III

THE IMPACT OF MENTAL HEALTH PROBLEMS ON INDIAN COMMUNITIES

In planning health programs, four pieces of information are vital: (1) what is known about the cause and course of the illnesses or disorders; (2) what is the frequency and severity of the disorder in the population; (3) how effective are available treatments; and (4) what is the cost of the available treatments both in terms of financial and in human resources. These items correspond to "E," "M," "I," "C," "O," and "P" in the formula presented in Chapter I of this monograph.

After understanding the diagnostic groupings, the second thing one must know in planning a health care program is the extent to which the disorder is affecting the population. Several concepts are useful in this respect. *Incidence* of a condition refers to the rate at which a problem is appearing in a population. Incidence is reflected as a rate of the number of new cases that meet the threshold diagnostic criteria per unit of time. For example, if a particular illness was appearing in a community, and it was certain that all the cases of this disorder walked through the doors of the only clinic immediately upon developing this condition, one could say that the number of patients walking through the doors of the clinic who met the criteria for the condition over a set time period such as a month or a year represented the *incidence* of the condition.

Prevalence of a condition is the number of people who have an active case of the disorder at a particular point in time. This rate will depend upon the incidence of the problem, the rates of death or spontaneous recovery from the condition, and whether the people with the condition stay in the community or leave for other settings, such as the chronic mentally ill who may migrate from the reservation to urban settings. If treatment efforts are under way, influencing the natural course of the condition, it is useful to consider the "natural" prevalence rate of the condition in contrast to the treated prevalence rate. In the case of illnesses with an infectious spread, the initiation of treatment efforts in a community may not cure all cases influencing the prevalence. In addition, the factors of the contagious spread of the illnesses may have an effect far beyond the actual treated cases. Some mental health problems, such as child abuse, alcoholism, and possibly depression have a contagious spread pattern, like infectious diseases. Looking at prevalence of an illness in a community with and without treatment interventions yields a major clue about the effectiveness of treatment interventions and is a critical piece of information in health program planning. In mental health, these considerations are made more complex by a "layering effect" of conditions upon each other. The

symptoms and behaviors that are most obvious to the public are often associated with a number of diagnoses. The public is often concerned with these behavioral endpoints, but lacks interest in the symptom clusters that constitute treatable subgroups of people who manifest these behaviors. For example, the public is very concerned with suicide, particularly suicide among Indian youth. Numerous programs have been launched in the past two decades in an attempt to reduce the rates of suicide per year. It is known that people who attempt or complete suicide, if studied in depth, fit several diagnostic categories, including major depressive episodes, schizophrenia, organic mental syndromes, panic disorder, personality disorders, adolescent identify disorder, and others. It has been repeatedly demonstrated that some programs which intend to prevent suicide using a shotgun approach oriented toward this behavioral endpoint, such as the use of "suicide hotlines," have not had any effects on reducing suicide rates. Treating the diagnostic subgroups in such cases (as recent research trends in alcoholism demonstrate) can often produce the effect of lowering rates of these "behavioral endpoints." However, the public and our law-makers often do not perceive this link between diagnostic subgroups and the behavioral endpoint, and therefore continue to support programs aimed at shotgun approaches to reduce a particular behavioral endpoint rather than effective treatment for the conditions that produce the endpoint. In some ways, this is like viewing automobiles as a general cause of traffic deaths, rather than looking to reduce highway deaths by improving driving skills, using seatbelts, better roads, good tires, etc.

In mental health in particular, it is clear that a single behavioral endpoint may be caused by a wide range of disorders of the brain, psyche, or social environment. This subtle point accounts for a range of phenomena including the tendency for the public to often support ineffective single-issue programs over broader but perhaps more effective programs.

The third thing that one must know beyond the symptoms, course, incidence, and prevalence of the diagnostic category is the effectiveness of treatment or prevention interventions for the condition. Even though it may be well intentioned, a particular treatment approach may not be effective in combatting a problem. For almost any condition in which the primary manifestation of the disorder is a subjective complaint by the patient, the *placebo effect* must be considered a significant factor in evaluating the treatment approach. The placebo effect was first studied with respect to the subjective improvements reported by patients taking placebos such as sugar pills. Patients taking these placebos often report immediate and significant reductions of pain, increase in the quality and quantity of general functioning, general increase in positive feelings, etc. It was found that the amount of response to the placebo effect was related to the enthusiasm of the practitioner administering the sugar pills, covert and overt suggestions about the effects of the pill, and even the setting in which the placebo was administered.

It was also found that interventions other than sugar pills produced the placebo effect in patients. It can result from any kind of treatment, from surgery to hypnosis. In mental health, the placebo effect also results from the various therapy "movements," as a function of the enthusiasm of the practitioner. It is generally recognized that therapeutic "true believers" of various social movements in mental health produce results that depend more upon the therapist's enthusiasm and conviction than upon the effectiveness of the actual therapy. Of course, placebo effect is not a bad thing. In recent years, hypnotherapists have made increasing refinements in the technical understanding of the components and uses of suggestion and placebo effect. These practitioners have been able to refine their suggestive techniques to the point that more than three-fourths of a general population may be responsive to some of the more subtle indirect techniques of suggestion. There is evidence that the placebo effect may influence several physiologic systems of the body, such as the immune response, cardiovascular response (including even the control of bleeding), and a variety of other physiologic functions.

While placebo effect has many positive features, treatments for conditions under study must be evaluated so that we may determine if a particular approach to treatment has any value beyond placebo. This can be done in a number of ways. It was found that clinicians, like their patients, suffer from a lack of objectivity in measuring results. If a clinician and/or patient expects to see improvement, it is likely that the improvement will be seen. For this reason, the use of the *double blind study* in which neither the patient not the clinician knows if the treatment is real or a placebo is a popular study design to evaluate the effectiveness of treatment. A patient may have a long-term treatment using the real intervention some weeks and a placebo other weeks, with the results of each measured. In other studies, patients are assigned randomly either to a group which receives treatment, or to a group which receives a placebo.

In a pure placebo response, it is the theoretical average result that one-third of the patients improve, one-third get worse, and one-third experience no change. In real life, the rates for each group may vary depending upon the unique composition of the patient population, expectations of the provider, and a number of other factors. The double blind study can subtract the rate of placebo response from the rate of response to the actual treatment intervention and determine the probability that some actual treatment value exists or does not exist as a result of the intervention. It might be surprising to the general public to learn the number of interventions, from forms of psychotherapy to over-the-counter medications and prescription drugs, that have never been proven to have more than a placebo effect.

A good knowledge of the placebo effect is essential for planning a mental health program. A well-informed program planner does not base assessments of the effectiveness of a treatment program upon the subjective testimonials from patients alone. Those who have worked as

health administrators recognize that almost any treatment program can tap into the third of patients who experience a feeling of improvement from any treatment; some patients will always come forward to give glowing testimonials. Likewise, any program can produce a number of patients who are willing to testify that the program did nothing for them, or else made them feel worse (there is a negative placebo effect as well as a positive one). Although the testimonials give the astute administrator or program planner valuable information of other kinds, little stock can be put into testimonials about the effectiveness or lack of effectiveness of a particular treatment approach. Unfortunately, numerical data resulting from well-designed studies is the only way to really tell whether a treatment approach is working or not, even though numerical data has less appeal than testimonials for most people.

To confuse matters further, many legitimate forms of therapy utilize placebo effect as part of the treatment program. As many small town general practitioners will agree, the "bedside manner" must often be used to give the patient a subjective sense that things are improving in order that the patient will give the treatment a chance to work. The mixture of benign suggestion and real medical and mental health treatment is a delicate balance. On one side are practitioners who have a brilliant command of the technical aspects of their field, but little treatment success because patients distrust and dislike them. Few of these practitioners' patients give the effective treatment strategy an adequate chance to work. On the other hand are practitioners whose treatments are largely sham or placebo, but who exude such an air of conviction and credibility that patients feel better even if they die from the lack of effective treatment. Because the good practitioner uses both suggestion and good treatment, the total outcome of a treatment program must be measured. One characteristic of the placebo effect is that without being renewed through further suggestion, it goes away over time. It is therefore useful to examine long-term outcomes for programs. For example, if a particular program claimed to treat pain, alcoholism, or certain mental health problems, the most revealing and useful information for the program planner would be the success of the treatment after the patient was through with treatment for a year or two.

The placebo effect is a legitimate tool if it is understood and used in an ethical manner, and not substituted for more effective but less appealing real treatments. Mental health workers have a definite role in helping other providers maximize the effectiveness of the placebo effect in their treatments, and in understanding it so that it is not mistaken for other types of results. This art of suggesting and convincing has a multitude of current and potential uses in health from improving "bedside manner" to convincing patients to alter their lifestyles for health promotion or primary prevention efforts. It has been found, by the way, that didactic or purely educational approaches to behavioral change are relatively poor tools for producing changes in attitude. The suggestive techniques that make the best use of the placebo effect are more like the sophisticated techniques

used commonly in commercial advertising. This may well be one of the major new health technologies of the future.

As a final complicating factor, the effectiveness of an intervention must be considered with respect to the stage of the development of the illness or condition. This subject will be discussed at some length in the sections on "prevention," below. However, it is worth considering that interventions which are effective for one stage of an illness may be ineffective in another stage of the same illness. For example, an intervention early in the course of an illness may be helpful in preventing the development of the illness into its more severe and chronic forms. The early intervention techniques, however, may be completely or partially ineffective in later phases. For example, relaxation techniques and exercise may lower blood pressure in early hypertension, but may not have any significant effects on more severe cases. Similarly, a treatment whose risk/benefit ratio makes it useful in severe or advanced forms of an illness may be much too risky for use in early intervention or preventive efforts. The World Health Organization forgot this principle in attempting to prevent malaria by putting quinine in the salt in India after World War II. Not only were there sudden problems with starvation because of increases in the population and from drug toxicity, but they created new, drug-resistant strains of malaria, at the cost of at least hundreds of thousands of lives.

The fourth consideration in program planning must be the cost of the intervention both in terms of money and in terms of other, critical resources. A particular form of treatment may be highly effective in combatting a certain illness, but may be so costly that one case would bankrupt an entire tribe's resources, thereby killing people who could get less costly treatment for other conditions. In other cases, treatment may be of reasonable cost, but may be largely ineffective. Thus treatment efficacy and cost must both reasonably enter into the process of planning mental health programs. In this formula, the worst possible sin would be an expensive program which produces no follow-up data demonstrating results.

If the data were available to fill in all parts of the equation and if there were enough money to provide for all disorders, program planning would be a simple task. Unfortunately, since we work with very limited resources, we must also balance the expenditures for one kind of health care and even one kind of mental health care against another. Several additional concepts are therefore useful. *Mortality* refers to death from an illness, and mortality rates refer to deaths per number of people per unit of time. *Morbidity* refers to the suffering that takes place as the result of the illness. This may be measured in terms of physical pain and disability, or in the case of mental health conditions in terms of loss of function, suffering caused to others, loss of productive ability, and increased risks to others caused by the person's illness. In addition, it includes the risks of death and injury to the patient. Measured in these terms, one can draw a comparison between mental health and physical health problems. In this

comparison it may be that mental health problems represent the most significant group of illnesses with which the Indian people will be faced into the next century.

What is Known About Indian Mental Health Epidemiology

Only two community-wide epidemiological studies have ever been reported from Indian communities, one in an Alaskan village and one in a coastal reservation in the Portland area. Both took place so long ago that the patterns of illness may have changed significantly since the studies, and both use criteria that are so dated as to have only a general relationship to modern diagnostic criteria. There are a number of more current, indirect epidemiological indicators for Indian communities. The results of some of these indirect indicators suggest that mental health problems may be far more serious than is generally known, and that major mental health problems may well form the basis for the behavioral outcomes that are among the most serious health problems of Indian people today.

For program planning purposes, several other epidemiologic points need to be made. Perhaps the greatest unmet health need of Indian people is the mental health of Indian children. One estimate of the prevalence of serious emotional disorders among Indian children suggests that about 25% of Indian children suffer from emotional disorders in the "serious" range. Yet IHS-wide data suggest that less than 10% of IHS mental health contacts are with children. With over half of the nation's Indian people in the childhood or adolescent years, this suggests that tens of thousands of Indian children and adolescents urgently need mental health services. This is discussed in greater detail in Chapter II.

Among adults, the two Indian epidemiologic studies estimate the prevalence of "definite psychiatric disturbance" to be 57% in one study, and 37% in the other. In the first study, 15% were found to be "probably disturbed." Because of the antiquated diagnostic criteria and the age of these studies, one might suspect that at least the first study may be something of an overestimation of the level of problems requiring mental health attention. Most current guesses are that between 10% and 30% of people in reservation Indian communities need mental health services.

What Clinicians and Researchers Suspect

In spite of the lack of solid epidemiologic data, clinicians and researchers suspect that there are reasonable epidemiological conjectures that can be made about the psychiatric makeup of Indian communities. Some of these conjectures are the product on the best thinking by Indian mental health epidemiologists around the country.

It is increasingly suspected that major depressive episodes are a diagnostic subgroup contributing significantly to many of the problems that are among the most significant causes of morbidity and mortality in Indian

populations. Depression seems to be one of the most significant mental illnesses in all age groups of both Indian and non-Indians. Increasingly, it is suspected that depression represents a precursor for the development of alcoholism and drug abuse in some patients. Even if the alcoholic population was composed of only 25% of people whose depression preceded the development of alcoholism, this would perhaps constitute a treatable subpopulation of alcoholics that might respond to new types of interventions. If the population of depressed alcoholics could be even reduced by half, perhaps a 12.5% improvement to treatment rates for alcoholism could be obtained. This would have a very substantial impact upon the alcoholic population. It is known that a variety of mental health problems predispose to the development of alcoholism and drug abuse in non-Indian populations. If the same were true of Indians, we would have a major advantage in the battle against alcohol and drugs.

Major depressive episodes and the spectrum of illnesses related to them may be a central feature in a number of other conditions. Chronic pain is frequently accompanied by features of a major depressive illness. Illness behavior (that is, illness which presents with vague physical complaints with no specific diagnostic findings, or illness with symptoms out of proportion to the level of physical pathology) may often be the result of a major depressive episode, although there are also other diagnoses associated with psychosomatic physical complaints.

Clinicians who work with families and who have been trained in systematic diagnostic skills note that major depressive episodes, alcohol and drug abuse, personality disorders, and psychotic states are often found in members of families with high levels of violence and other disordered family environments. In the workplace, the depressed employee may lose the ability to be creative and productive, and may appear either withdrawn or irritable and "burnt out". Effective treatment may often restore the employee to his or her previous levels of functioning.

Preliminary research and clinical work in Indian country suggests that depression is a substantial underlying problem. One can only guess at the positive economic impact that wide-spread knowledge of the diagnosis and adequate treatment for depression would have. If the patients who over-utilize Indian health facilities for vague physical complaints could be evaluated and those in this population who suffer from depression could be recognized and treated adequately, the costs of these patients to the health system could be substantially reduced. These savings would result both from reducing direct provider time spent on these patients and by reducing the expenditure of contract health funds spent in tracking down the vague symptoms so characteristic of these patients. If one could also make certain that all providers in the health system were also aware of the symptoms and treatment of panic disorder, the savings could be even more substantial. Several decades of studies of federal ambulatory medical clinics indicate that over half of the patients coming into

these clinics come to the facility with primarily non-physical problems (which are usually missed).

If our epidemiological guesses are even partially correct, the adequate diagnosis and treatment of a few conditions, particularly depression, might have a very substantial impact on a number of other major health and economic problems in Indian communities. The problems associated with depression and perhaps with panic disorder are significant because of the severity of symptoms and because of the high rates of death and disability resulting from them. Programs aimed at the detection and treatment of depression in Indian communities could have a major public health impact because of the potentially very large numbers of Indian people who suffer from these disorders, because effective treatment for these conditions is relatively inexpensive, and because adequate treatment is currently very rarely provided, as shall be discussed below.

Some problems appear to be less common among Indian people than among non-Indians, yet still place a large financial burden on the health care system. Schizophrenia, for example, is thought to be much less common among Indians than among the general American population. However, a chronic schizophrenic patient can use up substantial health care resources in the system. Because of the serious course of this illness, the chronic schizophrenic patient is often a life-long member of the health care system. These patients use a variety of resources including inpatient hospital beds on an ongoing long-term basis. For this reason, the adequate treatment of even some conditions with a low incidence may be very important to the long-term health of Indian communities.

Like panic disorder, it is suspected that a number of conditions may be present in Indian communities in substantial numbers, but have never been studied to the point where even an educated guess as to incidence or prevalence can be made. The author has noted a substantial number of patients with low-grade organic mental syndromes on some reservations. These patients may have suffered from traumatic head injuries, such as automobile accidents, or have long-standing damage from alcohol or solvent abuse. The only known approach to these people is a rehabilitative effort. However, a surprising clinical finding is that many reservations have patients with patterns of dysfunction suggesting thiamine, B-12, or folate deficiencies, treatable conditions which often result from chronic alcoholism, poor diet, and poor alcohol detoxification. If this observation is accurate, it suggests a need to re-examine alcohol detoxification procedures IHS-wide.

Guesses about the epidemiologic makeup of the mental health problems of Indian communities are valuable only in that they are better then randomly prioritizing problems. There is a desperate need for good epidemiologic data about Indian mental health for a variety of reasons, program planning being central among them. Though distressing, the lack of good Indian mental health epidemiologic data may be understandable in that Indian communities have tended to be skeptical of this type of research

because of past exploitation at the hands of researchers, and because epidemiologic research produces long-term planning and fund-raising benefits as opposed to the more immediate applications of clinical research which translates directly into patient care. Nevertheless, if we hope to design mental health programs that have a significant positive impact on the general health of Indian communities, we must have better and more significant information about the mental health epidemiology of these communities.

Indirect Indicators of the Mental Health of Indian Communities

If we indeed know very little about the direct mental health epidemiology of Indian communities, it would seem pointless to even try to plan a service delivery system to address unknown problems which are taking place at a rate that we do not know. However, our planning problems may not be quite as hopeless as they might appear. The behavioral endpoints, or final common pathways for a variety of more specific conditions do provide indicators of the general quality of mental health in Indian communities. Some of these behavioral indicators change quickly enough in a community that we may be able to use them to judge not only the changing mental health status of a community in terms of the prevalence of illness and the levels of psychosocial stressors, but the effects of our efforts to deal with the "core" mental health problems.

By using a profile of the indicator conditions, it may be possible to estimate the general mental health status of a community, to guess at the underlying "core" conditions, to design interventions to help treat or prevent the "core" conditions, and to find out whether or not our interventions with the "core" conditions have the expected effect upon the community mental health profile. This approach would have several advantages over the more microscopic studies of the "clinical" research formats in that there would be a very real community impact of the interventions, which we could measure. To the author's knowledge, no one has pursued or suggested that this specific approach to epidemiologic research be tried in Indian communities.

A further advantage of following the profile of indicator conditions for Indian communities would be the inductive proof of the links between the "core" conditions such as depression, panic disorder, and others, to the indicator conditions such as suicide, automobile accidents, etc. This would greatly strengthen the efforts of our programs to provide real and effective interventions for the troublesome behavioral endpoints that are of such great (and appropriate) concern to legislators and to the public. For example, if we try to treat every case of major depression on a particular reservation, how much does it reduce suicide, drug abuse, traffic deaths, etc.?

In general, these indicator conditions have not been amenable to direct intervention. Suicide prevention programs have had little impact upon suicide rates. Similarly, educational programs about traffic safety

have been unable to produce significant reductions in traffic deaths and injuries. Programs aimed at reducing the levels of violence in a community through education have not been successful. As a result, it is doubtful that the general "placebo effect" of doing work at all on one of these "behavioral endpoint" problems will be significant.

There is good reason to believe, however, that the indicator behaviors can be modified with good mental health programs. In a single year, one Indian psychologist--using a combination of traditional cultural "mental health" techniques and very modern clinical and public health skills--managed to reduce the suicide attempt rate of one reservation from 33 one year to none in the next year. Likewise, one of the tribes in the Portland Area has gone from among the highest suicide rates in the nation to a very low suicide rate by instituting a variety of community programs and by developing an intensive diagnostically-oriented mental health program.

Using a profile of the indicator conditions for each reservation could provide both a vehicle for planning redirection of resources, and a means of measuring the effectiveness of our programs. Some of the possible indicators that could be followed are noted below. They are the best available means of estimating morbidity and mortality on reservations, ("M" in the hypothetical formula presented in Chapter I) as well as being an indirect indicator of community mental health epidemiology.

Suicides and Suicide Attempts

Suicides and suicide attempts reflect a variety of "core" mental health problems. Certainly depression and the psychotic conditions result in increased suicidal behaviors, as do organic mental syndromes, borderline personality disorder, and other conditions discussed above. It is likely that alcoholism and drug abuse contribute to the suicide and suicide attempt rates. Some clinicians argue that drug and alcohol problems constitute both a "core" problem, and in other cases represents a secondary problem. Those who have worked extensively with Indian violence say that it is rare for a homicide, suicide, or assault to take place without the person having been drinking just before the event. However, exploration of the history prior to the event often reveals a history of another mental health problem that preceded the bout with alcohol or drugs, that in turn preceded the event of suicide, homicide, or violent crime. Thus the role of alcohol and drugs may be more complex in these events than a pure "core" pathology role. It may be that alcohol and drugs represent a facilitating mechanism by which mental health problems are turned into violence in some cases.

Designing programs to reduce suicide and suicide attempts may require several levels of effort. The treatment of major mental health problems known to be associated with suicidal behaviors should reduce suicides. In addition, the community should provide support for its members who have suicidal tendencies which may be related to personality issues

and developmental crises. If this theory is correct, suicide attempt rates and suicides should be reduced by good mental health programs, by good supportive therapy programs, and by socially oriented programs. The greatest reductions in suicide and violence rates should, however, come from programs which practice all three levels of intervention in concert.

One difficulty in using suicide and suicide attempts as indicators of community mental health is the current unreliability of reporting. Deaths on reservations are reported to the BIA and the law enforcement system. There are tendencies among some coroners and investigators to be very conservative with the term suicide on death certificates because of the religious, legal, and social stigmata of the act. Many physicians underreport suicide attempts for the same reasons, and because they do not wish to make a major issue of what seems like a "trivial" suicide attempt, such as a drug overdose (there are no "trivial" suicide attempts in terms of future risk and in the eyes of the legal "tort" system). Education of physicians, law enforcement officers, and coroners would be required in order to use this information as an indicator of community mental health, as would interagency cooperative agreements to share information.

Homicides and Violent Crimes

Some social scientists argue that homicide and violence are in many ways the equivalent of suicide. Although there is perhaps less depression among the group of murderers and violent criminals, many of the same "core" conditions are found in this group as among suicides. It may be that certain cultures place a higher degree of social acceptability on either violence or suicide, and so one or the other may predominate on a particular reservation. In some cultures suicide is considered to be an heroic act, and the community praises the suicide victims at their funerals and holds them in high esteem. This practice may encourage demoralized youths, in particular, to attempt suicide in order to gain recognition. In these cultures, suicides may predominate over interpersonal violence.

In other cultures, suicide may be frowned upon for religious or other moral reasons. If these cultures place a high value on physical courage, the potential suicide victim may go about picking a fight with a person who is likely to kill him or her. This clinician is aware of a number of "suicide" bars in the West where it appears that people go to pick such fatal fights. In yet other individuals and other cultures, the individual suffering from a major mental disorder may be likely to assault another person. This may be a wife, husband, or child in some cultures, an old enemy in others, and strangers in yet others (as appears to be a growing phenomenon in America's cities).

One problem with using violence and homicide as indicator conditions is the low rates of reporting of these events. On one reservation in the West, physicians kept a record of the violent crimes whose victims they treated. Of over 100 cases of assault, 20 came to a hearing, and only

four resulted in a conviction. Even deaths by homicide were rarely investigated to the point of bringing an indictment on many reservations. Therefore, this indicator may be difficult to assess, even though it may be critical to the overall picture of community mental health on reservations.

Traffic Accidents

There is a growing body of evidence linking "core" mental health problems with traffic accidents. Perhaps most obvious are the single car accidents in which the car has slammed into a post on dry pavement, for example. Studies show depression or major psychosocial stressors in the history of many of these drivers. Less obvious are conditions which hinder concentration and attention or cause aggression to the point of loss of judgement behind the wheel. A brief review of the major health problems suggests disorders might be most likely to precipitate traffic accidents, such as depression, schizophrenia, organic mental disorders, and panic disorders.

Because of the reporting requirements of the states and reservations, data about traffic accident rates should be relatively easy to obtain. While the contribution of alcohol and drugs to the traffic accident rates is well known, continually hazardous road conditions on some reservations make it difficult to compare different reservations using these rates. Nevertheless, rates of traffic fatalities and serious accidents should be at least roughly correlated with the mental health of a community.

Substance Abuse Problems

As noted above, alcohol and drug issues may be problems in their own right as portions of the broader pattern of "core" problems in Indian communities. However, alcohol and drug abuse may also be complicating factors for other conditions in "dual diagnosis" patients. This is a confusing problem because in other ways, particularly when the course is severe and the outcome quickly fatal, alcohol and drug abuse must be considered an outcome in addition to being a potential cause. For this reason alcoholism and drug abuse are powerful but non-specific indicators of community pathology. Perhaps because of these multiple roles, alcohol problems and drugs of abuse demonstrate poor treatment outcomes, poor responses to prevention interventions, and confusing patterns of community epidemiology if they are dealt with by any single theory of treatment approach.

Recovery from Medical Illnesses

Surprising as it sounds, the recovery of patients from serious medical illnesses may be related to a variety of mental health problems and psychological strengths. Several studies demonstrate that mental health

workers talking to patients reduce length of stay in the hospital and post-hospitalization recovery. From another perspective, people with depression and psychotic conditions suffer from a variety of infectious illnesses at a higher rate than the general public. From yet a third perspective, the patient's immune response and subjective perception of pain are well known to be associated with mood and the person's mental status. Why these observations seem to be true is not known, although preliminary work in psychoimmunology promises to shed light on this interaction of mood and immune response. Nevertheless, factors related to recovery from medical illness may be another non-specific yet significant indicator of the mental health of the community.

Measurement of the rate of recovery from medical illnesses is not easy to perform in a reliable way. The competence of the medical treatment system and the severity of illnesses on a particular reservation are clearly the main factors influencing recovery from medical illnesses. Controlling for these factors, however, two reservations with equally skilled medical care systems and the same rates and types of medical illnesses may have different recovery rates, based upon the psychological health of the population. An initial study of recovery rates for elderly orthopedic patients used two groups of patients, one with the intervention of a person talking to them every day, and one without. The group with contact with the mental health workers showed a variety of better outcomes. The closest that IHS and tribal programs could come to proving the effectiveness of interventions would be to do before and after comparisons of a hospital or clinic in the process of instituting a program of mental health interventions for the medically ill. Otherwise, it would be difficult to prove that reductions in hospital length of stay were a result of mental health interventions. Likewise, post-operative infections and post-surgical complications are influenced by too many other variables to be of great use in measuring ongoing changes in the mental health of the medically ill population, except as a before and after comparison to evaluate the effectiveness of a particular intervention.

Child Abuse

Child abuse is a critical indicator of the mental health of a community. Not only does the rate of child abuse reflect the current status of the general mental health of adults, the family, and parenting relationships; these rates may also predict the future mental health of the community and Indian people. We have discussed elsewhere the propensity of abused children to grow into future child abusers. In addition, the development of the children's personalities, and risks for future major mental health problems depends upon children's experiences in the critical developmental phases discussed above.

The rates of child abuse and neglect in a community probably reflect a variety of problems among the community's adults. Certainly

alcohol and dug abuse play a significant role in child abuse. Depression, psychotic conditions, and personality disorders also have a role in producing risk for child abuse. As a result, in communities with programs that effectively treat large segments of the adult population we should see a reduction in the actual levels of child abuse.

The difficulty with using child abuse rates to measure the overall mental health of a community is the variability of rates of reporting child abuse. One survey of an IHS clinic by the U.S. Department of Justice demonstrated that fewer than 50% of the cases entering a clinic with evidence of child abuse were reported to the appropriate authorities, as is required by law. It would be an understatement to note that the Department of Justice officials were not happy with this under-reporting. Child abuse rates can be used as an indicator of the mental health of an Indian community only if it is certain that reporting rates are accurate.

Epidemiology vs. Service Utilization

In addition to the limitations of service utilization data discussed above, several additional limitations are worth considering. As long as we are limited to service utilization data for most reservations, it is worth considering what this data really means. The Patient Care Information System (PCIS) system was developed mainly for use by administrators and program planners who sometimes promote this system as if it represented true epidemiological data. Like any "passive" health care data system, the PCIS system counts only patients who come into the clinic or hospital and are correctly diagnosed. If people suffering from a particular disorder do not come into the health system because they do not recognize their illness, because they fear stigmatization as a result of the illness, or because they cannot get transportation to the hospital or clinic, they are not counted. They may even die from the condition without ever being counted as suffering from it. Of all categories of health problems that affect Indian people, mental health problems are likely to be under-reported because people with these illnesses do not come to the health care system for the reasons noted above, and because mental health problems are so likely to be misdiagnosed. Because of the deceptive nature of PCIS mental health data, it might almost be better to collect no data than to collect PCIS-type data which gives a false impression of low rates of mental disorders on reservations.

The usefulness of service utilization data in making realistic estimates of the needs for mental health services or to make guesses about community epidemiology is severely limited. The patients likely to be seen by mental health systems (which do little community education) are two ends of the spectrum of people suffering from mental health problems. Patients so severely ill as to be next to impossible for the community to tolerate are likely to come to the attention of the mental health system. They are brought by police, relatives, and elders. The middle group of patients

with major mental illness who do not disturb the community do not seek care in the mental health system and are not reflected in service utilization data. The other group of patients likely to utilize the treatment system are patients who are better educated than the average person, and/or who have family problems, identity issues, and other more "growth" oriented issues. If the diagnosticians in the community are unsophisticated in the diagnosis of major mental health problems or are hesitant to "label" patients because of concerns for confidentiality or distrust of diagnostic systems in general, the service utilization patterns in a community may look like community members suffer from no mental health problems. In this situation, the service utilization patterns will omit reporting of the mid-range of illnesses almost entirely. Yet this is the group for whom services are most useful, and who may benefit the most from the more sophisticated treatments.

Three factors related to knowledge may grossly influence the rates of service utilization for mental health services. Perhaps most significant is the lack of awareness in communities that many dysphoric states represent mental health problems for which there is simple and effective treatment. Like people in the Western United States in general, Indian communities may see mental health problems as issues of information, morality, or strength of character. Although it is the author's impression that Indian communities may be more sophisticated than non-Indian communities in the West in health information, Indian people still avoid using the mental health system because they believe that if a person were tough enough they could pull themselves out of problems of behavior, feeling, and thinking.

Being Western people, health care providers often suffer from the same misinformation about the mental health system as their patients. For this reason, physicians, educators, nurses, and a variety of providers of services to the Indian population may not recognize a client's problem as being a treatable mental health condition, and see it rather as a moral issue or a condition of insufficient patient education. In addition, a problem in the IHS and tribal programs is a lack of modern information about major mental health diagnoses. In a field like mental health that is evolving at a sometimes alarming rate, the basic diagnostic technology of mental health has almost completely "turned over" in the last decade. Because of budgetary restrictions and other factors, there has been little systematic training for IHS and tribal mental health professionals and paraprofessionals in the last decade on diagnosis of major mental illness and its modern treatment.

Finally, another limitation of the PCIS system is the problem of definition of mental health services. In different Areas, mental health services have been defined by the professions of the staff in the Area Office. Administrators tend to hire and train staff to deliver care in a model that reflects a single discipline rather than the broad multidisciplinary orientation so critical to modern mental health care. Social workers who run Area programs may create and operate mental health programs in terms of

traditional social work models, sometimes depriving patients of effective psychiatric treatment because it is simply not provided. Psychiatrists have defined the mental health services in terms of traditional thinking in psychiatry, resulting in a loss of case management, cognitive therapy, and other effective treatments. Administrators from any single discipline can severely cripple the mental health system unless strict attention is paid to a multidisciplinary staffing and diagnostic model that includes the technology from all the mental health disciplines. Perhaps because of this phenomenon, there has been little national agreement about the definition of the services that Indian mental health programs should offer under the rubric of mental health services. One outgrowth of this lack of definition is that the definition of mental health services has grown much more restricted than the definition of mental health services outside of the IHS/tribal network. Valuable forms of treatment and patient care used in non-Indian mental health systems are often not provided by Indian mental health systems. As a result, to an outsider, the patterns of IHS and tribal service utilization are unusual and perhaps even perplexing. Issues that in other health systems would be clear mental health issues have not been addressed by Indian mental health programs. Therefore, it may be of value to examine how other systems consider mental health services.

Economics of Mental Health Care

In addition to the impact of mental health on the direct health and well being of Indian communities, the economics of mental health care may be significant if not critical to the well being of Indian communities. If the actual levels of major mental disorders in Indian communities approach the levels suggested by the epidemiological data, the economic impact upon Indian communities in terms of loss of employability and drain upon federal, state, and community resources may be very substantial. On the health system itself, the impact of the mental health problems causing needless medical diagnostic procedures, surgery, and loss of provider time is clearly very costly. The field of mental health economics is a budding one, with much less known than would be ideal for planning purposes. Nevertheless, the impact of mental health problems and their treatment in Indian communities may be considered from several economic perspectives.

As has been noted earlier, there have been several landmark studies of the effect of mental health programs upon health systems in general. The use of mental health workers on orthopedic and cardiovascular units has been found to produce substantial savings in terms of reduced length of hospital stays, reduced post-operative infections and complications, and increased return of the patient's functional status. These findings are now several years old and have not been utilized as much as might have been anticipated. Perhaps the reason for the lack of utilization of these findings is that they are only particularly useful from an economic perspective to health care systems like the IHS that have a

charge to provide overall health care for a person in the most cost effective manner possible. However, other comprehensive health care agencies such as Health Maintenance Organizations (HMOs) also have good reason to use this information and have not regularly done so. Systems that are paid on the basis of "procedures completed" or "episodes of illness" have much less incentive to put these findings into effect.

If the findings of the early studies were applied to health care systems on a practical level, one might expect a biphasic response. The expenses of the health care delivery system might be expected to increase initially as mental health staff are hired and put to work, and as patients with major mental disorders, who might previously have been missed, are identified and treated. The second part of the economics of the system would be expected to be a plateau phase, and then a long downward curve of the cost of health care per patient as the treatment of mental health problems begins to have an impact. As time passes, it should be possible to move increasingly from more advanced and severe cases to cases earlier in the course of illness at an increasingly high level of prevention. The costs of higher levels of prevention generally decrease over lower (e.g., tertiary) levels of prevention. In other words, the earlier in the course of an illness that intervention is begun, the less the cost per case, assuming that the interventions are effective.

Another type of potential economic impact of improved mental health care is a much broader effect of the improved mental health care on the economics of the community. A variety of studies have demonstrated that patients who utilize the mental health system also utilize non-health care services in the community at a high rate. This is hardly surprising when one considers the high rate of utilization of the courts, emergency rooms, social welfare, children's services, and the penal system by patients with severe mental illness. Mental health care, even on a inpatient basis, is usually much cheaper than keeping a person in jail. The overall impact on other agencies of the untreated mentally ill is substantial. Community planners who believe that they can save money by not providing adequately for the needs of the mentally ill find their jails full and their community medical budgets quickly depleted.

No one has studied the economic impact of the failure to provide adequate mental health care for children. Children who suffer from chronic mental health problems must, like adults, place a significant drain on the legal and human resource systems in future years. Certainly in both children and adults, the impact of crime is substantial, although it must be pointed out that in neither the case of adults or children do even the majority of criminals suffer from a treatable mental illness. At least some of the membership in the criminal justice system can be prevented by treating the sub-population of criminals with serious mental illness. With children, one must above all consider the overall economic impact of a failure to provide adequate treatment for the most severe problems which must certainly result in the eventual loss of educational and vocational achievement.

The economic impact of chronic mental illness probably cannot be avoided completely. By definition, our technology cannot "cure" this group of chronic patients. Depending upon the nature of the chronic mental illness, usually either schizophrenia or organic mental disorders, it may be possible to keep the people in their own homes and families and in their own communities. We can help try to control the deteriorating courses of these illness, and to provide psychosocial rehabilitation designed to assist the person to cope in as normal a manner as possible with life in the community. We may be able to reduce violence and other kinds of crime by providing early aggressive mental health treatment. In addition, the legal system requires that treatment for civilly committed patients be carried out in the "least restrictive setting," which means the hospital or possibly the community instead of jail.

The modern care of the chronic mentally ill requires a system of specialized services that includes medication monitoring, case management, and a variety of community-based programs such as residential programs, adult foster homes, partial hospitalization, outreach services, and others. In most non-Indian community mental health centers, the model of care is focused upon the chronic mentally ill, in large part because of the economic necessity of providing care for this group of patients. Most counties and communities facing budget restraints cut back all services except for the services to the chronic mentally ill because of this economic imperative. However, only a handful of Indian programs around the country have programs for the chronically mentally ill. Reasons for this will be discussed below, but the economic impact of the lack of these programs, from the housing of these patients in alcoholism treatment programs and jails to the loss of contract health service funds and costs to the legal system, must be substantial.

The greatest economic impact upon the communities from mental health problems must be the loss of employment of community members. Even when people are employed, it is estimated that up to 20% of the potential productivity of the employed work force is lost as a result of mental illness, alcoholism, and drug abuse. In one Area, a pilot program for IHS employees with mental health and substance abuse problems has been created in order to improve the effectiveness of the workforce. In the near future, similar programs may reach the state of development that they could be exported to tribal enterprises and governments. This technology offers some of the most significant "prevention" technology with an immediate economic benefit of any models for service delivery which could be imagined. Unlike programs for the chronic mentally ill, these programs are targeted toward improving the function of an already functional population. The economic benefits of this type of program serve the needs of both employers and employees. On an organizational level, this type of program is a cost-saving initiative and produces income because increased productivity can be added to the productivity base of an organization. From the standpoint of the overall community, this is much more of a potential

income producer than other systems of mental health care, which are aimed at cost savings rather than increased economic productivity.

As the result of decades of experience, other health care systems have made very different choices in prioritizing services than the IHS and tribal programs. In other systems of care, prioritization choices have largely been made for economic reasons. Some of these models of service delivery systems will be discussed below. These differences do not necessarily imply that the IHS/tribal service delivery systems are inappropriate for the population being served. Indeed, other systems have different economic needs than Indian communities. It does suggest, however, that Indian health programs should be thinking about the economic impact of the service delivery system. If Indian programs have not made previous program development decisions on the basis of economic and patient care issues, perhaps we should consider these as guiding principles for program development, in addition to issues of morbidity and mortality.

In the next section of this monograph, we will consider different models of service delivery. The reader is encouraged to consider the economic impact on Indian communities of the different service delivery systems that will be discussed below. It should be kept in mind that the systems which save the most money for communities are not necessarily the systems which will be the most popular with the community members, nor the most popular with service providers. Neither is it necessarily true that the most cost-effective programs produce the greatest help in reducing morbidity and mortality in the overall patient population. In addition, programs that are of the greatest economic advantage to the health care system (such as consultation/liaison services, in particular) may not be the models of service delivery that produce the greatest economic benefit to the whole community. The final question in this discussion of the economic aspects of mental health care is whose economic interests Indian mental health programs are obligated to serve. In other words, is the purpose of the health system to produce health and economic benefits for Indian communities or to save money for the federal government? Given a clear articulation of these priorities, our choices would be relatively simple.

The Political and Social Needs Addressed by Indian Mental Health Programs

If patient care and indirect economic benefits of programs were the only mental health needs of Indian people, the job of planning programs would be much simpler than it is in reality. Political and social needs, while often ill defined, are very real in Indian communities. If we needed only to think about the mental health needs of the patient population or the economic needs of the overall health care program, our program planning efforts would be much simpler. However, Indian communities have very

real economic and political needs that must also be addressed by mental health programs.

It would be relatively simple to hire mental health professionals with good educational backgrounds to fill all our mental health care service delivery needs, within the limits of our budgets. However, a significant fact is that in many Indian communities jobs are so scarce that on some reservations unemployment rates exceed 80%. In extreme cases, an IHS or tribal job must support an extended family of seven or eight people. Pressure to hire local citizens into any open job, even if the person has no experience or training, is an understandable and necessary function of the tribal government. Often the program director is faced with two desperate needs, either of which (but not both of which) can be met. In some Areas, the tribes have been far sighted and courageous in hiring and allowing the IHS to hire good mental health staff, but the political price paid by Indian politicians for this courage has been high at times. It is always easier for a tribal politician to insist that a local voter or supporter be put into any vacant job, including a mental health staff position, than to hire "outsiders." When the tribal government is forced by their IHS contract to fill a position with a qualified outsider versus a local citizen, the politician may decry the evils of the IHS and gain a political forum. In other cases, some tribal politicians are willing to risk sacrificing local jobs in the name of good health and mental health care.

For this courage and true concern for the welfare of the patient population, we owe the political and social system on reservations a better effort in meeting the needs for local employment while maintaining the quality of mental health services. In the past, tribes often reduced the effectiveness of contracted mental health programs by hiring non-qualified local people for mental health professional jobs. In addition, the IHS and tribal programs have hired bright and talented local people into paraprofessional positions, but have failed to provide the needed career ladders for these people through increased formal training and credentials. The ongoing locally-based training and case supervision needed to meet both service delivery and long-term employment needs has generally been lacking. The social and political obligations of mental health planners would seem to include placing a very high priority on the development of skills and academic credentials for members of the local communities. In this way, we could repay the courage and vision of the tribal politicians who have endorsed the development of a competent, high quality health care system, often at the price of loss of additional income for tribal members and at risk to their own political fortunes.

One political need with which we must take issue is the need for high "indirect costs" on mental health contracts common to many tribes. It is clear that this income is badly needed in Indian communities. Yet, in some cases, the rates of indirect costs for contracted mental health programs exceed 60%! In other areas of the country it is usually rare to find contracts with indirect rates much over 20%. Knowing that the needs

for this money are often great, the indirect cost rates must be questioned in cases in which the mental health programs have insufficient money appropriated for travel, supplies, or ongoing training and staff development. For some tribes, indirect costs are so high that money for direct programs is quite limited, since both direct and indirect costs come from the same overall national budget. The indirect costs of some mental health contracts must indeed be questioned if programs with a 50% or greater indirect cost rates cannot get a local budget sufficient to conduct their work in a competent manner.

Summary

In Chapters II and III of this monograph we have surveyed several points of view concerning the needs for mental health services in Indian communities. From the perspective of the training of health care professionals, the greatest mental health needs are the needs of the patients for treatment and prevention of the disorders that are the major causes of morbidity and mortality in the Indian community. From this perspective, the structure of any mental health system must be based upon the epidemiology of the mental health problems of Indian communities. The combination of knowledge of specific disorders, knowledge of treatments and their effectiveness for each specific condition, information about the epidemiology of these conditions, and a grasp of the technical resources that must be brought into play in order to put the effective treatments into practice are the critical pieces of information that are needed to create a mental health system.

Other information is also important from a planning perspective. Information about the economic impact of various conditions in terms of cost savings and generation of productivity are important to both the health system administrator and the community planner. Political needs may appear to be far different from either patient care or economic priorities. Political needs include the needs for the community to understand and be sympathetic to the goals and methods of the mental health system. The needs for local employment and the development of skills within the community may be complex, but must enter the equation of planning mental health programs. In some cases the political and patient care needs may appear to be in conflict with each other. However, through a systematic evaluation of both sets of needs it may be possible to reach a compromise that will meet all needs adequately.

Understanding these different perspectives concerning the need for mental health services is critical to any program evaluation or program planning effort for mental health programs. Competent program planning must take into account these frequently contradictory needs, and in doing so make the compromises that are required from a viable and useful program. In Indian mental health programs, the combination of various needs make these programs among the most complex of any mental health

systems in America. Not only are the epidemiological profiles less well understood than for the general American population, but the chances are good that the epidemiologic profiles which suggest needs for specific programming vary significantly among different Indian cultures. This fact adds an additional dimension of complexity to the task of planning Indian mental health programs. In addition, few other health care delivery systems have such a high level of general responsibility for the health care of entire communities, nor are other health care systems so responsible for meeting the economic as well as the health care needs of entire communities.

In the next chapter of this monograph, we will discuss traditional models of American mental health care and explore various models of the organization of mental health care systems. Because the needs of Indian mental health programs are more complex than those of most other mental health systems, none of the models derived from the non-Indian world can be expected to met our needs perfectly. On the other hand, portions of these other systems may help us to meet the needs of the Indian people with much more effective programs than currently exist.