only serious complications, such as hepatitis, bring users to a treatment facility in most cases. It is not unusual to see individuals surviving for three years of chronic speed use punctuated by illness and arrest, but persisting in their dependency. Most speed users must be induced to seek treatment by the encouragement and help of others.

(5) Therapeutic counselling is ineffective until the patient is free of amphetamines.

RECOMMENDATIONS

1. **Because of the high cost and low return in the treatment of chronic speed users, our major effort should be aimed at *prevention*, including identification of high risk persons and situations, and attempts to avoid or remove conditions conducive to such use. Another important reason for prevention of the use of speed is the strong evidence of progression from amphetamines to heroin.**
2. **Catchment and continued care of speeders depends on close *liaison* between street worker, innovative service, hospital, and rehabilitation services. *Education of* workers in these areas is needed to help them understand the unique problem of speed users.**
3. **Residential facilities for the post-detoxification period are needed for at least the first few crucial months to provide isolation from the outside drug scene and to begin the rehabilitation process.**
4. **Small therapeutic communities, restricted to speed users, offer the best hope for successful treatment and rehabilitation.**
5. **The Federal Government should support research on the development of an effective antagonist for amphetamines.**

IV. THE TREATMENT OF ALCOHOLISM

INTRODUCTION

It is estimated that 5.45 per cent of the drinking population in Canada, that is, about 617,000 persons, consume a 'hazardous' amount of alcohol, defined as 100 ml (about 3½ ounces—equivalent to about five social drinks) of absolute alcohol per day.[1]

Between the years of 1959 to 1968, deaths in Canada due to alcoholism increased by 74.8 per cent for males and 107.4 per cent for females. In 1969 there were 905 deaths in Canada due to alcoholism, including those caused by poisoning and cirrhosis of the liver.

The World Health Organization has estimated that in both Canada and the United States the prevalence of dependence on alcohol is 100 times greater than dependence on narcotics. This is just one indication of the seriousness which should be attached to the treatment of this our most widespread drug-dependence problem. Another indication is that the life expectancy of an alcoholic is ten to 12 years less than the average.

The main conditions arising from the over-use of alcohol and requiring treatment include:

(1) Intoxication, including poisoning;
(2) Dependence, including the problems of withdrawal;
(3) Malnutrition, often resulting in neurological disorders;
(4) Cirrhosis and other liver disease;
(5) Psychiatric problems—both the disorders underlying the disease and those arising from the use of alcohol;
(6) Social maladjustment.

CURRENT METHODS OF TREATMENT

Referrals of Problem Drinkers

At present, Canada has no organized means of reaching problem drinkers who are unwilling to seek help. The social stigma still attached to alcoholism accounts for considerable rationalization by alcoholics, as well as outright refusal of treatment, normally not associated with 'acceptable' diseases. Once the individual's declining physical condition or his social downfall force him to acknowledge that he is an alcoholic, the type of treatment agency that will take him in depends largely upon his socio-economic status and his projected chances for recovery.

Here are today's primary channels through which alcoholics and problem drinkers are referred for assistance:

Legal Channels

Virtually anyone who becomes intoxicated in a public place may find himself sleeping it off in a police 'drunk tank', usually without the benefit of medical care. Whether an alcoholic is then referred to an effective treatment facility by the court depends largely on where in Canada his arrest occurred, and under what circumstances.

Industrial Channels

A small but growing number of corporations in Canada are now including clinical treatment referral services for alcoholic employees. Alcoholics who are referred for treatment by their employers tend to be more highly motivated than those referred by the court. The industrial referral is under great pressure to succeed since he must contend not only with his family but also with his employer, his fellow workers and the threat of being fired.[2]

Medical Channels

The role of the family physician is a vital one in the referral of alcohol-related problems because the general practitioner usually has much greater contact with the family and its problems than any other type of medical professional. Ideally, the physician's role involves watching for signs of family conflict, alcohol-related problems and specific medical problems that might indicate alcoholism.

When an alcoholic or potential alcoholic has been discovered, the physician should try to ascertain the extent of the problem, then refer the patient or the appropriate family member to a suitable agency for assistance and care. Unfortunately, most family physicians have neither the required time nor the facilities to deal effectively with the complex phenomenon of alcoholism. However, the general practitioner's role in diagnosis, referral, liaison, counselling and follow-up care could be an invaluable link in any national chain of therapeutic facilities and programs for this disease.

Other Channels

A variety of formal and informal routes exist, at least in theory, which may serve as a catchment network for problem drinkers: church agencies and individual clergymen, family counsellors, youth services identifying problem families, and interested relatives and friends. Referral to Alcoholics Anonymous is sometimes the result of personal contact with a member who may persuade him to attend a local meeting. The effectiveness of this network in the ultimate treatment of the alcoholic is unknown, due in part to its informality.

Treatment Facilities

Legal

The Cooperative Commission on the Study of Alcoholism (1967) termed the 'drunk tanks' found today in most city jails "instances of barbaric mistreatment."[6] As with other treatment procedures, the individual who suffers most at the hands of the legal system is the indigent alcoholic. Every other social class of alcoholic has some medical and rehabilitative resources available to him.

The 'skid row bum', however, usually finds himself caught in an unending cycle of minor catastrophes that researchers have labelled 'the revolving door syndrome'. The cycle begins when he is picked up by the police, usually for public drunkenness. He is then dried out in a 'drunk tank', without medical help, and sentenced in court. A fine is sometimes offered as an alternative to a jail sentence, but he can rarely afford it. The cycle is completed when the alcoholic is returned to the streets and begun again when he is again arrested.

The futility of incarcerating chronic inebriates has not gone entirely unnoticed, however. In 1970 the Canadian Corrections Association recommended:

> That all legislation which makes public intoxication or intoxication under the *Indian Act* an offence be repealed;

That appropriate health and welfare legislation be enacted to provide a statutory basis for a program of public intoxication control;

That all persons found intoxicated in a public place be taken into temporary protective custody and immediately transported to a health and welfare facility designated as a detoxication centre;

That peace officers be designated by the legislation as the persons authorized to take public inebriates into temporary protective custody and to transport them to detoxication centres;

That directors of detoxication centres be given statutory authority to detain a person, diagnosed at admission as an intoxicated person, for a maximum of twenty-four hours.[5]

This general approach has been adopted to some extent in several provinces where police officers are given discretion to take a person into custody for a limited period for detoxification treatment instead of laying a charge of public drunkenness.

The Canadian Corrections Association also has presented a strong argument for transferring the responsibility for handling public drunkenness offenders from the present legal process to our health and welfare system. Aside from medical and humanitarian considerations, the Association notes:

There would appear to be close to one hundred thousand jail sentences served in Canada in one year for the 'offence' of public intoxication... this represents more than one million man/days of detention per year... costs of detention for public inebriates in Canada can be anywhere from ten to twenty million dollars without counting the costs of arrest and prosecution.[5]

General Hospitals

Many observers have drawn a parallel between the treatment of alcoholics in general hospitals and the treatment of the skid row bum's revolving door syndrome. Bell (1970) notes the "repeated admissions of the dependent drinker to hospital after hospital, involving untold hours of clinical time in caring for the critical problems of the moment." Bell adds, referring to the treatment of alcoholics for the merely physical consequences of chemical dependence:

Some of these patients have had the repeated benefit of the most highly skilled medical care without ever encountering a therapeutic situation to correct the primary dependence.[2]

Also, the stigma of 'alcoholism' has led some physicians to attach deceptive, non-alcoholic labels to the patient's real problem. Many health insurance policies, for example, do not include treatment of alcoholism and many hospitals refuse to admit alcoholics. Thus, physicians are frequently (and understandably) reluctant to diagnose a patient's condition as alcoholic. "It would be surprising indeed," asserts Bell, "to find a large general hospital in which the relationships of all disabilities to chemical dependence are consistently and accurately recorded."[2]

Out of this apparently widespread and deliberate *mis-diagnosis*, emerges the interesting question: just how inaccurate are our estimates of Canada's alcoholism problem?

Findings of the Cooperative Commission on the Study of Alcoholism (1967) corroborate these criticisms:

The treatment typically provided in general hospitals is very limited; in most cases it deals only with the patient's toxic state and other urgent medical problems. Rarely are attempts made to deal with the drinking problem or to develop a plan for the patient's continued treatment. Referral to psychiatry, or social service departments, or to other community agencies, including A.A., is also rare.[6]

There is scant evidence to support an assumption that conditions have improved substantially in the four years since the Commission made this statement.

Alcoholics Anonymous

Formed in Akron, Ohio in 1935, the Fellowship of Alcoholics Anonymous today counts 21,600 members in 1,550 groups in Canada alone. A.A. is generally believed to have helped more uncontrolled drinkers than any other method in human history. It is claimed that about 40 per cent of members who express more than a passing interest in the program have no relapse and a significant number of those who do relapse eventually return to abstinence.

Among the 12 steps of its philosophy, Alcoholics Anonymous emphasizes restitution, mutual help, trust in God, group confession and the belief that the alcoholic is powerless over alcohol. The frequent meetings of A.A. consist largely of studies of the 12 steps toward control of alcoholism and of members' testimony of their success in achieving that control. Many members are involved in twelfth step work—an effort to assist other problem drinkers and carry the A.A. message to them.

The tendency of Alcoholics Anonymous to downgrade the effectiveness of other treatment methods has drawn criticism from several researchers. As Bell (1970) points out:

> Not only could other methods work, but many cases would have been totally beyond help by A.A. method alone, which insisted tenaciously that the uncontrolled drinker must first want to help himself before anyone else could help him. Although this attitude is warranted regarding those to be helped by the A.A. method, it is most certainly not applicable to many others who are disabled in such a way that they could never experience a desire to stop drinking until they first received appropriate help and treatment.[2]

Also discussing the relationship between Alcoholics Anonymous and alcoholism clinics, Sidney Cahn (1970) cites A.A.'s distrust of psychiatry, psychopharmacological therapy and treatment ideologies as causes of mutual indifference or hostility. "The clinics", says Cahn:

> have objected to widely held A.A. beliefs, among them: once an alcoholic, always an alcoholic; alcoholism is a noncurable disease; the sole objective of therapy is complete abstinence; only an alcoholic can help an alcoholic; an alcoholic must hit bottom before he is ready for help; in order to recover, an alcoholic must surrender to a higher being; alcoholism is an allergy....[3]

In the United States, says Bell (1970), Alcoholics Anonymous membership reaches only one in 40 uncontrolled drinkers, and the likelihood is that this proportion also applies to Canada.[2] Nevertheless, the Cooperative Commission on the Study of Alcoholism (1967) points out that:

> ...some segments of the public and some community care-givers expect A.A. to assume the major role in the rehabilitation of these persons. The existence of A.A. is even used at times to justify the absence of professionally directed services.[6]

Despite their various differences, the relationship between clinics and Alcoholics Anonymous has generally improved in recent years with a growing appreciation of each other's strengths as well as weaknesses, and according to Cahn, (1970) "Most clinics now claim that they use A.A. selectively on the basis of their clients' needs."[3]

Alcoholism Clinics

Specialized alcoholism clinics offer a multi-disciplinary approach to the treatment of alcoholics on an outpatient basis. They incorporate psychiatry, medicine, public health nursing, physical and occupational therapy, psychology and social work in their programs of rehabilitation.

Most clinics are professionally staffed, but where non-professionals are employed, they are always supervised by professional staff members. The dominant personnel in most alcoholism clinics are psychiatrists, clinical psychologists and social workers who specialize in individual psychotherapy.

Patients at these clinics are generally from middle-class background and because of the selective policies governing admission, skid row alcoholics are virtually excluded. For instance, considerable emphasis is placed on the patient's family situation, verbal ability and motivation—all of which tend to be reflections of social class, education, occupation and family's financial standing.

The admissions procedure of most clinics consists of a series of interviews and lectures that may continue for as long as a month. This 'obstacle course' is designed to test motivation and treatability, and in practice tends to eliminate about half of those who apply—the half which usually includes those in most desperate need of treatment.

Most therapists in these facilities use the term 'character disorder' to describe the behavioural syndromes of the majority of their alcoholic patients. This diagnosis is based on the assumption that some alcoholics fail to progress beyond a primitive stage in their intra-psychic development.

In treating these character disorders and other behavioural syndromes of alcoholics, clinics employ group therapy, indirect therapy (treating the wife or other family members) and in some cases behavioural therapy. The most widely accepted treatment procedure, however, is individual psychotherapy. The therapeutic approach usually involves continuously confronting the alcoholic with the reality of the destructive impact of his drinking on himself and others, while at the same time reassuring him that he is not being rejected as an individual in need of help.

The Cooperative Commission on the Study of Alcoholism sums up its report on specialized alcoholism clinics:

> Some of the strengths of alcoholism clinics are their availability to patients, their work with families, their flexibility in combining traditional psychotherapy with other approaches, and their increased use of group methods.
>
> Among the major weaknesses are the failure to provide real treatment for a substantial proportion of patients having at least an initial contact with the clinic; the lack of experimentation to develop new approaches for working with the less verbal, lower-class patient; the continuing isolation from other agencies—particularly general psychiatric services, mental hospitals, and medical detoxification facilities; and the lack of relationship with basic professional training institutions. A different kind of shortcoming of alcoholism clinics is the total avoidance of all other alcohol problems, and their failure to consider the field of prevention. Probably the most serious shortcoming of all is the very small number of such clinics.[6]

Detoxification Centres

Detoxification centres serve a limited but increasingly important function as the first stage in a system of alcoholism-treatment facilities. These units, which are found almost exclusively in major metropolitan areas, offer a realistic and humane alternative to the present legal-criminal-justice system of dealing with acutely intoxicated individuals.

The Addiction Research Foundation in Toronto recently ran a pilot program to determine the requirements of detoxification units and found that with easy access to emergency medical facilities in nearby hospitals, the work of the centre could be handled adequately by social workers and non-professionals. Thus, very few centres have medical personnel on duty 24 hours a day, and many have none at all. A number of centres are run by individual members of Alcoholics Anonymous and therefore have close ties with the local A.A. chapter.

Upon arrival at a detoxification centre, assuming hospitalization and medical attention are not required, patients are simply cleaned up, put to bed and kept under observation. After this 'drying out' process, which usually takes about two days,

counselling is given by the staff.

Ideally, patients are next referred to an appropriate agency for after-care and extended therapy for their drinking problems. In practice, however, many centres still have no formal system of referral, and thus their long-range effectiveness is severely limited.

Mental Hospitals

One of the most widely used resources for in-patient care of alcoholics is the government-operated mental hospital, according to the Cooperative Commission on the Study of Alcoholism. However, only a small number of these institutions have specialized wards or programs for alcoholics. Many offer little or no treatment for problem drinkers other than a controlled environment.

On the other hand, many mental hospitals make extensive use of Alcoholics Anonymous. A.A. meetings are held regularly for alcoholics where the emphasis is placed on increasing the patient's motivation to alter his way of life, and on group psychotherapy and education. The A.A. meetings represent the most common treatment approach now being used in alcoholism wards.

Milieu therapy also is used extensively in alcoholism wards, but unlike some facilities such as out-patient clinics, intensive individual psychotherapy is infrequently employed.

Most specialized wards become involved with an alcoholic patient after he has been in a central admitting ward for several days and has undergone examination and diagnosis by psychiatrists and physicians. This ensures that there is no serious psychiatric or physical condition present that would make admission to an alcoholism ward inadvisable.

Transitional Facilities

Halfway houses were originally conceived to serve patients on leave from mental hospitals, but were soon found to have qualities useful in the treatment of alcoholics.

Most are private non-profit organizations with an elected board of directors. But there are also 'public' halfway houses, which are municipally organized and usually governed by public administrators.

The managers of these facilities, often reformed problem drinkers themselves, run the institutions with an iron hand. They decide who will and who will not be admitted, give counselling to the residents, make and enforce all rules and, in general, try to gain the respect of their charges by their stern but understanding approach to the alcoholics' problems.

Most managers require at least 24 hours of abstinence before admission and some require as long as 72 hours. They are usually quite adept at spotting insincere applicants—known as 'halfway house bums'—who simply want a place to 'dry out'. The managers also look, with considerable less success, for characteristics that may indicate an applicant's high potential for recovery.

Residents are expected to find work and help pay for their stay, after a short 'drying out' period. Since most of the men have decent work records, finding employment is usually not difficult. In the female halfway houses, however, finding employment for the residents is generally more difficult.

The treatment milieu and goal of all halfway houses is total abstinence. Anything less than this is regarded as failure, and recidivists, almost without exception, are banished from the system.

All halfway houses, with the exception of church-affiliated ones, make extensive use of A.A. The church-affiliated houses tend to rely heavily on therapy groups run by psychologists, clergymen or social workers.

Contrary to popular belief, there are almost no provisions in the halfway house system for skid row alcoholics. Even the Harbour Lights program of the Salvation Army accepts only those individuals believed to be well motivated towards recovery from alcoholism. What this means in practice is that although the Salvation Army makes an effort to feed the skid row 'down and outer', it considers most such individuals beyond help and bars them from its rehabilitation facilities.

Bon Accord Farm, the pilot program of the Ontario Addiction Research Foundation, is currently one of the few programs specifically concerned with the rehabilitation of the severe alcoholic. All the men are residents of skid row and most have a record of public drunkenness offences. All attend on a voluntary basis. The facility is a farm where the men do woodworking and farming, and attempt to "modify their behaviour patterns."[1]

Therapeutic Communities, such as Synanon, which also play a role in the rehabilitation of alcoholics, will be discussed more fully later in this report.

The Donwood Plan

We have almost no facilities today of the most promising category—those offering comprehensive total care, including long-term follow-up care.

Most types of treatment facilities in Canada, have a success rate which is either discouraging, mediocre or unknown. One refreshing exception is the Donwood Institute in Toronto. Here, it is reported that 25 per cent of those who have completed the program so far have recovered; 25 per cent relapsed and eventually recovered; 25 per cent showed an improvement; and only 25 per cent showed no improvement.

The Donwood Plan is a three-phase treatment program drawing on all possible resources to meet the individual patient's medical, psychological and social needs. Three interdependent teams make up the Donwood Plan: a clinical team of physicians, nurses, psychologists, social workers, dietitians and technicians; a second team of non-clinical part-time and full-time personnel; and the patient team. Responsibility for treatment shifts among the three teams at different phases of the Donwood program.

Admission to the Institute is based on the understanding that the patient will participate in the treatment program for at least one year. Applicants who live within commuting distance are examined by a staff doctor, while those from afar are accepted on the reference of a local physician. Describing the Institute's admission policy, R. Gordon Bell, the director of Donwood, states:

> Patients suffering from intractable barriers to communication, such as severe brain damage, psychosis, character disorders, or inability to understand English, are occasionally turned down at the preadmission examination.[2]

For the patient, the first phase begins with examination by a clinical team and treatment of acute disorders. This is followed within a couple of days by a comprehensive assessment of the patient's physical, mental and social status. The course of therapy is set, with consideration given to the possibility of assistance from the patient's family and friends. During the first physical assessment the patient's ability to engage in the general physical fitness program is also determined.

Phase two, the orientation stage, is, according to Bell, "a sustained, intensive experience in group therapy, guided by competent practitioners with professional backgrounds in medicine, psychology and social work."[2]

Every Monday, the new patients who have been admitted during the previous week begin a 28-hour program of group therapy scheduled over a 2½ week period. The program, which also includes individual therapy, is directed by a psychologist skilled in both individual and group counselling. The group therapy sessions are supported by lectures, films, videotapes, physical training and relaxation periods.

Following the patient's third week of treatment an 'exit' staff conference is held for the transfer of responsibility from the clinical team to the community team. This third, and in many ways the most important, phase of the Donwood Plan relies heavily on the non-clinical personnel to maintain a program of continuing therapy. Housewives trained as 'clinical secretaries' are employed on a part-time basis to maintain frequent telephone or correspondence contact with a group of outpatients assigned to them.

A complex system of interrelationships among each group of patients, the secretaries and patient alumni helps to keep the clinical personnel constantly aware of each patient's progress. A major advantage offered by frequent contact is, as Bell states: "a relapse can usually be recognized and interrupted so quickly that outpatient treatment can still be effective."[2]

At the end of the first year a staff conference is held on all patients, not only to assess the need for more clinical attention but to study the latent aptitudes that could be more effectively developed to enrich each patient's experience. An attempt is made to identify those patients who might be trained in their second year for special roles in counselling, in teaching, and perhaps in research. The first year is mandatory but the second year of Continuing Therapy and Continuing Education is optional. Some patients are fortunate enough to have returned to a sufficiently full and rewarding life, free of alcohol or drugs, so that further involvement with a recovery program is unncessary.

Other Treatments: Chemical Adjuncts

Antabuse®

Two protective drugs frequently used in conjunction with other forms of therapy are Antabuse® and Temposil®. Antabuse® was developed in Denmark in the late 1940's and Temposil® in Canada in the early 1950's. In both cases the effect is one of altering the process by which the body usually oxidizes alcohol. Under normal drinking circumstances, ethyl alcohol breaks down into acetaldehyde when it is oxidized in the body. Acetaldehyde is highly toxic but is usually destroyed so quickly that its effects are rarely noticed. But with the introduction of one of the two drugs, the destruction of acetaldehyde is retarded so that intensely unpleasant effects occur which may include nausea and vomiting, sometimes even dangerous cardio-vascular effects.

Thus, the patient who understands what Antabuse® and Temposil® can do to him quickly realizes that "if he takes a drink, it is no longer whiskey, rum, wine or beer that he is drinking, but acetaldehyde."[2] Thus these two drugs have a deterrent effect on the alcoholic. The main drawback of this type of therapy is, of course, the fact that the alcoholic patient has to take his Antabuse® regularly every morning. If through thoughtlessness, accidental circumstances or lack of motivation he fails to do so, he could relapse into his drinking habit.

LSD

LSD has been used experimentally in the treatment of alcoholism. The hope underlying LSD treatment was that this drug would bring about a profound and beneficial change of personality in the alcoholic. Dr. Arnold M. Ludwig, Director of Education and Research at Mendota State Hospital in Madison, Wisonsin, has recently completed an ambitious, controlled investigation into the therapeutic potential

of LSD in the management of chronic alcoholism.

In this study, patients were assigned to four treatment groups. One group received therapy consisting of hypnosis, LSD and psychedelic therapy. Another group received LSD and psychotherapy. The third group was given LSD and told to 'work through' their problems under supervision. The last group, the control group, participated in the milieu therapy program of the Alcoholic Treatment Centre at Mendota State Hospital which does not include specific psychotherapy or drug therapy.

Follow-up was conducted at intervals of three months, six months, nine months, 12 months and 18 months after release. Evaluation was based on patients' attitudes, behaviour and social and community adjustment. It was found that "the cumulative percentage of persons who returned to drink after discharge was approximately the same, regardless of the therapy which they received."[14]

Ludwig (1970) adds:

> We believe that this study is as definitive as can be regarding the treatment effectiveness of LSD on alcoholics, and our results are quite discouraging. If LSD alone had been evaluated, any therapist would have been impressed (assuming he had relied on the self-reports of the patients following the LSD sessions). But there is a disparity between the patient's reports and his actions and there seems to be very little correlation between what he says and what he does. It seems reasonable to conclude that, despite the enthusiasm that has been whipped up over LSD effects on alcoholism, the effectiveness of this form of therapy turns out to be a mirage.[14]

Tranquilizers, Antidepressants and Stimulants

Many physicians prescribe tranquilizers, for example, chlordiazepoxide (Librium®) or diazepam (Valium®) combined sometimes with an antidepressant, for example amitriptyline (Elavil®) for alcoholic patients on the theory that the patient is continuing his excessive non-medical use of alcohol for quasi-medical reasons, such as the alleviation of a chronic underlying state of anxiety and depression. When used for long periods of time, the assumption is that this mode of treatment might serve as a kind of maintenance therapy where the tranquilizer would pharmacologically and clinically be substituted for alcohol—much as Methadone is being used in the substitution maintenance treatment of heroin dependence.

For similar reasons, some doctors in the past treated alcoholics with amphetamines for long periods of time. But this practice ceased upon discovery that the alcoholics thus treated would often become dependent on amphetamines without losing, in most cases, their craving for alcohol.

Continued pharmacotherapy with tranquilizers and antidepressants, on the other hand, has been found useful in a number of alcoholics where the therapeutic goal is not complete abstinence from all drugs, or where the use of tranquilizers, for a time, may make it easier to eventually achieve a complete cure through long-continued psychotherapy.

Behaviour Therapy (Aversive Conditioning)

Benjamin Rush, who is often referred to as the father of American psychiatry and who called the excessive craving for alcohol a disease as early as 1783, also advocated the use of an "association of the idea of ardent spirit with a painful or disagreeable impression upon some of the bodies" as a cure for the craving of alcohol.[15] He thus became the first to recommend 'behaviour therapy' for alcoholism.

Rush, as far as we know, never turned his idea into any kind of clinical practice. However, Pavlov, in the first quarter of this century, established a basic model of the

conditioned reflex and thus provided most of the methodology for behavioural scientists and the practical application of conditioning principles in behaviour therapy. Then Kantorovich (1929) in the Soviet Union made the earliest attempt to treat alcoholism by a conditioning procedure. He gave alcoholic patients painful electric shocks every time liquor was offered to them, in the hope that the repeated association of pain with alcoholic beverages would condition an aversive response to alcohol and that this negative response would continue to control the patient's behaviour after the termination of the experiment.[10]

Since then many similar methods of conditioning alcoholics against the consumption of liquor have been tried. Most frequently drugs which induce nausea and vomiting (apomorphine; emetine) are given just before the patient is encouraged to drink alcohol. Sometimes a painful electric shock is administered to the patient every time he is about to take a drink (or after he has just done so) in the treatment setting. One measure, used by a team of Canadian workers, was a curare-like drug which stopped patients from breathing until external assistance was administered.[16] This state was induced while the patient was being encouraged to grasp, look at, sniff and taste his favorite drink. The terrifying experience of suddenly not being able to breathe indeed conditioned some of the patients against any consumption of alcohol for a time, but a final statistical analysis of the experiment showed that this form of conditioning did not bring about any long-term improvements.[7]

Such traumatic procedures presuppose, of course, that the alcoholic who submits to these modes of treatment is in good physical health and very highly motivated to abandon his drinking habit. Yet, in one experiment involving 40 male alcoholics who had volunteered for an aversive conditioning procedure, 20 failed to complete as few as two sessions.[9]

More recently, a kind of 'comprehensive' broad-spectrum behaviour therapy has been introduced by Lazarus (1965). To quote the essential features his program:

(1) Specific steps were taken to ensure that the patient regained his physical well-being.

(2) Active measures to break the compulsion were then introduced (aversion therapy and 'anxiety-relief' conditioning).

(3) Diagnostic tests and interviews were conducted with a view to evaluating the interaction of the patient and his social environment. Special attention was devoted to ferreting out specific stimulus antecedents of anxiety.

(4) The anxiety-response habits were then eliminated by several counter-conditioning procedures—desensitization therapy, assertive training, behaviour rehearsal, as well as hypnosis.

(5) Cooperation from the patient's spouse was elicited and she too was afforded the benefits of behaviour therapy.[12]

Not every individual is equally susceptible to conditioning. The level of each patient's general intelligence, the presence of brain damage and a variety of other personal and constitutional characteristics determine the extent to which an individual can be conditioned.

Careful selection of patients for behaviour therapy based on aversive conditioning against alcohol is especially important, since it is possible that certain patients—those who tend to be most anxious—might suffer an intensification of their anxiety during the conditioning procedure and, as a result, might even increase their drinking.

However, in behaviour therapy, as in many other kinds of treatment, there is as yet insufficient information about the specific characteristics which would make it possible to select as patients for this type of treatment only those who would be most likely to respond to it.

Another special problem associated with behaviour therapy is that extinction of the

conditioned avoidance takes place rapidly and repetition (reinforcement) of the aversive conditioning is usually necessary at frequent intervals. It is often very difficult to persuade an alcoholic, who may be functioning well in the community following behaviour therapy, to return periodically for 'booster doses' of the unpleasant aversive conditioning. Yet, if he fails to do so, he might relapse within a few weeks or months.[7]

EVALUATION OF DIFFERENT ALCOHOLISM TREATMENT METHODS

Reports of success or failure of various alcoholism treatments over the decades indicate a wide range of results—from method to method and from investigator to investigator. For example, in 1962 a team of investigators who followed up 299 alcoholic patients who had been treated in various clinics found that approximately one in five of the patients had remained abstinent for as long as one year following treatment.[8] Abstinence for at least one year following several months of *psychotherapy* has been reported as ranging from ten per cent to 24 per cent by various therapists.[17,18,19]

Of 4,468 patients treated with *conditioning methods* between 1935 and 1948, Lemere and Voegtlin (1950) report that 44 per cent remained totally abstinent from their first treatment onward.[13]

Wallerstein (1957) compared four different types of treatment—Antabuse®, conditioned reflexes, group hypno-therapy and milieu therapy—in 178 alcoholics treated over a 2½ year period and followed-up for one year. According to this study, Antabuse® was the most successful program with 53 per cent of the patients improved, and conditioning was the least successful with only 24 per cent improved.[20]

However, there is an urgent need to learn much more about which types of patients respond best to which of the different therapeutic managements and modes of treatment available for alcoholics today, so that the appropriate treatment method can be chosen for each individual patient.

Recently Kissin and Platz (1970) conducted an intensive study of the effects of different treatment programs on 458 chronic alcoholics grouped according to specific characteristics observed before treatment, and they reported that, in terms of treatment outcome:

> The socially and psychologically stable patient does best in psychotherapy;
>
> The socially intact but psycholigically less sophisticated patient does better on drug therapy;
>
> The socially unstable but intellectually intact patient does best in an inpatient rehabilitation program.[11]

RECOMMENDATIONS

If we are to offer really effective treatment services for alcoholics, we will need to have:

1. **Clearer formulation by individual researchers and by the medical-rehabilitative communities, of treatment goals based not on certain routine assumptions—for example, that only total abstinence must be aimed at under all circumstances—but on a careful and individualized assessment of each alcoholic's needs in the context of his history, environment, interpersonal relationships and personal assets and liabilities;**
2. **A universal catchment system which will be able to reach those who need help in *all* segments of society;**
3. **An integrated treatment program operating over the full span of time from**

identification of the alcoholic patient through a year or more of long term follow-up;

4. Replacement of present criminal-oriented drunk tanks by medically oriented detoxification centres;
5. A variety of treatment modalities available to meet the specific needs of individual patients;
6. Clinical research designed to evaluate the effectiveness of different programs and techniques in relation to the various patients using them.

V. THE HALLUCINOGENS

The hallucinogens, including cannabis, LSD and drugs with similar effects, occupy a special position among psychotropic drugs, in that they are prone to cause psychiatric emergencies or complications—particularly the stronger hallucinogens of the LSD, MDA, mescaline and STP-type—but do not lead to physical dependence and less frequently than other psychotropic drugs to strong psychological dependence. The treatment of emergencies and complications arising from the non-medical use of drugs, including the hallucinogens, is discussed in a later section of this report (see VI. Short-Term Medical Management).

Is there also a need for therapeutic intervention for those users of hallucinogens who do not suffer bad trips or develop chronic diseases such as depressions or psychoses following drug use? This question cannot be answered with a clear yes or no. Those who use cannabis or LSD regularly in heavy doses, for example, cannabis several times a day or LSD several times a week (the 'pot-heads' and 'acid-heads'), have developed a strong psychological dependence on these drugs. Any strong dependence on drugs, including even coffee, is a potential health hazard and as such calls for medical attention. However, medical procedures for the treatment of dependence on hallucinogenic drugs are not as well developed as those for the treatment of dependence on other drugs, for instance alcohol and heroin, which have presented medical and social problems for much longer than the hallucinogens. More specifically, there are no special therapeutic modalities for the treatment of dependence on cannabis or LSD. Nevertheless, some of the key methods and procedures recommended for the treatment of heroin or speed dependence, or of alcoholism, are equally applicable to hallucinogens, because these methods and procedures are focused more on the common social, pedagogic and personal features of the approach to the drug problem than on the medical and pharmacological characteristics of the drug. Thus, the therapeutic community and other re-educational programs as well as psychiatric treatment may be as much indicated for the treatment of dependence on cannabis or LSD-like drugs as for the treatment of dependence on other psychotropic substances.

There is a wide spectrum of drug-related behaviour. For instance, the person—young or old—who experiments once or twice with cannabis or LSD may encounter legal or disciplinary reactions, but he does not, as a rule, require medical intervention. He was probably motivated by normal curiosity, even if his judgement may be questioned. On the other hand, the youngster who continues to use hallucinogens not only because he derives direct pleasure from them but because he cannot resist peer pressure to smoke marijuana, or because he has to smoke hashish as a defiant gesture towards his parents and towards society at large, might well benefit from psychological or psychiatric treatment. Even more pathological, and in need of treatment, is the person who depends on psychotropic drugs in order to escape his own intolerable feelings of inner turbulence and anxiety, who rejects all drugless reality or for whom hallucinogens are the only means which allow him to escape isolation and to feel reasonably comfortable and relaxed with other people.

Our general view on this issue has not changed since the publication of the Commission's *Interim Report* when we expressed it as follows:

> The sick individual who relies on cannabis, speed or other psychotropic drugs, almost as his only means of escape, who uses them always as a crutch, and structures his whole existence around them as the only providers of pleasure, (the 'pothead', the 'speed-freak' and the 'acidhead') is in need of medical and psychiatric or psychological treatment. Prolonged counselling, psychotherapy and comprehensive social follow-up care are usually required. Medically prescribed and supervised drug treatment may also be indicated in many cases.

> On the other hand, the neo-nonconformist who is using drugs but is not sick in the medical or psychiatric sense, may not need treatment. If it seems desirable to bring about a change in his behaviour, only a philosophical and spiritual reorientation, which would have to touch the cultural roots of his values and existential attitudes, could achieve this goal. (Paragraph 355)

For short-term treatment of adverse reactions to hallucinogens, or management of complications such as 'flashbacks', rapid personality change, depression or psychoses, see the section of this report dealing with Short-Term Medical Management of emergencies and complications arising from non-medical use of psychedelic drugs.

VI. SHORT-TERM MEDICAL MANAGEMENT

1. INTRODUCTION

The non-medical use and abuse of drugs is hardly a new phenomenon although new patterns of use and the appearance of new substances have raised problems in management for health professionals. This manual has been developed as a practical handbook for the treatment of acute drug-related problems.

In particular, physicians have been frustrated by the novelty of the current drug scene: a patient population which forms a subculture with its own jargon and philosophy; new drugs whose pharmacology and management were not included in the education provided by medical school; the aura of criminality surrounding the drugs and their users; the social conditions which are rapidly changing and have an etiological relationship to the drug scene; the mystery of treating patients for the effects of drugs whose composition has not been determined by analysis; the depressing feeling that without effective techniques and facilities for rehabilitation our emergency care may be analogous to using Band-Aids® for cancer.

Differential diagnosis begins with an attempt to identify the symptom pattern seen as the result of:

(a) *Overdose* producing physiological or behavioural manifestations.
(b) *Abstinence syndrome* following the withdrawal of a drug from a patient habituated to its use.
(c) *Secondary problems* related to drug use.

2. FACILITIES AND RESOURCES

As individual physicians come to realize that they are seeing increasing numbers of patients with drug-related problems, they begin to survey available facilities within the community to assist in dealing with them.

Most communities are relatively well provided with facilities to deal with acute medical care through private physicians, emergency departments of hospitals, and specialized services to deal with medical and psychiatric complications. The use of drugs among young people has stimulated new 'innovative services' which use mainly 'non-professionals' to administer first aid and provide referral to professional care agencies.

Less well developed are methods to provide services to ensure the rehabilitation of the patient. (See Figure 1, Suggested Resource Directory) Each physician should have a directory of available resources in the community which are available for the long-term management of various drug-related problems as they affect individual patients. This directory should be constantly updated. The physician should also remember his responsibility for the long-term co-ordination of the progress of the patient: his responsibilities do not end after referral to an agency.

An interested physician can cut red tape to a minimum by speaking directly to the key people in such agencies. Often, knowledge of a physician's interest will mean the difference between a desultory attitude and one which may be more effective in the long-term. As far as possible one should also attempt to involve the patient's family in attempts at rehabilitation. And, of course, obvious sources such as clergymen, youth groups, etc., should not be spurned. Any well-motivated and well-directed assistance will be valuable.

FIGURE 1
SUGGESTED RESOURCE DIRECTORY

HOSPITAL NUMBERS	Telephone Number
Administrator	
Anesthesiologist (on call)	
Psychiatrist (on call)	
Neurologist (on call)	
Clinical Laboratory	
PUBLIC AGENCIES	
City and/or County Offices:	
Drug Co-ordinator	
Social Services	
Mental Health	
Public Health	
Coroner	
Toxicologist	
Methadone Treatment Centre	
Police (include neighbouring cities)	
OTHER HOSPITALS	

COMMUNITY RESOURCES	Telephone Number
Acute Detoxification Centre	
Crisis Intervention Team	
Clergymen (include main denominations)	
Half-way Houses	
Drop-In Centres	
Free Clinics	
Hot Line or Emergency Switchboard	
Alcoholics Anonymous	
Other self-help groups	

3. ACUTE POISONING: OVERDOSE

3.1 GENERAL PRINCIPLES:

(A) *Establish a diagnosis.* Obtain as much information as possible from those accompanying the patient before they leave. Be aware of the possibility of a mixed drug intoxication. When there is conflict between history and clinical findings, trust the latter. Laboratory tests will rarely be useful in early management.

(B) *Support life systems.* Ensure that airway is clear, ventilation is adequate, and circulation is supported.

(C) *Treat symptoms and complications* such as convulsions, aspiration and thrombophlebitis.

(D) Consider *clearing remaining poison* from the system by gastric lavage, emesis, use of antidotes, or diuresis.

(E) *General management* includes special nursing care of the unconscious patient and cardiac monitoring where indicated.

(F) *Allay anxiety*, depending more on personal skills of reassurance than on drug administration.

(G) Secure *psychiatric evaluation* after the acute episode is under control.

3.2 METHODS OF EVACUATING DRUG:

(a) *Emetics:* Induce vomiting, but only if patient is fully alert and co-operative and the drug was taken orally within four hours.

Ipecac: The drug of choice is syrup of Ipecac. Dosage 15–20 ml in children, double that for adults. Repeat in 30 minutes if no result.

Apomorphine: Apomorphine given subcutaneously will produce emesis after about three minutes. Dosage—0.07 mg per kg. One minute after vomiting begins, give the following drugs to counteract the sedative action of apomorphine:

(i) Levallorphan tartrate (Lorfan®) 0.02 mg per kg.

(ii) Nalorphine (Nalline®) 0.2 mg per kg.

(b) *Gastric Lavage:* If patient is unconscious, protect the airway with a cuffed endotracheal tube, aspirate stomach and lavage with about 200 ml of saline ten times. *Contraindicated in LSD intoxication.*

(c) *Charcoal:* Has good absorptive properties if nothing else is available. It should be mixed to the consistency of a thick soup. Dose—1 gm per kg body weight shortly after ingestion. *Contraindication*: Don't use with Ipecac, as it absorbs the Ipecac.

(d) *Diuresis:* particularly helpful in barbiturate poisoning and when multiple drugs are implicated. Indicated only when renal function is normal, there is no evidence of cardiac disease, B.P. is over 90 mm, and facilities for continuous monitoring are available.

(e) *Hemodialysis* is indicated when renal failure is present or when the clinical state is grave or is deteriorating during diuresis.

3.3 SYMPTOMATIC TREATMENT:

(a) *Respiratory failure* is a very important side effect of the barbiturates, tranquilizers, narcotics and solvents. At all times a patient's airway must be ensured with intubation if necessary. In respiratory depression assist breathing with a respirator and administer oxygen. If a tracheotomy is required, care must be taken to ensure adequate humidity of the airway. Estimation of arterial blood gases is the only reliable way of assessing the adequacy of ventilation: PCO_2

over 60 mm Hg.

(b) *Cardio-vascular failure.* This is particularly seen with barbiturate, tranquilizer and narcotic overdose. If no pulse or heart sounds, initiate external cardiac compression. An intravenous should be started to maintain adequate circulatory volume. With some drugs, such as meprobamate and glutethimide, hypotension may appear rapidly, and volume expanders may be necessary. Vasopressor agents should generally be avoided as they are not necessary if adequate circulatory blood volume is maintained, and they may cause cardiac arrhythmias if they are used in hypothermia or with overdoses of tricyclic compounds.

(c) *Convulsions:* These are to be watched for in the withdrawal period of barbiturate intoxication and with overdoses of tranquilizers and stimulants.

Short-acting barbiturates (Nembutal®) should be given orally, 200–400 mg every 4–6 hours as indicated then gradually reducing the dose. Diazepam (Valium®) may be given intravenously from 20–30 mg and repeated within 20 minutes if convulsions continue.

3.4 DIFFERENTIAL DIAGNOSIS OF OVERDOSAGE:

Table 2 shows common signs useful in differential diagnosis. These are the usual findings but beware of variations and the confusion of mixed drug effects.

TABLE 2

DIFFERENTIAL DIAGNOSIS OF OVERDOSAGE

	Sedative Hypnotics	Stimulants	LSD Halluc.	Narcotics	Solvents	Tranquilizers
Coma	A			A	A	A
Convulsions	W					
Depression	A	W				
Hallucinations	A	A	A			
Agitation	W	A	A	W	A	W
Aggressive behaviour	A	A	A			
Paranoia/Panic	W	A	A		A	
Psychosis	W	A	A		A	
Disorientation	A	A	A		A	
Ataxia	A	A	A	A	A	A
Pain Masking	A	A	A	A	A	A
Parkinson-like signs						A
Slurred Speech	A			A	A	
Lacrimation				W	A	
Pupils: Pinpoint				A nr		
Dilated	A nr (Anticho-linergics)	A	A	W		
Normal	A (Barbitur-ates)				A	A
Runny nose				W	A	
Jaundice	A	A		A	A	A
Skin Rash	A (Bromide)	A				
Needle Marks	A	A		A		
Gooseflesh	W			W		
Resp. Depression	A			A	A	A
Tachycardia		A	A	W		W
Cramps	W	A & W		W		
Fever		A				

A – Acute Stage W – Withdrawal Stage nr – Pupils Non-reactive

4. OVERDOSES: DIAGNOSIS AND SPECIFIC TREATMENT

4.1 ALCOHOL

Signs and Symptoms

Inebriation and excitement, later followed by depressed behaviour or boisterousness depending on the personality of the user. Clumsiness, ataxia, dysarthria and anti-social behaviour, sometimes leading to convulsions or comatose state.

Management

If patient is boisterous and non-co-operative, give paraldehyde up to 5 ml intramuscularly in each buttock. Always search for occult injury—particularly head injury. Start intravenous to rehydrate, maintain urinary output, include Vitamin B. Once patient is conscious give Librium® by mouth or intramuscularly up to 100 mg or more daily as indicated to control tremors and withdrawal effects of the drug.

4.2 AMPHETAMINES

Drugs involved

Amphetamine (Benzedrine®), dextroamphetamine (Dexedrine®), methamphetamine (Methedrine® or Desoxyn®).

Street Terms

Speed, Crystal, Meth, Bennies, Dexies, Uppers.

Related Drugs

Methylphenidate (Ritalin®), phenmetrazine (Preludin®), other CNS stimulants.

Manifestations

There is a wide range of presenting symptoms depending on the type of drug, the size of dose, the route of administration (oral or intravenous), the duration of drug use, and age of patient. The commonest patterns are:

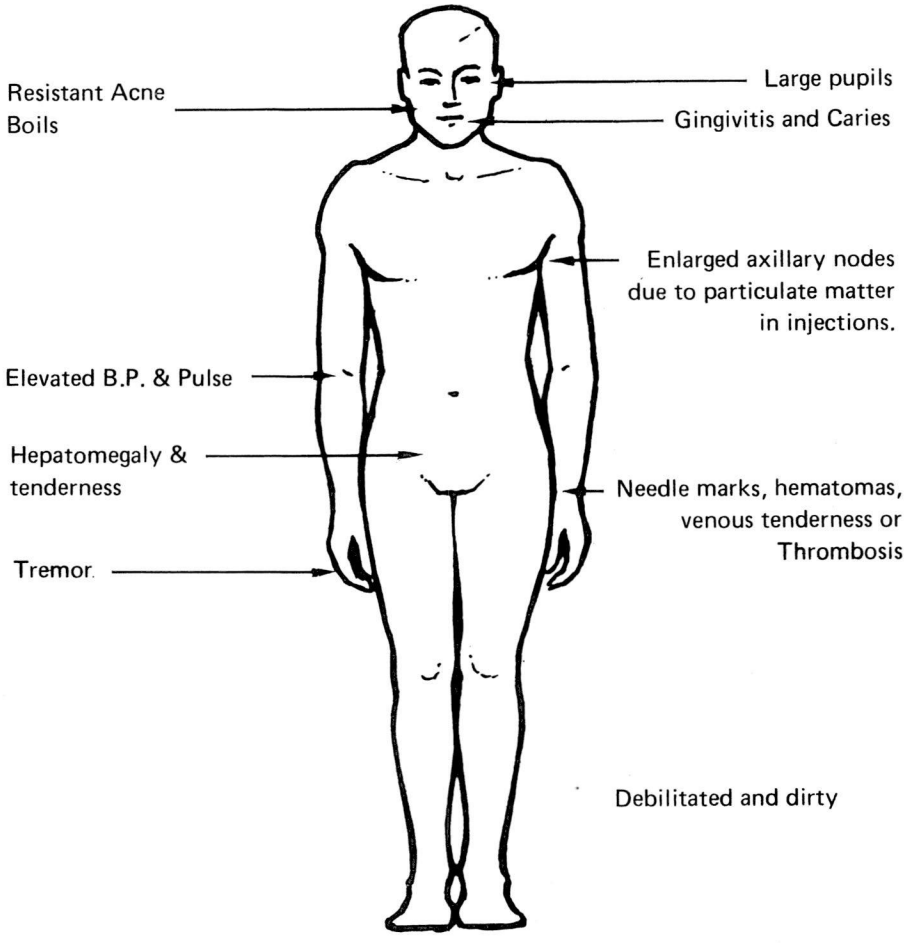
A. The '*Strung out speed freak*' who has been injecting high doses every few hours for some days and whose major features are general debility, sleep deprivation, hyperactivity, anxiety with paranoia, elevated blood pressure and heart rate, and complications related to intravenous injection. (See Figure 2)

Treatment

Treatment of the acute phase is simple:

- Reassurance by gentle and calm explanation *with a minimum of investigation and administrative procedures.*
- Diazepam 20–40 mg orally and allow to sleep without major disturbance for 24–48 hours, rousing only for pushing fluids and food. Diazepam may be used in five mg doses if agitation continues.
- Investigate for associated problems, especially routine liver function tests.
- As recovery progresses, titrate mood using small doses of oral Ritalin® and diazepam and gradually begin establishing a dialogue to identify underlying problems and to initiate rehabilitation.

FIGURE 2


Resistant Acne Boils
Large pupils
Gingivitis and Caries
Enlarged axillary nodes due to particulate matter in injections.
Elevated B.P. & Pulse
Hepatomegaly & tenderness
Needle marks, hematomas, venous tenderness or Thrombosis
Tremor
Debilitated and dirty

B. *Severe acute overdose*, either oral or intravenous, may lead to cardiovascular collapse, convulsions, cerebrovascular accidents, or hypertensive encephalopathy. Hyperpyrexia is a common finding in acute oral overdosage. The term 'overamping' is applied to overdose reactions in chronic intravenous users who show a constantly changing bizarre pattern with alterations in heart rate and rhythm, flushing and peripheral vasoconstriction, and severe anxiety with conviction of impending death which is sometimes justified.

TREATMENT

Treatment should be cautious and directed to symptomatic relief and maintenance of vital functions, which should be monitored carefully because of the characteristic sudden changes which may be life threatening. Diazepam is perhaps the drug of choice to control anxiety and hyperactivity.

4.3 THE ATROPINE GROUP

DRUGS

The anticholinergics include belladonna, scopolamine, hyoscyamine, stramonium, atropine, and homatropine. They occur in commercial asthmatic preparations such as Asthmador®, in patent medicines such as Sominex® and Compoz®, and in street drugs combined with the amphetamines and the hallucinogens.

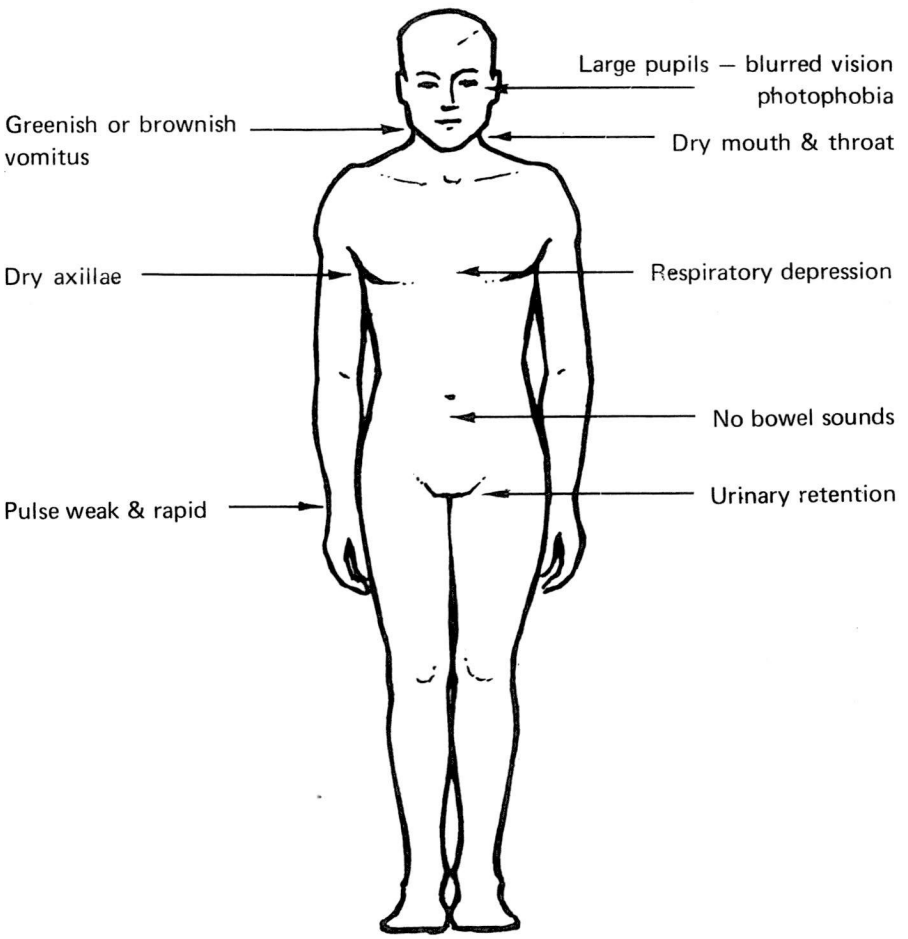
SIGNS AND SYMPTOMS

Signs and Symptoms (See Figure 3) are those of the anticholinergic group:

- dilated pupils with blurred vision and photophobia;
- thirst with dry mouth and throat;
- dry axillae;
- weakness and twitching;
- hyperpyrexia;
- no bowel sounds;
- urinary retention;
- RESPIRATORY DEPRESSION.

Psychic manifestations vary from mild excitement and confusion to acute toxic psychosis with hallucinosis sometimes resembling an acute schizophrenic episode.

FIGURE 3


Large pupils – blurred vision
photophobia
Greenish or brownish
vomitus
Dry mouth & throat
Dry axillae
Respiratory depression
No bowel sounds
Pulse weak & rapid
Urinary retention

Treatment

(1) If recent oral administration, evacuate by gastric lavage.

(2) Physostigmine 1–4 mg injected and repeated as needed, because it is rapidly destroyed in the body.

(3) If anxiety is severe, small doses of short-acting barbiturates may be used, taking care that respiratory function is not further compromised. DO NOT GIVE PHENOTHIAZINES.

(4) As needed, assist ventilation and administer oxygen.

(5) Supportive nursing care in a darkened room with oral fluids, alcohol sponging, and indwelling catheter if necessary.

4.4 THE BARBITURATES

DRUGS

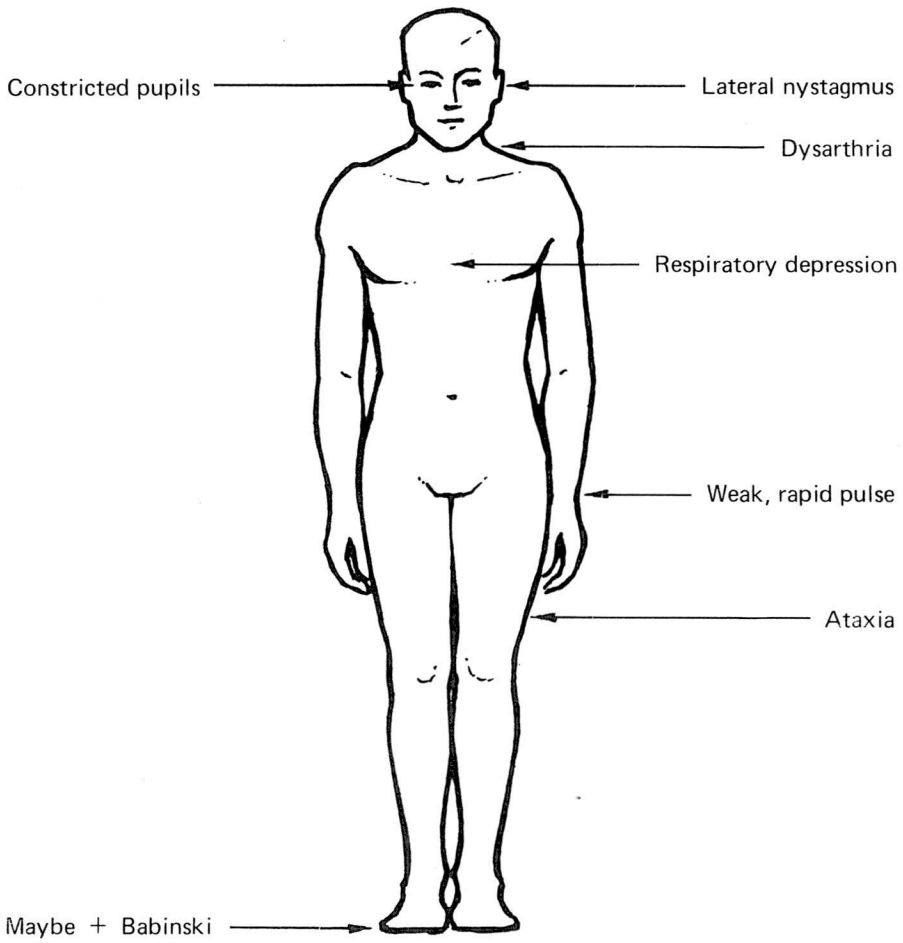
These are the 'Downers' in street use: Seconal®, Tuinal®, Nembutal®, Luminal®.

SIGNS AND SYMPTOMS

Severity of findings range from moderate patterns resembling alcohol intoxication with confusion, slurred speech, drowsiness and ataxia, to collapse leading to death.

In severe poisoning the patient becomes comatose, hypotensive and hyporeflexic. Respiration becomes depressed, often with Cheyne-Stokes rhythm. Weak, rapid pulse and falling blood pressure lead to shock and cardiovascular collapse. Convulsions may occur as withdrawal phenomena in those with chronic dependence. (See Figure 4)

FIGURE 4


Constricted pupils
Lateral nystagmus
Dysarthria
Respiratory depression
Weak, rapid pulse
Ataxia
Maybe + Babinski

TREATMENT

(1) Evacuation of the drug: gastric lavage is of doubtful value unless ingestion was very recent and the patient is conscious. Forced diuresis with alkalinization of the urine is the treatment of choice. Hemodialysis is reserved for severe cases with very high blood levels.

(2) Respiratory depression is controlled by maintaining a clear and adequate airway with intubation and mechanical ventilation if necessary. Oxygen is administered in high concentration with an ideal tidal volume of 12–15 cc per kg body weight.

(3) Shock is controlled by administration of intravenous fluids and a vasopressor if indicated.

(4) Analeptic drugs are NOT indicated as they do not influence prognosis and may do harm.

(5) Constant monitoring of vital functions, serial blood levels and possible complications should continue.

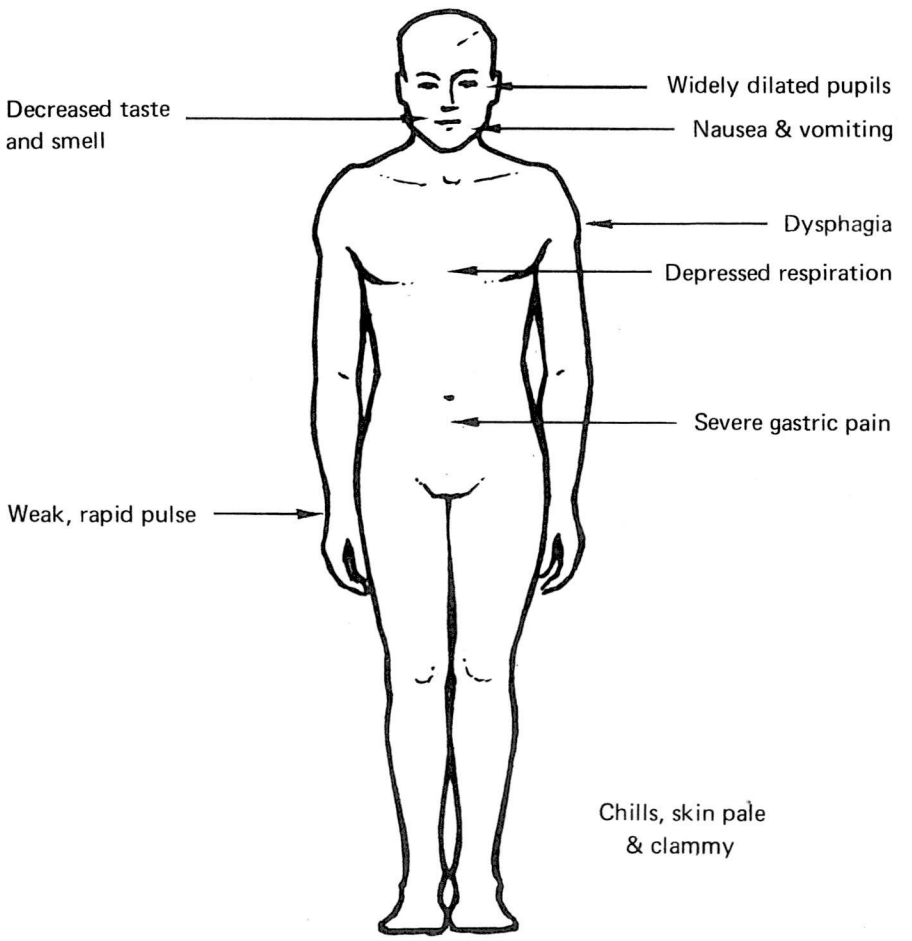
(6) The management of acute poisoning in a chronic user must be followed by gradual withdrawal of the drug under supervision, psychiatric evaluation, and the initiation of rehabilitative measures.

4.5 COCAINE

SIGNS AND SYMPTOMS

Behaviour patterns include garrulousness, brief euphoria followed by depression, hallucinations, delusions of grandeur, aggressiveness, paranoia. There is muscle twitching, increased reflexes, rapid pulse, irregular respirations, numbness of extremities and cyanosis. Severe poisoning may lead to convulsions and respiratory paralysis. (See Figure 5)

FIGURE 5


Widely dilated pupils
Decreased taste and smell
Nausea & vomiting
Dysphagia
Depressed respiration
Severe gastric pain
Weak, rapid pulse
Chills, skin pale & clammy

TREATMENT

(1) Supportive care, warmth, symptomatic relief.

(2) Assist respiration and administer oxygen if indicated.

(3) Sedation—Barbiturates 100–200 mg IM

or

Diazepam (Valium®) 20–50 mg IM.

(4) Dilantin®—up to 250 mg intravenous for convulsions.

4.6 OPIATE NARCOTICS

DRUGS

The opium alkaloids including legal drugs particularly morphine, Demerol®, and codeine and the major street drug of abuse, heroin (H, smack, junk).

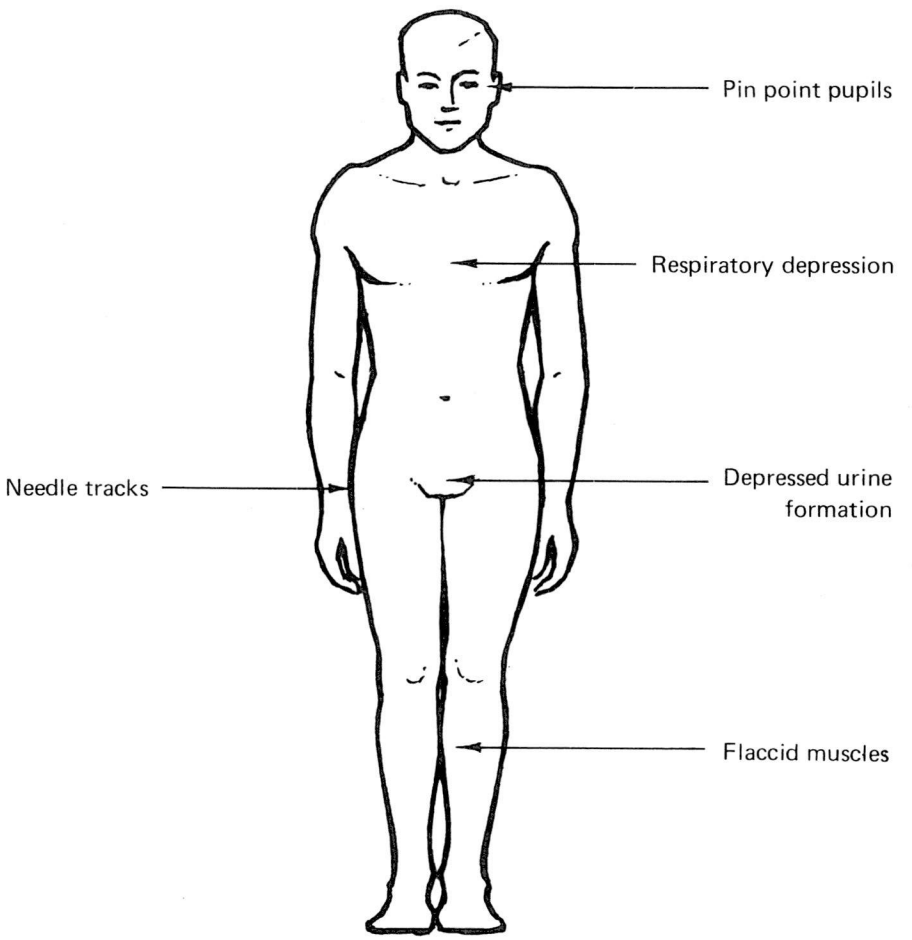
SIGNS AND SYMPTOMS

Most overdoses are accidental and are the result of and unknown potency of the material injected or decreased tolerance in the patient.

The classical signs pointing to narcotic overdose are coma, respiratory depression and pinpoint pupils. There may be rapid progression to death from shock or pulmonary edema. These patients are commonly dead on arrival, often being found with the needle still in their vein.

Chronic addicts will show signs of neglect, evidence of intravenous use, and secondary problems such as phlebitis, hepatitis, and pulmonary infections. (See Figure 6)

FIGURE 6


Pin point pupils
Respiratory depression
Needle tracks
Depressed urine formation
Flaccid muscles

TREATMENT

Supportive therapy includes some or all of the following:

(1) Artificial maintenance of respiration and oxygen administration.

(2) Narcotic anatagonists—nalorphine (Nalline®) in dosages of 2–10 mg depending on response. Because the antagonists are short-acting, they may have to be repeated frequently (possibly every two hours or so) until breathing and other vital functions are normal. In patients with barbiturate poisoning or withdrawal reactions, or with mixed opiate/barbiturate abuse, a narcotic antagonist *may aggravate respiratory depression.*

(3) Management of pulmonary edema if present.

(4) Administration of fluids, plasma expander and pressor drugs to combat shock.

(5) Detection and treatment of secondary complications.

Withdrawal Symptoms develop 8–12 hours after the last dose and must be controlled by gradual withdrawal using methadone, beginning with 10–20 mg orally up to a maximum of 40–60 mg the first day. The dose is then reduced by 5–10 mg daily. If the patient is also addicted to barbiturates, gradual barbiturate withdrawal is also necessary. If sedation is required, a tranquilizer, such as phenothiazine, may be used.

4.7 PSYCHOACTIVE PRESCRIPTION DRUGS

DRUGS

Drugs for the treatment of psychiatric disorders may be used in suicide attempts or, though rarely, in large doses for their hallucinogenic effects. These include phenothiazine derivatives (for example, chlorpromazine), Rauwolfia alkaloids (for example, reserpine), MAO inhibitors (for example, Nardil®) and the Tricyclics (for example, Tofranil®).

SIGNS AND SYMPTOMS

Because of the wide range of effects possible, the increasing number of psychoactive drugs available, and the relatively little experience with overdose phenomena, it is not possible to provide specific guides to diagnosis. Questioning of family, friends, and the patient's physician may be useful. Findings relate to abnormal behaviour, alterations in muscle tone, blood pressure, body temperature, cardiac and respiratory rate, and level of consciousness.

Some of these drugs may potentiate the effects of other substances. MAO inhibitors prolong and intensify the effects of barbiturates, alcohol, anticholinergics, and antidepressants. They may also contribute to hypertensive crisis when combined with dietary tyramine found in some cheeses, beer, wine, yeast, and coffee.

TREATMENT

Guidelines can be only general:

(1) Evacuation, if ingestion is recent, with gastric lavage.

(2) Vigilant monitoring of vital functions to detect cardiac arrhythmia, respiratory depression, impending cardiovascular collapse, and neurological changes.

(3) Support of respiration and circulation and control of any developments such as convulsions.

(4) Very conservative management of psychic disturbance until there is certainty of the drug involved.

4.8 VOLATILE SUBSTANCES: SOLVENTS AND GASES

DRUGS

Model airplane glue, gasoline, paint stripping preparations, nail polish, nail polish remover, lighter fluid, pressurized liquids, varsol, amylnitrite, chloroform.

SIGNS AND SYMPTOMS

Mild manifestations are primarily behavioural: a hazy euphoria, slurred speech, distorted perception including hallucinations, excitement or stupor. Diagnostic clues may be found in the odour from the mouth and irritation of mucous membranes.

There may be signs of damage to brain, liver, or kidneys. Anoxia, rapid pulse, and cardiac arrhythmia are common.

The patient may be discovered with his head in a plastic bag, and, if alone, is usually beyond help when discovered.

TREATMENT

Management is generally symptomatic and similar to that recommended for barbiturate intoxication. Of prime importance is administration of oxygen and support of respiration.

Epinephrine is NOT given because of the probability of myocardial sensitization.

5. ABSTINENCE SYNDROMES (WITHDRAWAL)

5.1 ALCOHOL

CLINICAL PICTURE

Acutely, the picture is one of agitation and anxiety, with generalized tremors and hyperactivity of reflexes which may progress to convulsions. Hallucinations appear, and by the third day delirium is the feature. Some patients may exhibit hyperthermia, exhaustion and cardiovascular collapse leading to death. If the patient survives the withdrawal stage, the syndrome subsides after a week.

TREATMENT

Management should be supportive, aimed at relieving symptoms. Tranquilizers are useful. Withdrawal should be the first stage in the rehabilitation process.

5.2 AMPHETAMINES

CLINICAL PICTURE

The severity of withdrawal phenomena following the intravenous use of amphetamines has been greatly underestimated. If the habit is a long-standing one and dosage has been high, the manifestations may be as severe as those from narcotic withdrawal with abdominal and muscular cramps, nausea and vomiting, and marked agitation. In all cases, there is rebound depression, apathy, and drowsiness which makes functioning impossible and provides the stimulus for "just one more hit to keep me awake so I can get through the day."

TREATMENT

Following the period of sleep (crash) terminating a long run, the withdrawal phase begins. Management includes:

- rehydration and provision of a rich diet including high doses of vitamin supplement;
- control of mood by titrating small doses of Valium® and Ritalin®;

- sedation at night to assist in the return to a normal 24-hour pattern;
- beginning the identification of problems and their solutions so that rehabilitation may occur.

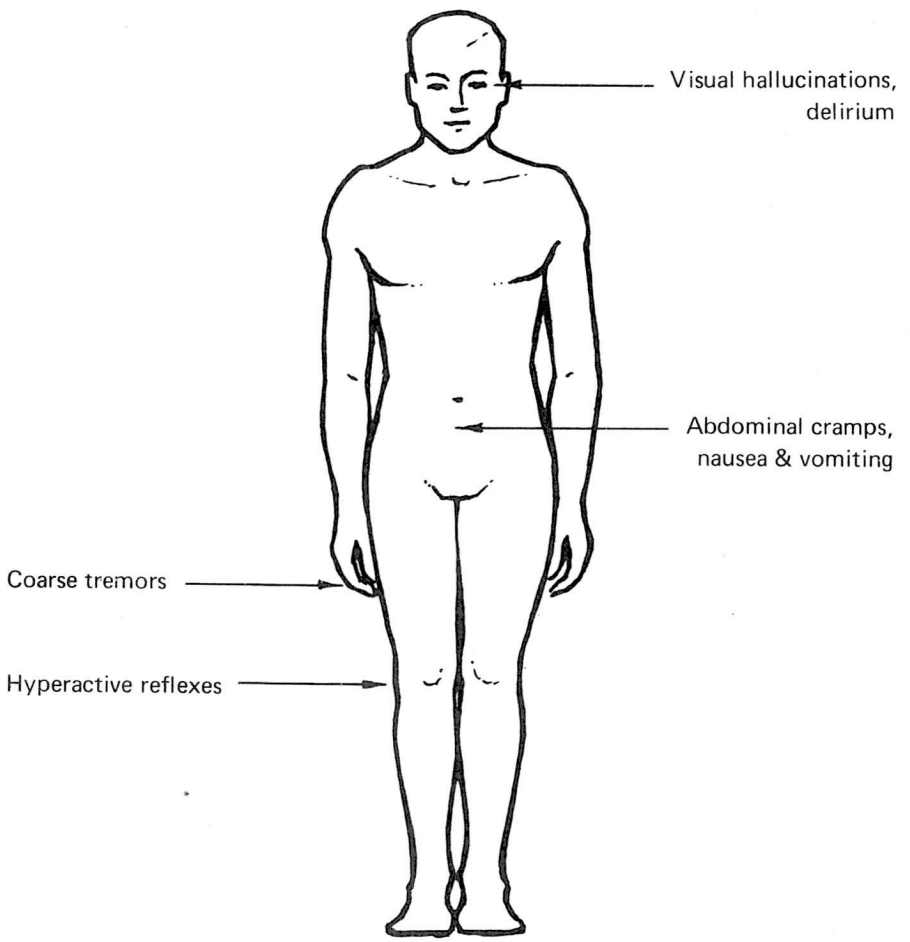
5.3 BARBITURATES

Clinical Picture

Withdrawal signs and symptoms vary in severity and timing depending on many factors including the type of barbiturate used. In short-acting drugs such as pentobarbital, the syndrome begins within eight hours of the last dose, seizures occur usually on the second day, and symptoms reach their peak during the second and third days. After withdrawal from longer-acting barbiturates such as barbital, symptoms are later in appearing and seizures may not begin for several days. (See Figure 7)

The pattern may progress from general weakness through convulsions to death; from mild disorientation through hallucinations to a full blown delirium which may have irreversible features.

FIGURE 7


Visual hallucinations, delirium
Abdominal cramps, nausea & vomiting
Coarse tremors
Hyperactive reflexes

TREATMENT

Management should occur in hospital and begins with stabilization on minimum dosage of pentobarbital elixir. After stabilization, gradual withdrawal is accomplished by reducing the dose by 100 mg daily. During this time, evaluation of the total patient should be done and an aftercare program designed to meet the specific needs.

5.4 OPIATE NARCOTICS

CLINICAL PICTURE

The severity of withdrawal manifestations is variable and exaggerated by the psychological craving for the drug. Muscular cramps are common, but not convulsions. Gastrointestinal symptoms include pain, nausea and vomiting. Chills and waves of gooseflesh appear. Thought disorders are not present as in the withdrawal from alcohol, but agitation and purposive behaviour seeking the drug are characteristic. All show influenza-like symptoms.

TREAMENT

A. *In Hospital*: Stabilize on oral methadone 20 mg twice a day, then gradual reduction of the dose by 5 mg per day until withdrawal is complete. Provide aftercare.

B. *Ambulatory*: The Haight-Ashbury Free Clinic has experimented with an outpatient withdrawal program aimed at symptomatic relief of the following:

- pain and muscle spasm (a non-narcotic analgesic);
- sleeplessness (chloral hydrate 2.5 grams);
- nervousness (Valium® 5 mg 5 times daily);
- gastrointestinal symptoms (an anticholinergic).

6. PSYCHEDELIC DRUGS

These drugs have behavioural rather than physiological presenting symptoms and signs and most commonly are seen as acute emergencies. They rarely pose life-threatening problems and are probably best managed outside of the hospital setting.

6.1 CANNABIS

FORMS

Parts of the dried marijuana plant (grass, pot, weed), the more potent resin hashish (hash), and one of the active ingredients tetrahydrocannabinol (THC).

DETECTION OF INTOXICATION

Mood intensification, usually euphoria with giggling. Altered space/time perception. Decreased concentration with rambling conversation. Lessened inhibitions. Conjunctival injection.

PROBLEMS

It is rare to meet acute problems related to cannabis use requiring medical treatment.

Brief and mild anxiety reactions may occur, particularly in naive users, unstable individuals, and older persons experimenting. These respond easily to mild reassurance and a supportive environment. Rarely should drugs be required, and if so, 5–10 mg diazepam orally is adequate.

Following prior use of LSD, smoking cannabis may trigger a 'flashback' which may be distressing if there were previous 'bad trips'. Here again, mild reassur-

ance with possible low dosage of diazepam is usually successful.

In the rare cases where cannabis has produced an acute psychotic condition which persists for more than 24 hours, psychiatric evaluation should be sought and—if there are no symptoms of atropine-like poisoning—treatment with antipsychotic drugs (for example chlorpromazine 50–100 mg four times a day) might be indicated. If the psychotic symptoms are severe and do not improve rapidly, admission to a psychiatric clinic or hospital may become necessary.

The 'amotivational syndrome' which has been observed in heavy cannabis smokers and which is characterized by apathy, lack of interest and inability to make decisions, usually subsides within a few weeks when the patient has stopped smoking. Recovery may be speeded by antidepressant drugs given for 3–4 weeks. Psychiatric evaluation would be indicated if no substantial improvement has occurred by then or if symptoms of depression (sad mood, guilt feelings, suicidal thoughts, sleep disturbance) make their appearance.

6.2 LSD AND OTHER PSYCHEDELIC HALLUCINOGENS

Drugs

The commonest drugs are LSD (acid), MDA, and perhaps STP. Although a great variety of materials reputed to be other exotic substances designated by alphabetical names are sold on the street, they rarely are what is advertised. Mescaline (organic and synthetic) appears to be abundant but samples analysed fail to confirm its presence in the Canadian drug scene.

Generally, street drugs are rarely pure because of incomplete synthesis and mixture with other substances, particularly amphetamines and anticholinergics.

The Psychedelic Experience

A brief summary of the effects of these substances is inadequate to convey the spectrum of experiences possible and is almost certainly misleading as a guide to someone attempting to help a user with problems. Further reading and discussion about this subject is highly recommended.

The 'trip' begins 15–60 minutes after ingestion and usually lasts less than eight hours, although it may be prolonged. During this time there is intensification and distortion of sensory perception, illusions and hallucinations which are mainly visual, the viewing of past events, altered awareness of self and the world, and varying degrees of mystical experience. The distinction between 'good trip' and 'bad trip' is not discrete but consists of a gradation of types of experience and variable success that the tripper has in coping with them.

The response varies from very positive (beautiful, profound, moving, the great experience of my life, like wow) through the acute anxiety of a 'bummer' to the severely negative reaction of a 'freakout'.

Factors implicated in the etiology of a 'bad trip' include:

- an unstable or pre-psychotic individual;
- unexpected experiences in a naive subject or one who finds himself in a trip different to the one he has grown to expect;
- variation in drug used and the presence of impurities;
- uncomfortable aspects of the setting in which the drug is taken— strange surroundings, unfamiliar people, danger of discovery;
- projection of the group's hangups upon an individual during the induction period;
- frightening content (depersonalization, symbolic death, dissociation, discovery of negative personal attributes) with which the subject is unable to cope;

- loss of ability to discern the difference between drug-related phenomena and the real world, with fear that the drug experience will last forever.

MANAGEMENT

(1) Management should occur in a setting which provides minimum sensory stimuli. An ambulance trip to hospital with noise, speed, and flashing lights culminating in arrival in a busy brightly-lit emergency department containing equipment and white uniformed personnel is more than sufficient to convert a 'bad trip' into a 'freakout'.

(2) Mechanical restraints and elevated stretcher-beds should not be used. A mattress on the floor and restraint by the hands of a single person who encourages the patient to participate by holding on to him will provide security without invoking terror.

(3) The therapist must convey from the beginning that he is concerned but confident, that he understands what is happening and knows that it is a temporary phenomenon produced by a drug. He should introduce himself and say what he is going to do slowly, clearly, and gently.

(4) With a minimum of manipulation and show of gadgetry, he should establish that he is in fact dealing with a bad trip rather than an overdose or withdrawal symptoms. He then asks the patient to tell him 'where he is at' in the trip: the things he is seeing and hearing, the way he feels about them, and why he is worried. The major points to note are:
   - Is the problem only fear of sensory distortion? ('The walls are bending?')
   - Is the patient stuck in a circular sequence of experiences from which he cannot free himself?
   - Is he afraid that he has had a psychiatric breakdown and will never return to normal perception?
   - Is he disturbed by facing some aspect of himself or his life which he had never resolved?
   - Has he become depersonalized or dissociated from his own body? ('I am standing looking at myself lying there. I can't make my body do anything now.')
   - Is he shaken by a mystical experience for which he was not prepared? ('I can see God. I am one with the blinding white light.')

(5) In the 'talking down' process an attempt should first be made to let the patient relax and flow with the trip, with the knowledge that it will eventually come to an end and the normal state will be restored. It is valuable to form a stable link with the real world for the patient—eyeball contact, gentle supportive dialogue, physical contact. ('Feel me touching your arm. Squeeze my hand.') Frightening or confusing patterns can be banished by gently focussing attention on an alternative source of stimulus. ('Look at this flower. Isn't it beautiful?') Dissociation is difficult to deal with: it involves establishing contact and two-way communication followed by gradually talking the patient back into his own body. ('Look in my eyes. Don't look away. Can you see that we're looking at each other? Feel me squeezing your hand? Feel it hurt when I squeeze hard. Squeeze back. Squeeze my hand very hard. See it's working,' etc.) Statements should be short and clear and repeated until you are sure that they have been received.

(6) Most workers now feel strongly that the use of sedative or tranquilizing drugs are not appropriate in the routine management of a 'bad trip'. They are only indicated as an adjunct to management when the volume of

patients is greater than can be handled by the available staff (as at a rock festival), when efforts to calm an agitated patient are not being successful, or when in spite of continuing attention a trip is prolonged beyond six hours with no signs of diminishing in intensity. When used, the drug of choice is diazepam 5–50 mg orally, attempting first small doses. When motives for administering a sedative are examined it is usually noted that the treatment is designed to restore order to a noisy emergency room rather than to help the patient. The sudden aborting of a 'trip' has been likened to driving a truck at 60 miles per hour and suddenly stopping it against a brick wall. The oral administration of niacinamide is useful since it can speed up the detoxification of LSD in the liver to the merit product 2-Oxy-LSD.

(7) Helpful non-professionals are useful in remaining with the patient to continue the 'talkdown' process, expecially if they are known to the patient and if they are able to function calmly. An experienced user may be more harm than good if his empathy is so strong that he projects his own fears upon the patient. 'Knowing the way' may be dangerous because of the temptation to suggest experiences that may have not yet been troubling the patient ('Have you noticed yet that you can't move your feet?').

(8) The job is not over until a debriefing has been held to determine if a normal state again exists, to ensure that the patient understands what has happened and that the therapist merely helped him to use his own ability to 'come down', and to open the door for a future visit in case there are problems underlying the present drug problem. The acute episode is not the time to explore other problems and initiate psychotherapy.

(9) A few cases will consist of a true psychotic state which was precipitated by the drug experience. These deserve hospitalization and psychiatric evaluation. The risk of unintentional suicide or self-injury because of altered perception during a 'trip' is relatively low.

7. SECONDARY PROBLEMS

The secondary effects of drug use may be identified during the management of an acute emergency or they may be the presenting problem that first brings the patient in search of medical attention. Dealing with them competently and compassionately may set the stage for a therapeutic relationship to develop which will have long-term effects on the management of the primary problems.

7.1 INTRAVENOUS COMPLICATIONS

The lack of care in sterilizing needle and syringe is characteristic and results in thrombophlebitis, subcutaneous abscesses, cellulitis, blood stream infection and serum hepatitis. Axillary lymph nodes may be enlarged due to particulate matter present in drug mixtures. The possibility of tetanus developing should be considered in those whose immunity has lapsed.

7.2 MALNUTRITION AND DEBILITATION

Use of amphetamines, in particular, shows these effects because of the anorexic qualities of the drug. As general health begins to deteriorate, problems of poor hygiene become apparent: slow-healing infections, VD, infestations by parasites, and vitamin deficiency. The alert physician will watch for these signs and encourage the patient to begin immediate reparatory measures. Hospitalization may be the only way of ensuring adequate follow-up care.

7.3 TRAUMA

7.3 TRAUMA

Trauma includes injuries received as the result of drug use because of violence while experiencing paranoid feelings or accidents occurring while concentration is impaired. It should also be remembered that symptoms of injury (or concommitant disease, such as diabetes and brain tumor) may be masked by the drug's effect. In particular, when dealing with an unconscious patient, the possibility of underlying pathology other than drug use must be carefully investigated.

7.4 PSYCHIC SEQUELAE

It is worth remembering that experiencing a bad trip on LSD does not constitute proof of psychiatric disability requiring after-care. However, the episode may provide a contact between the young drug user and a physician who has demonstrated his interest and competence, thus giving a foundation for possible future trust. A major consideration in the non-medical use of drugs is the possibility of triggering an underlying psychotic predisposition to a full-blown psychosis or the aggravation of personality or emotional inadequacies. Automatic referral to a psychiatrist may aggravate the problem in the eyes of the young drug user and make him feel sicker than he really is. In many cases, follow-up by a sympathetic family physician may be all that is necessary or desirable.

7.5 FLASHBACKS

Flashbacks are unexpectedly recurring episodes resembling experiences induced by LSD or other strong hallucinogens, but without the person actually having been re-exposed to the drug. Flashbacks are not uncommon and may occur in 20 per cent of hallucinogen users. During a flashback a former hallucinogen user may suddenly and unpredictably find himself experiencing the same distortions of space and time perception, the same disturbance of clear thinking and the same apprehension or panic he may have experienced during a previous 'trip' following a dose of an hallucinogen. However, the last—and perhaps the only—actual drug experience of this kind may have occurred several months ago.

Frequently, flashbacks occur without any recognizable cause. At other times, emotionally charged events, a few puffs on a marijuana cigarette, even a glass of beer or other alcoholic beverage, may produce a flashback. Flashbacks have also occasionally been reported in people who never used any stronger hallucinogen than cannabis. Such experiences can be very disconcerting because the person is usually in no way prepared for them when they occur. Fortunately, they last, as a rule, only a few seconds or minutes.

Treatment of this particular complication consists mainly in reassurance. One explains the nature of the experience to the patient, reminds him that he has had similar experiences before when he took an hallucinogen and that he recovered within a short time from the original drug effects. The flashback effects are usually of even shorter duration; and this reminder, together with the information that flashbacks do not tend to occur often, provide usually sufficient reassurance to enable a person to cope with future flashbacks without fearing for his sanity. If the patient's apprehension can not be sufficiently allayed by simple reassurance, he may be given one or two Valium® tablets (5 mg) to carry on his person, with the instruction to take one tablet if he becomes disturbed by a flashback. In the rare cases where numerous flashbacks occur every day, or the patient remains in a state of continuous severe anxiety, he may require treatment in a psychiatric clinic.

VII. THERAPEUTIC COMMUNITIES

INTRODUCTION

For the purpose of this discussion, a Therapeutic Community is defined as a relatively new treatment facility for chronic drug and alcohol *abusers*, with the following major characteristics:

(a) They demand total abstinence.

(b) They emphasize the 'here and now' rather than events in the past that may have been factors in the development of drug dependence.

(c) They force the addict to accept responsibility for his behaviour. His past conduct is labelled as 'stupid' rather than 'sick'.

(d) They stress participation in small, group-encounter 'games' which confront the individual with aspects of his behaviour and use peer pressure to modify his conduct.

(e) They rely heavily on the influence of ex-addicts in the operation of the community.

Although each program claims distinctiveness from other, apparently similar, programs, it is relatively difficult for an outside evaluation to determine major differences, with the exception of these two areas:

(a) *The use of professionals in the program.* Synanon is operated entirely by 'non-professional' ex-addicts and rejects the use of professional therapists and their methodology. Odyssey and Phoenix Houses use a combination of the traditional approach by professionals and innovative methods by ex-addicts.

(b) *The goal of the program.* In virtually all programs a major goal is the production of successful 'graduates', at least some of whom will continue as members of a 'treatment team' within the community or in similar settings. However, some programs are designed to facilitate re-entry of the graduate into outside society (for example, Daytop), while others (such as X-Kalay) frankly consider the community as a lifetime habitat for its members.

EXAMPLES OF THERAPEUTIC COMMUNITIES

SYNANON

The earliest and most widely copied therapeutic community is Synanon, which was founded in 1958 by Charles E. Dederich, a layman and former alcoholic. Synanon accepts former drug addicts, alcoholics and other individuals with emotional problems.

A major principle from which the present-day Synanon concept has evolved is:

> ...that if a particular social configuration of people and beliefs can produce a person's problem, another constellation of people operating within the framework of a constructive social system can ameliorate the same problem.

Avowedly a social movement rather than a specific treatment program, Synanon draws on a wide range of social, rehabilitative, recreational, educational and vocational resources. By 1965, California establishments were operating in Santa Monica, San Francisco and San Diego; others had begun in Westport, Connecticut and Reno, Nevada.

Most Synanon facilities are in larger communities, with a centrally located main

building for program functions, meals and administration, plus other types of residences ranging from dormitories to single family units, all located within commuting distance.

Since Synanon members engage in a wide variety of activities, it would be difficult to say that some are therapeutically useful and others are not. Every member of Synanon has a work obligation in one of the many Synanon enterprises. Jobs are allocated according to a member's seniority and ability. All work is considered relevant; there are no contrived 'basket weaving' jobs.

Attack Therapy

A major feature of the Synanon program is the verbal attack approach to therapy. In attack therapy, one individual is chosen for the 'hot seat' and his or her behaviour is criticized, repeated, ridiculed and exaggerated by other members. He has only verbal defenses. He may not behave violently or threaten violence. These sessions, termed "synanons", are based on the belief that "almost any kind of verbal tactic is legitimate if it helps a person to look at his behavioural soft spots."[9] The synanon has also been described as an act of love: "if we did not care about you or have concern for you, we would not bother to point out something that might reduce your psychic pain or clarify something for you that might save your life."

The abrasive nature of attack therapy is also designed to correct the individual's inability to "hear properly" in areas in which he is emotionally blocked.

Synanon's attack therapy has been described by Yablonsky as the very antithesis of more conventional therapeutic methods:

> Generally in professional therapy, the assumption is made that if a person's inner problems are somehow adjusted he will stop 'acting out' his bad behaviour. Synanon starts with an attack on the reality of overt bad behaviour.

Endore (1968) emphasizes that the synanon is not to be confused with group therapy:

> ...it isn't group therapy at all. It's a game. It's a contest. It's a sport. It's a vigorous workout for the mind and the emotions. It will strain your brain and your vocal chords... if it's therapeutic, as it most certainly seems to be, then it's partly for the same reasons that any sport is healthful, because it's strenuous enough to stimulate your bloodstream, raise your pulse rate, excite your senses, stir up your feelings, and leave you afterward refreshed and pleasantly exhausted.[3]

Sessions are administered by peers with common experiences on the theory that a fellow Synanonist is more acceptable as a therapist than a professional. The back-and-forth of the synanon permits reversal of roles. The elimination of the patient-doctor status roles in favour of a more democratic relationship is said to facilitate a deeper intensity and involvement between individuals.

Success and personal growth of each member are recognized as the major goal of Synanon's program. Reciprocal relationships means that "involvement with Synanon entails involvement with the success or failure of other members."[9]

In the opinion of Ruitenbeck (1970), the most striking aspect of the Synanon approach to therapy is the "insistence upon total honesty and forthrightness in the group encounter. No rationalizations or intellectualizations are allowed, and the emphasis upon what one's feelings are in the here-and-now situation is stressed." Directness, he believes, replaces such traditional psychoanalytic concepts as "working through". Ruitenbeck adds that "traditional psychotherapy is not very well equipped...to handle the addictive personality."[7]

Education

Synanon's emphasis on education also accounts for much of its success. According to Yablonsky: "We are more of an educational enterprise than a therapeutic one, more of a learning process than a therapeutic process. We don't presuppose sickness as much as we presume stupidity."[9] Seminars and classes are held on a wide range of subjects at levels up to those of a university.

Yablonsky (1965) also states:

> One of the dimensions of the Synanon community that may foster 'mental health' is its emphasis on cultural activities. There is an implicit encouragement to participate in a semantics class, a band, a dance class or almost any other kind of cultural or intellectual activity.[9]

Community Relations

Relations with Synanon's surrounding communities are generally good, despite some hostility encountered at the earlier stages of the organization's development. Much of the present acceptance of Synanon is attributed to the square games club, an association of peripheral adherents who, as members of the "square" community, participate occasionally in Synanon activities. One important result of community acceptance, added to an ambitious "hustling" program, is that Synanon's own income is supplemented by donations, such as food contributed by local supporters.

Drugs

Synanon strongly opposes the non-medical use of any drug including alcohol, by any member. This adamant stand is based on the conviction that any ex-addict who uses any psychoactive substance is in danger of returning to his original state of addiction. Yablonsky (1965) points out that he has known professionals who, in treating addicts, have not taken a stand against drug use on the assumption that if the psyche can be successfully treated, the addict will eventually abandon the use of drugs. He adds, "I do not know of one case where this professional position has succeeded."[9]

Social Status

The non-institutional nature of Synanon eliminates the need to leave at the end of a specified treatment period. A member may perceive Synanon as a valid way of life and decide to remain indefinitely. A successful Synanonist can see himself in a new social role, a "legitimate one, supported by the ex-offender's own community as well as by the inclusive society." Thus, new Synanon Houses are being opened up, and members are reported increasingly in demand for similar projects.

Evaluation

Due to the radically unique nature of Synanon, its success rate is more difficult to assess than the rates of more traditional facilities. Data on the number of people who have been to Synanon and have left are unavailable. One estimate suggests that about 20 per cent quit Synanon within a month. However, anyone who stays obviously does so in a drug-free condition. Synanon does not purport to be a primary treatment facility; where others have neglected to establish a follow-up program, the Synanon concept as a social movement does not recognize the need for one.

Critics have suggested that Synanon members could, in fact, become dependent upon Synanon. As Ruitenbeck (1970) queries, "are the Synanon members perhaps too sick to function in the world at large, and does Synanon in effect provide them with the opportunity to escape from the world that they could not face in the first place?"[7]

The question of success rates becomes even more difficult to answer in view of Synanon's somewhat defensive stand against professional examination. Yablonsky (1965) states:

> The kind of 'rigorous scientific evaluation' demanded by some professionals could possibly ruin Synanon....one of the reasons Synanon works is that people are treated like people and not like inmates....
>
> Another possible danger in using standard research methods on Synanon is that the approach could conceivably impair the aura of positive expectation and success that surrounds Synanon.[9]

It must be admitted, finally, that Synanon has enjoyed a significant measure of success while so many others continue to fail dismally and that it has "also reached a type of patient who so far has been at loose ends in terms of cure and adjustment."[7]

Daytop Village

Daytop Village was modeled after the Synanon concept. It began as a therapeutic community in New York City. From its inception in 1964, when a former Synanon staff member became the Director of Daytop's only centre on Staten Island, the program has grown to its present four residential treatment centres housing over 450 residents. In addition, there are five ambulatory treatment units through metropolitan New York for day-care treatment of drug users within the community.

Daytop's therapeutic approach is much like Synanon's with emphasis on the "here-and-now" difficulties of the individual addict, rather than an attempt to probe and 'rectify' the misfortunes of his past.

Specific goals are said to be elimination of the need for drugs; rehabilitation, both psychological and social; and, in a major departure from the Synanon concept, assistance in readjustment upon return to the community at large. The Daytop program also provides training for addiction rehabilitation workers.

Treatment involves psychotherapy and socialization—therapy within a voluntary residential community setting. The staff consists of ex-addicts with no professional training but with extensive relevant background work experience. No chemotherapy is employed.

Evaluation

As a measure of Daytop's success, there are presently 177 graduates, only 19 of whom have failed. Of the graduates, 39 work for Daytop, 47 are employed in unrelated programs, and 72 work in a variety of other programs.

Odyssey House

Odyssey House is a voluntary therapeutic community which was incorporated in 1967. It includes five facilities in New York City and one in Newark, New Jersey. The Manhattan house accommodates 60 persons—40 males and 20 females—plus a staff of eight resident ex-addicts.

The Odyssey program is divided into three phases: pre-treatment, intensive residential treatment and re-entry.

Pre-Treatment Phase

The purpose of this phase is to motivate the addict prior to admission to accept the idea of a meaningful therapeutic environment. This is accomplished by an Induction Supervisor (an ex-addict) plus a "Go-leader" in training from a later, in-residence

phase who together conduct three to five one-hour group sessions with "raw addicts" each week. Street addicts are believed suitably motivated when they have attended a certain number of meetings regularly and punctually, when their behaviour is deemed co-operative and when their dress is considered acceptable. (These criteria are modified for parolees.)

Court and agency referrals are accepted as well as a number of selected addicts currently serving prison sentences.

The co-leader may sponsor an addict he considers ready for the candidacy-in stage. However, his recommendation may be vetoed by the ex-addict and medical treatment supervisors of the intensive treatment unit if they believe further motivational work is required.

The first phase of induction is begun within 24 hours of admission and consists of an "Inquiry-In" conducted by the Clinical Director, along with representatives of the resident patients. The new member is confronted with the expectations and demands of the community. There are three cardinal rules:

(1) The use of contraband is prohibited;

(2) No threat or act of physical violence or any sexual acting out is permitted;

(3) Residents' urine is analysed daily for opiates, barbiturates, hypnotics and amphetamines.

After he has been accepted as a candidate-in, the patient becomes responsible for his share of the major manual work within the community, under the supervision of a higher-level resident. He also has four and a half hours a week of group therapy with a team consisting of a psychiatrist and the same "Go-leader" he had in the street. An additional four and one-half hours are spent alternately with the ex-addict treatment supervisor and two co-leaders. The patient at this stage has no voting privileges or voice in the running of the community.

The stringent admission policy is designed to impress prospective patients with the importance of the program, and it is alleged that a majority of patients react to rejection with an attitude of re-dedication.

Treatment Phase

Odyssey House emphasizes present behaviour, interpersonal relationships and attitudes. Therapists approach the patient with the attitude that the patient's way of life, although not the patient himself, is sick. Group work only is permitted in an effort to eliminate the conning, gaming and manipulating approaches of patients. This, it is believed, tends to minimize professional involvement in favour of peer-group influence, and the confrontation found in group therapy resembles that of the Synanon concept.

Between three and six hours of the resident's day is spent in group meetings. A minimum of seven and one-half hours a week are devoted to work with a Board eligible Psychiatrist, and part of this time is used for psychological testing.

Evaluations are conducted bi-weekly by patients and monthly by the staff. The system of assessment is designed to encourage the seeking of peer approval, for only with such approval may a patient move on to the next phase.

When his behaviour is considered mature enough, a resident may be sponsored for the first stage of re-entry. At this point, he must present a viable re-integration program for himself at a meeting of his peers and staff.

Re-Entry Phase

The first stage of the re-entry phase is that of "candidacy-out", and the second is discharge to outpatient status. At the first stage, the patient begins to implement his re-integration plan, and after six months he may sponsor himself for the "Probe Special-Out". If he wins peer approval, he is referred to the professional team for an independent evaluation.

On achieving out-patient status, the patient must participate in follow-up studies, including periodic urinalysis for five years, and, after discharge, engage in two 90-minute group sessions per week for two to three years.

In about 30 per cent of the patients reaching the re-entry level, neurotic problems are "unmasked", requiring individual therapy. A psychiatric referral system has been established for this purpose. However, individual work with psychiatrists does not eliminate the outpatient's obligation to participate in the group sessions.

Although graduates are eligible for employment with Odyssey House or with other agencies in the field of drug addicton, most are said to go on to lead lives independent of their former drug usage.[2]

Phoenix House

The Phoenix House Program is a residential system which was founded by five ex-addicts in a New York City slum tenement in 1967. At the end of 1970 there were 15 separate Phoenix Houses with more than 1,000 drug-free, full-time residents. The program admits anyone who has any type of drug problem. The ages range from eight to 67 years. About 40 per cent of the Phoenix House residents are minors and a full ten per cent are 16 years old or under.

Most of the staff members are trained former addicts who are supported by a group of physicians, nurses, research psychologists, teachers and social workers. A telephone line for help with any drug problem is kept open 24 hours a day.

The strictly enforced governing rules of Phoenix Houses are: no violence and no drugs. Violators may have their heads shaved. The major therapeutic tool of the program is the encounter, in which every resident must participate at least three times a week, and where everyone can air his grievances. Work and responsibility for regular chores such as building maintenance, cooking and gardening play important roles in the therapeutic program.

Educational seminars, public speaking courses, programs in painting, creative writing, etc., are part of the regular routine, as well as classes and special tutoring in ordinary school subjects.

After about 18 months a resident may graduate to be an "elder". This also means the beginning of re-entry. During re-entry the elders live in a Phoenix House but work outside.

The overall Phoenix House dropout rate is quoted as 40 per cent, including those who leave after only one day.[5,6]

X-Kalay

The oldest and best established therapeutic community in Canada is X-Kalay in Vancouver. It was launched in 1966 as an Indian Post-Release Centre, but in 1968 its name was changed to X-Kalay.

Physical Plant

The Foundation operates a service station and sells ballpoint pens which X-Kalay members imprint with advertising messages for client companies. X-Kalay makes a

particular point of its financial independence; however, there is overwhelming evidence of the local support given by business and industry in providing members with clothing, food, etc. Funding also has been provided for the staff by the Company of Young Canadians.

Statistics

There are now approximately 120 people in the X-Kalay program, including about 20 children who attend public schools but live with their parents in the community. These families plan to establish their own school in the near future because their children "are exposed to drugs at the public school."

About 40 non-residents take part in the 'games' offered by X-Kalay. Some residents live at the (X-Kalay) Foundation awaiting their trial after referral by the courts.

X-Kalay's Director states that about 300 have taken part in the program during the past four years. He claims that only about 30 who have left the program "returned to stupidity". He believes that those who join can function only within the Foundation for the rest of their lives.

The X-Kalay community is divided into tribes of about 12 people each. One tribe contains young people aged 15–21 and another the children younger than this.

Program

As with all Synanon-type programs, the key element in X-Kalay is the group encounter called "the Game" which is characterized by directness, honesty, attack, and a high level of noise production. Three two-hour encounters are held weekly plus a "Sunday Stew" of from four to six hours. Every few months a 24-hour "trip" (marathon) is held for selected members.

The goal of the program, as stated by the director, is to produce "teachers of people". Some of the persons from the Vancouver facility have recently moved to Manitoba to begin a second house. Alberta is next in line to establish a centre.

Emphasis in all conversations between X-Kalay inhabitants is put on placing responsibility for their behaviour upon the members themselves ("It's too easy to come up with an excuse for drug using") and on convincing patients of the impossibility of functioning in the outside world ("They wouldn't be here if they weren't stupid").

All members speak enthusiastically of the program, of the despair of their former lives and of the great new potential for their own development. Says X-Kalay's Director of one 19-year-old girl who has been in the program for two years and who is acting director of one phase of the operation: "Nobody of her age in Canada has as responsible a position."

X-Kalay, says its director, permits the individual to grow faster than Synanon members grow, because the experience is more intense, and more demands are made upon those who join.

Comments

This program unquestionably reaches some chronic addicts who are apparently unreachable in other ways.

Although stereo-typed behaviour and responses of some members give the impression that massive and effective indoctrination has occurred, X-Kalay has surely saved the tax-payer and the society both dollars and difficulties in terms of drug-free man days.

It should be remembered that the program does *not* aim to return its people to

society. The community aspires to be the complete and permanent solution to the problems of the individual and the deficiencies of the world outside.

Gateway

This therapeutic community, as described by Dr. J. Jaffe in Chicago, is similar to Synanon, although alcohol is not forbidden at Gateway. Re-entry into society is the goal. Enough statistics are available for this program to give at least some insight into the achievements of its approach.

Study 1

Gateway uses an open door policy, and 70 per cent of those who seek admittance actually join the program for at least one day. Of these, only 20 per cent remain in the program for as long as one year. The program's pace is such that re-entry to society begins one and one-half years after admission.

Study 2

In a second study, 62 people were referred on a random basis to Gateway. After contact with the program: one-third were so angry that they were lost to all forms of treatment offered by this particular program; one-third did not remain at Gateway but went elsewhere for another type of treatment; one third entered the Gateway program. Of those who entered, at the end of one year two-thirds remained in the program, apparently successfully.

414, London

In December 1970 a new therapeutic community sponsored by the Ontario Addiction Research Foundation opened in London, Ontario. It is unique in its special emphasis on the rehabilitation of chronic speed users and in its built-in experimental design to evaluate the effectiveness of treatment.

The overall program resembles that of Odyssey House.[1] Selection is strict to ensure that each candidate really wants to modify his behaviour. Both professionals and ex-addicts "do the treating". Also, there is a four-phase program aimed at returning the individual to the community as a successfully functioning citizen within a period of approximately 18 months.

The London program includes work, 3 three-hour group sessions per week and educational seminars. Again, cardinal rules are: no violence, no drugs and no sexual acting out. Enforcement is strict and infractions are dealt with by offering the offender the choice of either leaving the community or having his or her head shaved. Medical attention is available as needed, but routine testing is not done, and the use of any sort of medication is discouraged. There is no monitoring of urine for drug use. Members in each of the program's phases are relatively isolated from members in other phases of the program.

At the end of four months, 26 candidates had been accepted, of whom 12 were still in residence. Drop-out rates were greatest within the first week and near the end of the second month. Follow-up has been conducted on three-fourths of the drop-outs: only two are doing well; the others are in jail or psychiatric hospitals.

Per diem costs at the moment are about $30.00 per resident which are expected to fall as the program begins to function at full capacity.

The program is laid out in four phases:

Phase I includes a week's probationary period, an orientation to the program and

work.

Phase II lasts about three months, during which no outside contacts are permitted. During this period there is a heavy, compulsory schedule of group meetings, seminars, encounters and work.

Phase III includes a gradual move toward working or attending school outside while living in and participating in the life of the community.

Phase IV is for those living and working away from the unit but who return for one encounter group per week and who assist new residents in the program.

A site visit leaves the visitor somewhat shocked by the harshness of treatment but greatly impressed by these three aspects:

(a) the soundness of the experimental design which will compare the community's results with those of two psychiatric residential programs and an outpatient service;

(b) the competence of the present Director;

(c) the courage with which he is attacking the problem of managing the most difficult of drug users— the young speed freak.

OTHER APPROACHES

Although they do not fall strictly into the category of the therapeutic community, two other related approaches should be included here. The first is an "Outward Bound" type of rugged outdoor experience as a therapeutic setting; the second is an example of the less stringent innovative programs being developed both on a residential and on an outpatient basis which emphasize alternative life styles.

Boulder Bay

Boulder Bay camp, located in the British Columbia wilderness about 40 miles from Vancouver, is one of two experimental training projects operated by this province's corrections branch.

Only men are selected for the four-phase program, of whom 60 per cent have been convicted on drug and drug-related offences, and all of whom are selected for their high rehabilitation potential which is determined by drug and work history, age, personality and motivation.

Therapy is emphatically physical, consisting of four months of rigorous living and training in the wilderness. The program features swimming (all year round), mastering an obstacle course, calisthenics, rowing, life-saving and first aid, rock climbing and wilderness-survival training. Before they are paroled all trainees are required to endure a 72-hour wilderness-survival test equipped only with minimal resources.

Of the 107 trainees paroled since November 1968, only ten had been returned to jail by the end of 1969. The usual recidivist rate has been estimated at about 50 per cent.

A member of the Commission's research staff who lived for several days at Boulder Bay Camp came to the following conclusions:

> Boulder Bay Camp is successful in developing maturity, self-confidence and tolerance because it puts the trainee in a social environment which encourages development of these changes. The camp program seems likely to enhance the trainee's ability to lead a law-abiding life, but cannot guarantee it. While the camp attempts to instill in the trainee respect for the law, it cannot force him to adopt this as part of his 'living values' after release. Whether or not the trainee uses drugs again or commits subsequent crimes, depends on his personality and the specific social environment in which he finds himself. To quantify the

effects of Boulder Bay in terms of recidivism rate is to assume that the experience in the camp can change not only the trainee's personality (which it may do only to a limited degree) but also his future life experience (which it cannot change). Preliminary results of an evaluative study carried out by the British Columbia Correctional Services indicate that trainees from Boulder Bay have a slightly lower recidivism rate than a control group at the Haney Correctional Institution. Whether or not the final results confirm this initial positive finding, I feel that the program at Boulder Bay not only avoids many negative aspects of the traditional penal institutions, but it also can provide a positive learning experience for many young drug offenders. What trainees learn about themselves and others at Boulder Bay should contribute to their survival as law abiding citizens after release, but it cannot guarantee it.[8]

Head and Hands

A unique and perceptive approach to rehabilitation is offered by Head and Hands Human Resources Centre in Montreal. It is used in conjunction with the preventive-curative concept of street work, and it attempts to provide meaningful alternatives to drug use among adolescents.

Through a provisional setting of workshops, relaxation sessions, rap sessions, etc., the concept of "positive growth therapy" is fostered in the hope of creating new learning situations. As defined by the staff of Head and Hands:

> "positive growth therapy is the conscious opportunity to learn and discover one's own environment and the potential inherent in this environment. It is the dynamic search to recreate new and valid alternatives to environments which have become inadequate for the individual."

The Head and Hands staff believes that most adolescent problems are a result of social problems, such as inadequacies within the youth's normal environment. "Increasing numbers of youth feel caught in a sterile way of life among adults striving for seemingly meaningless goals, and no one to help the young answer their questions relating to life itself." At this point, the staff of Head and Hands believes that adolescents begin to use drugs in their search for alternatives.

One goal which alienated youth consider very important is the establishment of meaningful interpersonal relationships. Adolescents, often lacking in self-confidence, are also often unaware of their own potential. Thus, there is a great need for creative situations and environments in which such awareness is likely to be found.

The Head and Hands staff defines "therapy" as the existence of situations (environments), either spontaneous or contrived, in which such a learning process is most likely to occur.

Moreover, the adolescent is helped to perceive such occurrences so that they may be used in learning and growing. Therefore, the purpose of Head and Hands is to provide a sympathetic environment with abundant growth opportunities. Rapport between youth and staff is termed 'remarkable'.

At Head and Hands, individual youths gain an awareness and understanding of their own personal situations and environments through counselling and through psychiatric and medical services. Controlled social confrontation through rap sessions, T-groups and counselling is used to assist (encourage) social interaction. Errors and regressions are regarded as major forces in learning and maturing.

As the staff summarized: "the real effect of Head and Hands is difficult to measure, but any observer can see its presence and influence. The difficulties of dealing with apathy and alienation cannot be underestimated, but we feel that we have made a good start."

DRAWBACKS TO THERAPEUTIC COMMUNITIES: NEW YORK SURVEY

An independent survey of therapeutic communities in New York State[4] concludes that the percentage of addicts who achieve and maintain a drug-free state is too small to justify the high cost of such programs to the public. Thus, it is only fair to include a discussion of some of the treatment parameters and program shortcomings found in New York.

Difficulties encountered in assessing the New York facilities run across the board: reliable records are not generally kept, and there is no system of follow-up for patients who leave before completing a program. Many programs are so new that they count only a very few "graduates".

The study asserts that, "it would be desirable for the State to become much more active than it has been at keeping track of those who graduate or 'split' from private and local facilities subsidized by the State." This rule, we believe, would be equally helpful in Canada.

Aftercare surveillance is of paramount importance in the treatment of addiction and should be an iron-clad condition of admission to any voluntary, State-subsidized program. In addition to serving research, after-care surveillance might catch individuals who relapse at an early stage. Moreover, if the individual knows that he will likely be caught this might minimize his tendency to relapse.

The New York study defines two basic types of residential facilities for narcotic addiction treatment: in-community and remote. *In-community facilities* are generally favoured because they can gradually phase their patients back into the community and can provide a number of addiction-related services to the surrounding neighbourhood.

The major advantage of *remote facilities* is that of security. However, these facilities present a re-entry problem unless the patient finds work within the facility itself, or one which is similar. The study points out that the number of graduates of both types of facility is still too small to support an exclusive recommendation in favour of either.

Despite the numerous variables that could be, and often are, applied to a facility's admission and expulsion policy, the New York Study claims to have found "no real evidence that any particular form of sorting out and selecting addicts for treatment is preferable to any other, or that selectivity on grounds other than motivation gets better results than a door open to one and all."

The employment of ex-addicts as therapeutic para-professionals has a number of advantages, reports the New York Survey. Among these are: they are less expensive; they serve as positive models; they have an ability, often superior to that of a professional, to detect signs of continuing drug use; they are familiar with procedures of treatment; they feel loyal to a program which has helped them; and, through their involvement in after-care, they can help reduce the chances of relapse. However, the New York study cautions: "when an ex-addict staffer relapses, the effect on patients who looked on him as a model may be devastating."

Although the uniqueness of treatment programs was verbally stressed at each institution, the study found that differences were actually subtle. Work, attack therapy, counselling, practical and academic education, facilitation of re-entry to the society and a degree of continuing therapy were features common, with varying emphasis, to all 'concepts' covered.

The two major attitudes on which therapeutic approaches were based, the study found, were to regard the addict as "a normal person who had the misfortune to choose a bad habit" or as an individual whose addiction had "a catastrophic effect on [his] personality". According to the first philosophy, the addict's main need is practical assistance. The second approach stresses rehabilitating an 'addiction-prone' or imma-

ture personality.

As the study concludes: "most programs including those run by the State are blends, and the evidence of their success is not impressive."

SUMMARY

To summarize our findings and conclusions about therapeutic communities:

(a) All of the therapeutic communities we have described show success in maintaining a considerable number of ex-addicts drug-free and in a socially functioning state over considerable periods of time. Their success is particularly notable in view of the fact that most of their patients come to them with a long history of drug abuse and failure in other programs, particularly incarceration.

(b) There is no body of data to help evaluate the characteristics of candidates who are likely to benefit most from this type of program. We also have no way to quantify success in order to weigh the relative advantages of various approaches.

(c) Therapeutic community programs of the rigorous type are acceptable only to a special group of drug-dependent persons, which probably would not exceed 50%. Many are repelled from the start by 'attack' and deliberate humiliation as a form of self-confrontation and the key moves in the 'game' played in these special communities. There are no hard figures on how many graduate successfully from these programs, but those figures which are available indicate that only one third of possible candidates found the therapeutic community program acceptable. Some claim a rate of success as high as two-thirds.

RECOMMENDATIONS

1. **Therapeutic communities should be one option available in any national multimodal drug-dependence program.**
2. **An aim of the therapeutic community should be to equip those of its members who wish to return to the society to do so with success.**
3. **While the therapeutic community is built on the skills and self-confidence of the ex-addict, it should recognize that there may be a need, in some cases, to avail itself of the resources of professional staff or consultants.**
4. **All programs should have a research component, seeking criteria useful in selecting candidates, predicting success, and comparing various approaches to treatment.**
5. **The Department of National Health and Welfare of the Federal Government should encourage the development of additional therapeutic communities in Canada through financial and other assistance to those already in existence and organizations which appear to be effective in this field.**

VIII. ORGANIZATION AND COORDINATION OF COMMUNITY TREATMENT SERVICES

Introduction

It has by now become apparent that non-medical drug use, to the extent that it constitutes a problem, is only one aspect of the whole range of disturbed human behaviour and, as such, one aspect of all community mental health needs for prevention and treatment. The types of services required to deal with the health and welfare of people, including the drug-related problems, form an important list, and changing patterns make frequent assessment of the adequacy of these services necessary. The principal services required for drug-related problems are: (1) early *case-finding* and catchment of those at risk or already in need of help; (2) medical, psychological and social *treatment* of acute and chronic illness and dysfunction induced by non-medical drug use, including facilities for emergency treatment and, in some cases, long-term inpatient treatment; and (3) *follow-up* and after-care aimed at rehabilitation and prevention of relapse, including facilities for educational and vocational alternatives to drug use.

Today, there is general consensus among those who have worked in this field that the necessity of adapting to the requirements of youth and creating a youth services network at the community level is a primary consideration. In order to be effective, the services must be developed in such a way that they can earn the trust and respect of young drug users.

After establishing a network of youth services, the Committee on Drug Dependence of London, Ontario recommended that:

> ...all existing community organizations involved with provision of services for young people be encouraged...to examine their programs in terms of the relevance they have to present day needs and interests of young people.... that special recognition and attention be given to the needs of those persons aged 19–25, who, in the Committee's opinion, require more in the way of special supportive services than has heretofore been available to them through established youth agencies; it is being noted that the traditional recreation-oriented approach to development of character strength has little appeal to these persons, among whom are school drop-outs, unskilled labourers, political radicals or activists, persons released from penal institutions, 'freaks' and others who espouse and follow a 'non-conformist' approach to Society.

The non-medical problems faced by alienated youth are not yet being handled adequately by existing youth agencies. Yet, these agencies have good potential for assuming a preventive role, because they are in a favourable position to intercept problems at an incipient stage, particularly if they involve young people in the making of decisions that will ultimately affect them.

Nevertheless, when we are viewing mental health community needs in a more general perspective, we must recognize the transitional nature of today's youth-centred approach. A world-wide stirring among young people, which has resulted in psychological and spiritual malaise, in social unrest and political confrontations, has created special problems among the young, only one of which is the non-medical use of drugs with its destructive impact on mental health. The urgent, vocal and often violent problems created by this situation have forced our society to take a hard look at the existing mental health facilities which are expected to cope with these problems and to assess their adequacy. It soon becomes evident that these facilities are wanting in many ways and could not properly serve the needs of the disturbed young people who suddenly require help with over whelming urgency.

However, as the deficiencies of our community services for the young are being identified, it is inevitable that we will also note the general inadequacy of community services available for other persons who require them—for example, the alcoholic, the middle-aged drug-dependent, the mentally ill and mentally retarded, the aged, and socio-economically deprived people. No doubt, once we have succeeded in dealing appropriately with the present emergency situation created by disturbed youth, our whole approach to the mental health problems of the nation will have come under scrutiny and, hopefully, will have been reformed, so that the special problems and needs presented by young people will only be one aspect of the general concern with the provision of a network of services, the goal of which will be response to all needs of the community.

Services Needed

The following are the community treatment service needs which can be identified today for drug-related problems.

Information service: providing verbal, printed and audio-visual educational material for young people, their parents, teachers, physicians, and other members of the community. This includes factual information on the non-medical use of drugs as well as assistance in identifying existing agencies to deal with specific problems, including legal assistance.

Emergency service: providing a 24 hour phone-in contact, a facility for talking down 'bad trips', and a hospital-based crisis centre for serious cases requiring medical management.

Hospital services: for *inpatient* management of medical complications such as hepatitis; detoxification of alcohol, amphetamine, and heroin users; and treatment of overdoses.

Outpatient care for problems such as venereal disease and for continuing programs such as methadone maintenance and family therapy.

Laboratory services: regional facilities to carry out immediate analysis of street drugs and of body fluids in hospitalized patients. (Research is needed to develop quicker specific tests.)

Long-term care: therapeutic communities of various types to provide isolation while initiating rehabilitation, particularly for those who have been dependent on alcohol, speed, and heroin.

Rehabilitation services: It is necessary for communities to provide, in more than name, agencies and facilities whose function is to ensure the re-establishment into society of those whose acute drug-related problems have been controlled. These facilities include pre-vocational testing and training, alternative forms of education, and an effective job placement service. Long-term follow-up is necessary, in many cases, or all previous work may be wasted.

Temporary accommodation: Needs vary from over-night 'crash pads' for transient youth to longer-term support in half-way houses.

Coordinating Mechanisms: to ensure that *the individual* moves through the appropriate facilities in a logical sequence and that prolonged follow-up and support is provided. Most efforts at co-ordination meet limited success at best, mainly because they involve the establishment of central directorates which may threaten the autonomy of individual institutions.

Co-ordination

The two main reasons for the failure of delivery of health services by an agency to the young people of a community seem to be: conflicting beliefs and attitudes on the roles of 'client' and 'agency'; and unawareness on the part of young people that a service exists, or is available to them. (In fact, the inadequacy of referral in some areas suggests that some agencies do not even know that others exist.)

In a proposed youth services network, a *youth services coordinator* should be appointed by a board comprising both community leaders and a significant representation of the youth community. The remainder of the network staff would depend on the size of the community and the needs of the young people within it.

The essential *administrative functions* would be to co-ordinate services for individual clients, to continually evaluate the effectiveness of each facility in the network, to provide an informational service, to monitor and to report to the community any changes in its needs.

Coordination of *research* includes the provision of statistical services, advice on experimental design and program evaluation, and centralized record-keeping.

However, neither the research nor administrative functions would be complete without a thorough *system of follow-up*, which would relate effectively to individuals who have undergone emergency medical treatment and after-care. A follow-up system would also tend to prevent the development of a 'revolving door syndrome' within the network and work toward the elimination of dependence with early detection of relapses.

Major difficulties would be faced by the co-ordinating unit in achieving the necessary subtle balance between encouraging innovation and still providing enough direction to ensure continued relevance of all services—and all this without threatening the autonomy of individual agencies of the network.

Catchment, out-reach and referral should be significantly augmented by detached street workers and other service personnel working within the community. Their approach to young people should be casual: attempts to coerce individuals into treatment—particularly treatment of a psycho-social nature—have an established history of failure.

The system presupposes that each agency, including conventional services, is aware of each other's function. It is inevitable that there will be some overlapping of services. This might even be desirable, as long as referral to appropriate agencies is being handled efficiently, especially when emergency service is involved.

Emergency Care

Due to the wide and often unrelated variety of medical problems encountered by young people, emergency medical treatment, when required, is probably best handled by a multimodal approach. Again, the institutional estrangement experienced by many young people calls for a more casual and sympathetic treatment setting than the emergency ward of a hospital, particularly when acute drug reactions are involved.[b]

The 'storefront' or drop-in clinic concept has already gained the confidence of young people in some communities. Also, certain emergency problems can be handled more effectively outside of a hospital, with the added advantage of reducing the caseload of the local hospital's emergency department. However, location of the clinic should be close enough to hospital emergency facilities to make immediate referral easy.

In this connection, Dr. Beck, of the Charlottetown Mental Health Clinic, speaking to the Commission of crisis clinics generally, said he is in favour of small, decentralized drug-referral services catering to population units of about 25,000.

However, like other speakers addressing the Commission, he objected to any foundation specializing in a single drug. In Dr. Beck's opinion, for example, there should ideally be no alcoholism foundations.

Considerable overlapping of service and staff activities may be anticipated between the clinic (medical) and local crisis intervention centre. Although the crisis centre would be staffed by non-medical personnel whose duties would mainly involve a 'talk-down' service, a good deal of information-sharing and inter-agency referral should take place between the two units. In fact, shared facilities might prove the best approach in some communities. Both agencies would provide information to the public relative to their respective disciplines and experiences.

Post-Emergency Care

Therapeutic facilities for crisis after-care and treatment of drug-dependence should be designed to meet the community's needs.

Because of the relative novelty of such phenomena as amphetamine dependence, it is likely that considerable innovation will characterize most therapeutic approaches. All such treatment attempts should be well-documented and the results, including follow-up, be made available to others working in this field. Conventional agencies such as psychiatric units, where they are adaptable to youth needs, could participate in the provision of these facilities. When less clinical supervision is required, therapeutic communities, rural communes and half-way houses will undoubtedly prove useful.

Counselling and Alternatives

Counselling services should be offered to the youth community; they should be both informal and widely available. Counsellors should be carefully selected to assure that they are competent to intervene in the lives of other people. The emphasis should be on offering a variety of alternative resources, so that individuals disenchanted with more conventional channels can select others.

Closely linked to vocational counselling would be an employment placement service, established with the cooperation of local business and industry. The need is for temporary and part-time jobs as well as rehabilitative and permanent employment. An employment alternative for some could be provided within the network by placing capable young people as workers in the various agencies.

The demand for educational alternatives to secondary school has been partially met in some localities by the introduction of experimental schools. It is recommended that this concept be encouraged as a worthwhile contribution to the prevention of youth problems.

Social

A key element in the entire network concept is the youth drop-in centre.

In addition to its obvious benefits to youths who complain of 'nowhere to go, nothing to do', the drop-in centre may give adults and young people a common meeting area. If widely accepted by youth, the centre would also offer an invaluable informational feedback resource for all personnel involved in youth services.

However, the provision of a static facility for passive use has not met with long-term success; boredom sets in here too. Gradual evolution leads to a small, closed group who sit and share their perpetual sorrows. In some communities these centres become stigmatized, with or without justification, as contact points for the drug scene.

The success of the proposed drop-in centre would in large part be ensured by

encouraging youth participation in the operation of the centre and in originating projects.

The centre should provide facilities, ideas, and leadership for exciting and relevant activities which are alternatives to drug use.

Accommodation

As evidenced by the exodus of recent summers, lack of funds presents no handicap to a highly mobile segment of Canadian youth. The provision of temporary, inexpensive (or free) hostel-type accommodation is especially important in urban areas, if for no other reason than to avoid vagrancy charges—although one could also cite many more positive reasons for the provision of such accommodation.

Smaller hostels should be available on a year-round basis as temporary shelter for youths forced to leave home on short notice and others who have run away from home.

Longer-term residences, including half-way houses and therapeutic communities, would generally be of a therapeutic nature.

An American Multimodal Program

In Illinois, the Illinois Narcotics Advisory Council (INAC) has developed a complex program which incorporates many of the features which are essential requirements for the treatment of drug-dependent persons. This program has been developed particularly for opiate-dependent users who voluntarily seek treatment for their dependence. The general approach was based on the proposition that objective data from smaller programs should permit extrapolation to larger populations within the community. A 'multimodality pilot program' was envisaged, in which the following specific treatment modalities were to be employed, evaluated and compared with each other: (1) standard periods of hospitalization for withdrawal, followed by group therapy in the community; (2) the use of oral methadone in the context of a rehabilitative program; (3) the use of narcotic antagonists, such as cyclazocine; (4) residence in therapeutic communities, such as Synanon or Daytop Village.

The Illinois program is lodged administratively within the State Department of Mental Health and is a joint enterprise of the Department of Mental Health and the University of Chicago's Department of Psychiatry. Such an arrangement has greatly facilitated the solution of staffing problems. The treatment bias of the program is toward a medical and psycho-social approach.

General working principles are that, wherever possible, clinical facilties should be located for the convenience of patients rather than staff and that the patient population should be small enough to allow for the development of a sense of group identity and individual participation. The program was started in January 1968 and became fully operative in December of 1968. Through January of 1969, more than 800 narcotics users had made voluntary contact with the program, more than 300 were on the waiting list, and 15 new patients were being offered treatment each week.

The treatment complex then consisted of four basic clinical units:

(1) a short-term, low-dosage methadone unit;

(2) a hospital withdrawal ward combined with a half-way house (cyclazocine may be used in this unit to help patients remain abstinent from narcotics);

(3) a long-term methadone maintenance unit where dosage is more flexible and ranges to more than 100 mg/day; and,

(4) a series of therapeutic communities modeled after Daytop Village, operated under the aegis of Gateway Houses Foundation, Inc. (a non-profit corporation)

and financed through a contract between the state of Illinois and the foundation.

Patients were randomly assigned to one of the following three treatment approaches: (1) methadone maintenance; (2) hospital withdrawal and after-care with or without an antagonist; (3) a therapeutic community. The patients did not have to accept the random assignment (which was arranged for purposes of treatment evaluation) but could, after a period of four weeks, seek entry into the treatment unit of their choice. Computer programs were developed to provide print outs of all pertinent information for each individual patient, to permit full utilization in the care of patients and in the modification of treatment procedures.[1]

Conclusions

We recognize that many of the facilities mentioned here are non-existent in most communities and that minimal reliance has been placed on traditional agencies for the proposed network. This is due to our belief that the overall service philosophy of more traditional agencies does not yet coincide with the nature of present-day community service needs of young people. Although some, such as the YMCA, have provided such commendable innovations to the present social condition as detached street workers, most traditional agencies still seem to lack the resources or willingness to deal with the unprecedented difficulties of young people today. The increased reliance of young people on innovative services in the past few years seems ample proof that an alternative was required.

Where conventional agencies are able to meet the needs of young people, their contributions are welcome; where they are not, alternatives must be provided.

Finally, although it is desirable that serious legal entanglement be avoided by young people, it is hoped that the police and the courts will be able to develop a constructive relationship with the community services by referring, whenever possible, those who are in need of help due to non-medical drug use from the penal to the remedial system.

APPENDIX A

SOME OTHER THERAPEUTIC APPROACHES

Encounter Groups

It has been suggested that many drug users are searching, in a tortuous and convoluted way, for a game that is worth playing and that will give meaning to their lives. Encounter groups are one such technique which may give satisfaction to chronic drug users. The dynamic is to use the relationships between the individuals within the group as the lever to advance individual personal growth. This may also be attempted through the use of such techniques as psychodrama and Gestalt therapy, which are similar to group therapy.

Writing in 1970, Rogers lists two possible explanations for the rapid rise in popularity of these groups: first, the "increasing dehumanization of our culture, where the individual does not count"; and secondly, the fact that we are "sufficiently affluent to pay attention to our psychological wants". Rogers concludes that while the group process does have some disadvantages, the experience is almost always useful for the participants. He notes that behavioural changes are not always lasting and that there is always the danger of an individual assuming that because he has succeeded in revealing all aspects of his character, he has solved all his problems. When this occurs, the basic problems may remain unsolved. On the other hand, he points out that some participants, using group therapy techniques, have lived constructive lives during periods when they were clearly psychotic. Rogers is, however, critical of so-called 'growth centres' which may provide intensive group experiences for a few days, but provide no follow-up.[4]

Dr. Andrew Malcolm of the Addiction Research Foundation of Ontario[3] is critical of much group encounter therapy for its lack of controls over the qualifications of group leaders and their lack of professional training and experience. However, many obstacles exist to such professional qualification, since this method relies heavily on spontaneity, informality, innovation and, without exception, on equal participation in the group by both the trainer and the members. Synanon offers an example of a service in which no professionals are engaged with the group, yet the technique has been moderately successful.

With particular reference to chronic drug users, encounter therapy appears to offer three advantages, which are discussed below.

First, this therapeutic community, through confrontation techniques, bares personality defects and directs pressure from his peers on the user to change his behaviour.

Secondly, encounter groups may focus the attention of the young user on new kinds of personal experience, some of them as exotic as drug use—sensory awareness, for example.

Finally, the rapid welding together of a group of individuals encountering similar problems may well result in collective activities far removed from the use of drugs—such as theatre groups or farming.

Transcendental Meditation

Transcendental meditation is a practice which is reported to have originated in the ancient Vedantic tradition of India. Within the past decade it has gained some popularity in the Western world, perhaps chiefly through the influence of Maharishi

Mahesh Yogi. It is practiced individually, each day and requires little preliminary instruction.

A recent paper by Benson and Wallace surveys the influence of this practice upon a drug-using population. The paper is based on a questionnaire study of 1,862 subjects who had been practising transcendental meditation (T.M.) for three months or more, following a formal training course. Of the subjects studied, 1,081 were male and 781 female; ages ranged from 14 to 78 years, and about half were between the ages of 19 and 23. Most had attended college and on an average they had been practising T.M. for approximately 20 months. The decline in drug use by subjects in the study is illustrated in the table below which compares the percentage of drug users in the six months preceding the starting of T.M. with the percentage of drug users after 21 months of practising T.M.

Most of the respondents (61.1 per cent) believed that transcendental meditation was extremely important in reducing or ending their drug use. Only 3.6 per cent did not feel that T.M. was significant in their reduced use of drugs.

The study also recorded a sharp decrease in drug trafficking among those practising T.M. At the end of the 21-month period, almost 96 per cent of those who had previously been trafficking in drugs had ceased this activity. Likewise, more than 95 per cent of all the subjects said that since beginning transcendental meditation they had tried to discourage others from non-medical drug use.[1]

The interpretation of this study is limited by the lack of a control group and information regarding persons who had begun T.M. and subsequently ceased the practice. In addition, in most T.M. programs drug use is discouraged from the beginning since it is thought to interfere with the meditation process and, consequently, those persons not inclined to reduce drug use would be less likely to enter or continue in the program. In spite of these limitations, this study indicates that the therapeutic aspects of T.M. should be further explored in systematic fashion.

TABLE 3

DRUG USE BEFORE AND AFTER TRANSCENDENTAL MEDITATION, BY DRUG

	Prior to T.M.	After 22 months of T.M.
DRUG USED	(%)	(%)
Marijuana and Hashish (any use)	78.3	12.2
Marijuana and Hashish (heavy use)	22.4	0.1
LSD	48.3	3.0
Other Hallucinogens	39.0	4.0
Narcotics	16.9	1.2
Amphetamines	32.0	1.2
Barbiturates	17.2	1.1
Alcohol (hard liquor)	59.9	24.9
Tobacco (Cigarettes)	48.6	16.1

Source of data: Benson and Wallace

An unpublished pilot study by a student at McMaster University used objective tests of anxiety and tension to compare performance of three groups of university students: Naive subjects, those trained in T.M., and those allowed to practise 'meditation' but not following the T.M. technique. The study showed that T.M. had a marked influence in lowering the tension and anxiety levels in those students who had been properly instructed in its practice.[2]

Yoga

The practice of this ancient Far Eastern physical and spiritual activity has gained recent and rapid popularity in the Western world. Descriptions of its practice and techniques can be found in virtually every bookstore in Canada today, complete with recommended exercises, diet and suggestions for meditation. Witnesses have told the Commission that a number of middle-aged individuals have turned from pills and alcohol to yoga as a means of relaxing from the tensions of the day. Younger witnesses appeared to favour the spiritual and religious connotations of the practice of yoga.

Bio-Electrical Feedback

This method, also known as Bio-Feedback, results from electronic techniques which permit operant conditioning of electronic brain rhythms (Alpha or Beta waves). Through the use of an electronic device similar to an electroencephalograph, a subject can sustain a desired level of electrical activity in the brain which can be conducive to various stages of meditation. It is difficult to ascertain the potential of this method as an alternative to drug use since its development is still at an exploratory stage and hence is used by relatively few people. It may, however, represent a bridge between Western technology and Eastern mysticism which might provide a model for individuals seeking meditative or transcendental experiences without the use of drugs.

Educational Alternatives

Every community has encountered the teen-age drop-out who possesses high academic potential. His academic decline is often characterized by truancy, falling grades, frequent and bitter denunciation of the educational system, a growing disrespect for most aspects of society and, eventually, withdrawal from school. Efforts to direct these young people back into the formal school system usually fail because they still feel resentment against the methods and approaches normally employed in our educational systems, lack patience with the rate at which work advances in school and, in some cases, eventually find themselves beyond an age at which they can rejoin the grade they left. In the view and experience of some observers, these young people are at considerable risk to non-medical drug use, often with serious legal and medical consequences.

Arousing these young people from their attitudes of boredom and lethargy may require almost superhuman effort. Although they have opted out of normal adolescence, many of them exhibit immaturity in coping with the day-to-day problems of life. If they are to be re-motivated, they must be stimulated, encouraged and presented with considerable personal challenges through quite unorthodox methods of learning. Any attempts to persuade them to pursue further education will require an alternative educational plan. One such plan has been initiated in Hamilton, Ontario, for a population of young chronic drug users, and has received the support of some sectors of both the professional and business community of that city. The plan is called Cool School.

In the initial stages of designing this program, interviews were conducted with a number of young people whose inadequate academic performances contrasted with their measurable potential. They were highly critical of their experiences in high school. They found it uninteresting and, in some cases, so lacking in content that they became bored and failed examinations. They decried the limited opportunities for participation by students and the excessive amount of memorizing. They felt the teachers lacked humour and treated students like puppets. In short, they believed the system offered too much teaching and too little learning.

More positively, these young people felt that education should equip students to relate effectively to other people, to learn useful information about the world and systematically arrive at solutions to problems. They felt education should provide opportunities to develop physically, to prepare students for future vocational or academic activities of the students' own choosing and, in general, for adult life.

From these observations, Cool School designed a program that pursues roughly the following course:

(1) Students selected must have better-than-average academic ability, must have failed in the school system and are seen as being at risk to chronic multiple-drug use.

(2) The students selected are then evaluated and tested for their medical condition, physical fitness, experience, skills, interests and present knowledge. They are also given psychological tests and their background personal history is recorded.

(3) The students then form a working unit which is concerned with the self-expression and personality development of the individuals in it and demands a high standard of academic content and achievement.

(4) Ideally, the group will live together, although as a minimum, personal study areas are required as well as a common room for frequent meetings of the group.

(5) Although different individuals will achieve different rates of progress, the program is designed to motivate and enable a participant to complete Grade Thirteen in two calendar years.

(6) The program also establishes a plan for personal health and recreation that can be continued through adult life.

Throughout this program, the student has a joint responsibility with the teacher for his own learning. His role is somewhat that of an apprentice, and in this role he relates to the instructor who generally comes from the world of work and whose role is to advise, organize and stimulate. The students use the resources of this community, rather than duplicate them in a school setting.

At this point in time, the program can only be described, since it has not been functioning sufficiently long to determine its effectiveness.

APPENDIX B

COST ESTIMATE OF A TREATMENT COMPLEX

The Commission has undertaken a comparative study of the costs (per diem) of the different methods of managing or treating a person dependent on opiate narcotics in institutional settings. These are the relative daily expenditures:

in a half-way house without special program:		$ 7.50
in a therapeutic community:		10.00
in a Federal penitentiary:		16.30
in a prison (Quebec):		20.54
in a correctional institution with a	(men)	24.00
remedial program (Matsqui):	(women)	66.00

Simple methadone maintenance without an adjuvant treatment and rehabilitation program would probably cost about $1,000.00 a year per person ($2.75 per diem).

The operating cost of a fully equipped treatment complex using methadone or antogonist maintenance for persons dependent on 'hard' drugs (opiate narcotics, and, in the future, possibly speed or cocaine) in a centre which could care for about 50 patients living in the community can also be estimated. To be able to cover the full range of acute and follow-up diagnostic testing (medical, psychological and chemical), acute and chronic treatment and rehabilitative aftercare, such special centres would require at least the following staff: 1 psychiatrist, 2 nurses, 1 clinical psychologist, 2 social workers, 1 job rehabilitation officer, 1 occupational therapist, 1 pharmacist. The treatment centre should be located in a building equipped with offices, an infirmary with 4 beds, a laboratory, a dispensary, a lounge and a workshop. The operating cost of such a centre is estimated at about $125,000 per annum. A sufficient number of centres to care for 1,000 drug-dependent persons would cost about $2,500,000 per year.

Based on this estimate, the cost of providing therapeutic care for a drug-dependent person in such a centre would be between $7.00 and $10.00 per day—a figure which compares favourably with the cost of therapeutic communities and is well below the cost of imprisonment in penal institutions.

NOTES

[a] Recent clinical trials showed that another suppressor of narcotic withdrawal symptoms—l-methadyl acetate—was effective when administered only three times per week, but was otherwise indistinguishable from methadone to the dependent persons and observers. Since for the next year or two only limited amounts of the new substance will be available, the authors suggest that l-methadyl acetate at present be given to patients on methadone maintenance programs only on Fridays to carry them over the week-ends without obliging them to come to the clinic Saturdays and Sundays. [Jaffe, J. H., & Senay, E. C. Methadone and l-methadyl acetate. Use in management of narcotics addicts. *Journal of the American Medical Association*, 1971, 216(8).]

[b] Speakers at the Commission's public hearings mentioned the fear and dislike of young persons for hospitals; the sterility and structure of the hospital setting, where, in the midst of a bad drug trip, one may have to wait two hours to see a psychiatrist and then be asked his name, social insurance and hospital insurance number; the fear of young persons that the doctors might call the police; their fear that the doctors would contact their parents; and the inability or reticence on the part of many doctors to deal pleasantly, if at all, with drug cases.

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APPENDIX B

COST ESTIMATE OF A TREATMENT COMPLEX

INDEX

Only those names which appear in the text of the report are listed in the index; drugs are indexed by generic names and are listed under the major groups following the usage of the *Interim Report*. The relation of one topic to another is shown by using the second as a subheading under the first; thus in most cases the subheadings also appear as index entries.