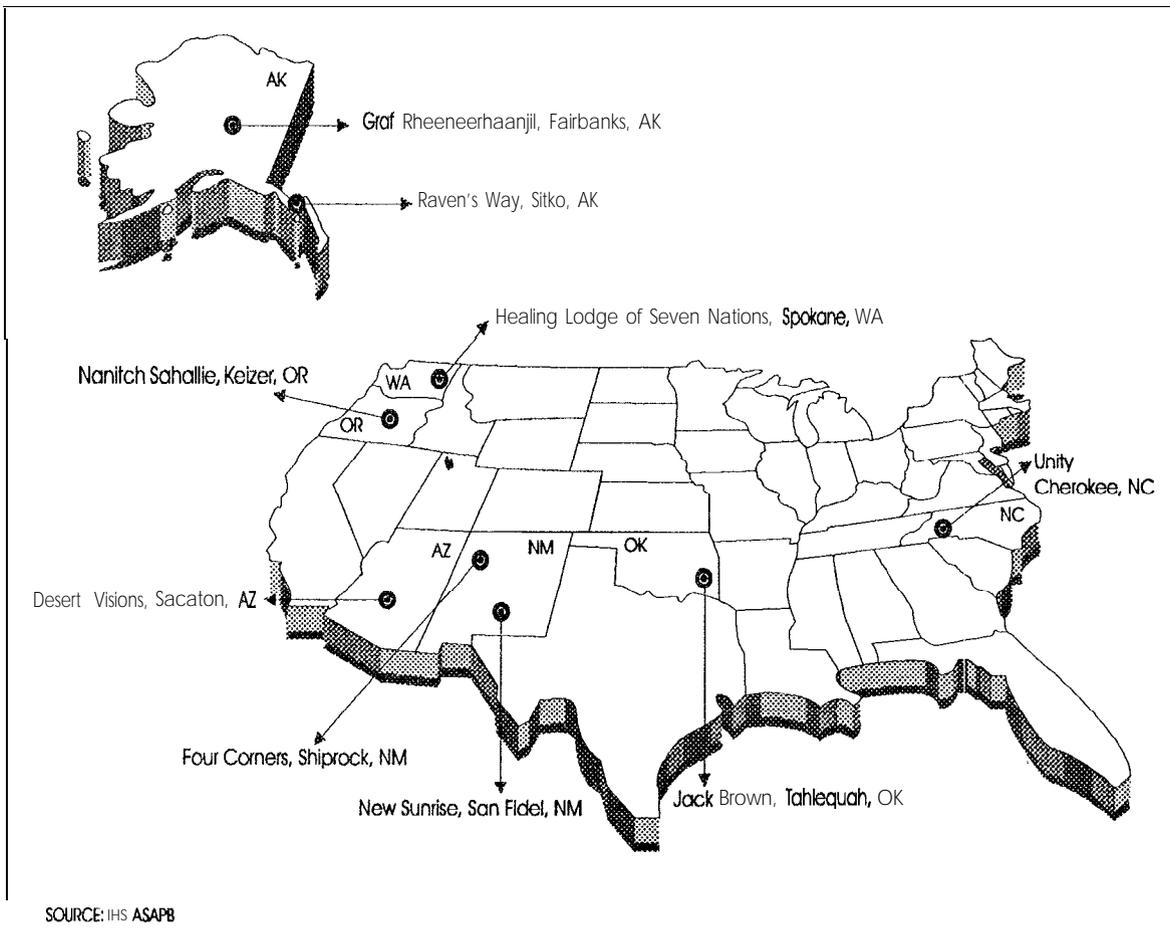


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# Evaluation of the Indian Health Service Adolescent Regional Treatment Centers

## VOLUME I



Revised November 1997



# Abstract

This was the first comprehensive evaluation of the nine HIS-funded Regional Treatment Centers (RTCs) providing alcoholism and substance abuse rehabilitation treatment to American Indian/Alaska Native youth. This retrospective evaluation involved site visits to the RTCs, staff interviews, review of client charts, collection of client follow-up data, and review of secondary data. The RTC clients, processes, and outcomes were compared to those of other adolescent residential treatment facilities. The evaluation revealed the client characteristics and RTC processes associated with successful treatment completion and post-discharge sobriety. Recommendations were made to improve the efficiency and productivity of the RTCs.

The RTCs admitted 1,288 clients during the period studied (from January 1, 1993 to May 30, 1995). Overall, 52% of these clients completed treatment; the completion rate ranged from 28% to 85% across the nine RTCs. The completion rate achieved by a comparison group of urban-suburban RTCs was 60%. Information on post-discharge sobriety was available for 51% of the 407 clients in the study sample; less than 25% of those clients had relapsed to pre-RTC levels of alcohol and other drug abuse. Significant efforts are needed to improve the systematic follow-up of RTC clients after discharge,

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# ACKNOWLEDGMENTS

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# Evaluation of the Indian Health Service Adolescent Regional Treatment Centers

## EXECUTIVE SUMMARY

### I. INTRODUCTION

The goal of this study is to evaluate the effectiveness and efficiency of, and consumer satisfaction with, the nine Regional Treatment Centers (RTCs) which provide alcoholism and substance abuse rehabilitation treatment to American Indian/Alaska Native (AI/AN) youth. The primary objectives of this evaluation include:

1. Assessment of the quality and effectiveness of the RTCs as measured by outcomes achieved;
2. Determination of what the RTCs have accomplished; and
3. Development of recommendations for continuous quality improvement of the RTCs.

This study was the first comprehensive evaluation of the adolescent RTCs funded by the Indian Health Service (MS). As of 1996, no comprehensive evaluation of the nine RTCs serving AI/AN youth had been published. As part of the assessment of the accomplishments of the RTCs, this study describes the RTCs as they were in 1996 and the clients they served from 1993 through 1995. The findings of this evaluation can serve as a benchmark against which changes and progress can be measured. Thus, this evaluation should be useful to tribes and tribal organizations, the RTCs, MS administrators, future researchers, and to others interested in Indian health and the problem of adolescent alcohol/substance abuse.

#### A. Background

**1. Need for adolescent alcoholism/substance abuse treatment.** Alcoholism/substance abuse have long been serious social and health problems for AI/ANs. For example, the age-adjusted mortality rates associated with alcohol dependence syndrome, alcoholic psychosis, and alcoholic cirrhosis among AI/ANs served by the MS is over 5 times greater than the rate for the U.S. general population. The alcoholism mortality rate for AI/ANs between 25 and 34 years of age is over 10 times the rate for that age group in the general population. Fetal alcohol syndrome (FAS) has been estimated to be 33 times higher for AI/ANs than for whites. At least 80 percent of homicides, suicides, and motor vehicle crashes in the AI/AN population are related to alcohol and substance abuse (A/SA).

National surveys of adolescent drug use report **AI/ANs** have higher rates of alcohol and other drug use than any other racial-ethnic group. Despite previous treatment and prevention efforts, **A/SA** continue to be prevalent among **AI/AN** youth-82 percent of **AI/AN** adolescents admitted to having used alcohol, compared with 66 percent of non-Indian youth. In a school-based study, 39 percent of **AI/AN** high school seniors reported having “gotten drunk” and 39 percent admitted to using marijuana in the month prior to the survey. Utilization of inhalants by **AI/AN** youth has been reported to be two to five times greater than that of non-Indian youth.

Adolescent **A/SA** are believed to be both contributors to and the results of other health and social problems including sexually transmitted diseases, physical abuse, sexual abuse, poor school achievement and drop-out, and suicide. The suicide rates for **AI/AN** youth aged 15-24 are nearly 3 times the national rate.

**2. Authorizing Legislation.** Forceful lobbying by tribes, American Indian organizations, and Alaska Native Villages with support from the U.S. Congress led to the enactment of legislation authorizing the **RTC**s: the *Indian Alcohol and Substance Abuse Prevention and Treatment Act of 1986*, Public Law (P.L.) 99-570. This legislation was reauthorized through the Anti-Drug Abuse Act of 1988 and through Section 704(a) of P.L. 102-573, Amendments to the *Indian Health Care Improvement Act*. These laws provide for the development and implementation of a program geared toward treatment of Indian youth who are characterized as alcohol and substance abusers. Such a program includes **RTC**s designed to effect rehabilitation for both sexes on a referral basis. Section 704(a) also provides for the integration of the **RTC**s into the intake and rehabilitation programs located in the referring Indian community.

**3. Establishment of the RTCs.** When funding became available, the **RTC**s began a development period in which facilities were obtained, staff hired and trained, and treatment programs were made ready to house and provide services to clients. The first **RTC**s to begin operation were New Sunrise and Jack Brown in 1988. The newest **RTC**, Desert Visions, was established in 1994 as the successor to the Phoenix/Tucson **RTC**.

Each **IHS** Area has enjoyed considerable autonomy in developing its **RTC**. Consequently, there is considerable variation across programs on many dimensions. Two **IHS** Areas, Alaska and Portland, have developed two **RTC**s. Since **MS** funding was allocated for only one **RTC** in each Area, these Areas divided their funds for the **RTC**s and supplemental funding has been obtained from other sources (e.g., **MS** Area and contract support funds, tribal and Alaska Native corporation funds, the States, private foundations, etc.). Four Areas (Aberdeen, Bemidji, Billings, and California) have elected to serve adolescents through referrals to private sector and other health care providers. Both the Aberdeen and California Areas continue to pursue the development of an **RTC**. The Aberdeen Area is scheduled to complete restoration of a facility with youth admitted in 1997.

The primary focus of the **RTC**s is to provide treatment to adolescent alcohol and drug abusers. The treatment goals include eliminating physical and psychological dependence on alcohol and other drugs, treatment of illnesses identified during treatment, the development of independent living skills as well as schooling appropriate to the client’s level of academic achievement and needs, and helping the client to develop and implement an aftercare plan to maintain sobriety after discharge. In general,

treatment services to meet these goals are provided through a holistic, biopsychosocial approach rooted in the adolescent's native culture.

Emphasis on **AI/AN** culture is a central component of the IHS-funded **RTCs**. This emphasis is reflected in most if not all aspects of the **RTCs** including: 1) affirming cultural norms of sobriety, responsibility to the tribe, band, and/or clan, 2) design and location of the centers, 3) program components such as family involvement, **A/SA** education, food services, recreation, 4) cultural and spiritual practices involving healing, purification, and forgiving, and 5) Indian preference in staff hiring.

As of 1996, most of the **RTCs** serve adolescents between the ages of 12-18; however, some extend their services to individuals up to 21 years of age. There are currently 9 **II-IS-funded RTCs**; 6 are tribally-operated and 3 are operated directly by the IHS.

**B. Project Steering Committee.** A Project Steering Committee (PSC), selected by MS, was established to assist in the planning and execution of the RTC evaluation. The PSC was comprised of 12 members, 6 of whom were directors or staff of the **RTCs** evaluated in the study. The PSC provided consultation and advice in key aspects of the study including study design, sampling, data collection, analysis, and reporting as well as suggesting solutions to practical and technical problems encountered.

## II. METHOD

**A. Study Design.** This is a retrospective evaluation of the treatment provided by the **RTCs** and of the post-discharge sobriety experienced by a sample of 407 adolescents admitted to MS-funded **RTCs** during the period January 1, 1993 to May 30, 1995. This time period was selected so that it would be possible to determine the status of RTC clients for a period of up to 24 months after discharge. This is a descriptive study-there are no experimental controls or control groups. A retrospective descriptive study was selected in order to provide baseline data needed for the initial evaluation of the **RTCs**. A more controlled, prospective study would require years to conduct, and the initial findings are needed now.

No RTC client was interviewed in this study-all client data were collected by means of in-depth review of client charts maintained at each RTC. The chart review approach was dictated by the retrospective nature of the study. Practical considerations including the time and level of funding available for the evaluation precluded locating and interviewing the former RTC clients to determine their current status. The collection of follow-up data on clients varied across the **RTCs**. When such data were unavailable at the **RTCs**, information on the current status of former clients was solicited from aftercare providers and/or the referral sources.

## B. Study Samples

**1. Client Population.** As part of this study, each RTC reported the number of adolescents accepted for treatment from January 1, 1993 through May 30, 1995. The **RTCs** reported 1,288 adolescents served with 669 (52%) completing treatment and 619 (48%) not completing treatment. The 1,288 adolescents served represent the RTC client population from which the study sample was drawn. Services provided to these clients represent a major achievement of the **RTCs** during the 29 month time period reviewed by this study.

**2. RTC Client Sample.** The client sample was a stratified proportional random sample of adolescents treated by the MS-funded **RTCs** from January 1, 1993 through May 30, 1995. The primary mode of stratification was the 9 **RTCs**; the second stratum was client completion status-treatment successfully completed and client discharged (i.e., “completers”) and treatment not successfully completed (i.e., “drop-outs”). A total of 407 RTC clients was randomly selected from the 18 cells in the sample design (9 **RTCs** by 2 levels of treatment completion) probability proportionate to size (number of clients in each group).

**3. RTC Staff Sample.** Each of the nine RTC directors was interviewed. In addition, the majority of the staff at each RTC was interviewed-the number of staff interviewed at each RTC ranged from 9 to 27. If available, persons in the following positions were interviewed at each RTC: clinical director, psychologist, primary counselor, teacher, senior night (after hours) counselor, and aftercare specialist. A sample of the counselors was interviewed at each RTC.

**4. Comparison Data.** The characteristics and outcomes experienced by the RTC clients were compared to those of two groups of clients from the general population served by over 30 adolescent treatment facilities located primarily in urban or suburban locations. The comparison data, known as the **CATOR** data, were obtained from published reports of 826 and 1,483 adolescents respectively. Since there are important differences between the RTC and **CATOR** data in the characteristics of clients served and in their circumstances, comparisons between the groups must be made with great caution; nevertheless, the **CATOR** data represent one of the few sources of published information on the treatment of adolescent alcoholism and substance abuse. Since this is the first study of the treatment provided by the MS-funded **RTCs**, comparisons with the **CATOR** data are of some value.

**C. Data Collection Methods.** Data were collected from the following four sources: 1) RTC staff, including the RTC Directors, 2) a sample of RTC client charts, 3) aftercare providers (contacted only when follow-up data was missing from a client chart), and 4) RTC Board members and staff from the MS Alcoholism and Substance Abuse Program Branch (ASAPB).

**1. Teleconferences.** As part of the preliminary data collection activities, teleconferences were conducted with the director of each RTC, appropriate MS Area staff (the Area Director and/or the Area Alcoholism and Substance Abuse Program Coordinator, ASAPB staff), and contractor staff. The purpose of the teleconferences was to discuss the goals, objectives, and methodology of the evaluation, and to obtain information on the **RTCs** such as mission, treatment approach, operational procedures, and available data.

**2. Site Visits.** On-site data collection was conducted at each of the nine RTCs. Data collected included interviews of the RTC Directors and a sample of RTC staff, and review of the charts of the clients selected in the sample.

**3. Secondary Data Review.** Basic organizational materials from each of the RTCs were reviewed in advance of the site visits, and comparative data were extracted from published studies of 30 non-Indian RTCs located in urban/suburban areas.

**4. Data Collection.** The data collection team consisted of nine persons. Each data collector was a member of a Federally-recognized tribe and was experienced in the areas of Indian health and alcohol/substance abuse treatment. The majority had advanced degrees (3 doctorates in psychology, 2 masters degrees), one was a nurse-practitioner (RN), and another was a physician's assistant. The data collection team participated in a 2-day training session which included pilot testing the instruments at one of the RTCs. Analyses of the extracted data showed a high level of agreement across interviewers and chart reviewers. The data collection instruments and procedures were field tested at a second RTC. The field testing indicated that the instruments could be used reliably, and the data could be collected without interruption of RTC services.

In order to elicit the candid judgments and opinions of the RTC Directors and staff, they were told that their judgments, opinions, and other information would remain anonymous, and that in comparisons among RTCs, each RTC would be identified only by number. The goal of this evaluation was to assess the efficiency and effectiveness of the RTCs collectively as a program rather than evaluating the strengths and weaknesses of individual RTCs.

**5. Problems Encountered and Solutions Developed.** This study encountered four problems: 1) Securing clearance from the IHS Institutional Review Boards (IRBs), 2) partial shutdown of certain Federal agencies during late 1995 and early 1996, 3) changes in MS structure, policy and procedures associated with increased compacting with tribes, and 4) mistrust of Federally-sponsored health research. Each problem was overcome by identification and application of the needed resources.

### **III. FINDINGS**

**A. Qualitative Description of Client Outcomes: Illustrative Case Histories.** Case histories of RTC clients were presented describing two examples of post-discharge client outcomes—a successful outcome and an unsuccessful outcome.

#### **B. Profile of RTC Client Sample**

**1. Gender.** There were 230 (57%) boys and 177 (43%) girls in the RTC client sample. Across RTCs, the percentage of boys ranged from a low of 44 percent to a high of 68 percent.

**2. Age.** The mean age of RTC clients was 16.2 years. Girls were slightly but significantly younger (mean=15.8 years) than boys (mean=16.4 years). The RTC clients were younger than clients in the

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non-Indian comparison RTCs-24 percent of the RTC clients were 14 or younger in contrast to 12 percent of the comparison clients.

**3. Substances Abused, Severity of Abuse, and Age at First Use,** The most frequently used substances were alcohol, used by 93 percent of the clients, marijuana, used by 84 percent of the clients, and inhalants, used by 36 percent of clients. Few of the adolescents used barbiturates (5%) or cocaine (5%). On a daily basis, more RTC clients abused alcohol (25%) than clients in the **non-Indian comparison RTCs (1 1%)**, and more RTC clients (32%) used marijuana than clients in the comparison programs (28%).

Severity of **A/SA** is a function of the frequency of abuse and level of intoxication. Clients with more severe **A/SA** made less progress in treatment, were less satisfied with the RTC, and had a higher drop-out rate than adolescents with less severe **A/SA**.

The age at first use varied with the substance. Alcohol (mean **age=11.7**), marijuana (mean **age=12.3**), tobacco (mean **age=12.0**), and inhalants (mean **age=12.5**) were used at the youngest ages. Narcotics (mean **age=14.2**) and over-the-counter drugs (mean **age=14.8**) were **first** used at older ages. The findings on age at first use have implications for **A/SA** prevention efforts--efforts that target teenagers and high school students will be "too late" for many adolescents who begin to abuse alcohol by age 11 or younger. If prevention efforts are to impact children before they begin to drink and/or smoke, the efforts have to target children in elementary schools at ages younger than 11 years and even in the Head Start program.

Boys drank alcohol (**mean=11.5** years) at significantly younger ages than did girls (**mean=11.9** years). There was a relationship between age at first use and history of physical and sexual abuse--clients who were abused tended to smoke cigarettes and drink at earlier ages than those who had not been abused. The RTC clients' age at first use of alcohol was similar to that of the non-Indian comparison RTCs.

**4. School Status and Grades prior to Admission.** The client charts often contained information about the client's grades in school prior to admission. The majority of RTC clients had unsatisfactory school performance, earning mostly D's and F's. Nevertheless, RTC program completers had significantly better grades than did drop-outs indicating that the better the client's success in school, the better his or her chances to succeed at an RTC.

**5. Living Arrangement Prior to Admission.** The majority (75%) of the clients lived with a parent--either a single parent, with both parents, or with a parent and another person. The living arrangements of the RTC clients were markedly discrepant from the adolescents in the non-Indian comparison RTCs—a much higher percentage of the comparison group resided with both parents (44%); **only** 16 percent of the RTC clients had been living with both parents prior to admission.

**6. Physical and Sexual Abuse.** Eleven percent of the clients reported that they had been both sexually and physically abused. The percentage of girls who had been both sexually and physically abused (18%) was over three times that of the boys (5%).

Over 13 percent of the RTC clients had been physically but not sexually abused, and 14 percent had been sexually but not physically abused. More girls had been sexually abused (18%) than boys (11%). The percentage of girls at the RTCs who had been sexually abused (18%) was lower than that in the non-Indian comparison sample (25.30%); the percentage of RTC boys who had been sexually abused (11%) was over twice that of boys (5%) in the comparison programs,

When the numbers of RTC clients who were either physically or sexually abused are combined with those who were both physically and sexually abused, 36% of the girls had been sexually abused and 33% had been physically abused. RTC staff indicated that they believed that the actual percentage of girls who had been physically and/or sexually abused was far greater than 36%. The staff stated that a sense of shame or fear deterred many clients from admitting that they had been abused. Furthermore, RTC staff and members of the Project Steering Committee suggested that concerns about the confidentiality of client data may have caused clinicians to address the client's sexual abuse issues without documenting it in the client charts.

Victims of abuse, especially victims of both physical and sexual abuse, were different from other RTC clients in many ways; abused clients:

- CI Had more physical health problems-it is to the credit of the RTCs that they identify the medical problems of abused clients;
- Had more severe A/SA problems;
- CI Began to abuse alcohol and tobacco at an earlier age;
- !J Had more complete charts than other clients;
- Made significantly less treatment progress than other clients.

These findings relating abuse to other variables represent an initial information base that treatment providers and health educators may be able to use in developing or modifying substance abuse (and child abuse) treatment and prevention programs.

**7. Referral Source.** Virtually all clients were referred to the RTCs by tribes or tribal programs which, in turn, received referrals from a variety of sources. The principal referral sources were various courts (35%), tribal CD and other tribal programs (27%), self-referrals (12%), and school (10%). Referral source was not significantly related to the outcome measures. Very few referrals were originated by IHS or tribal health care providers, suggesting that there is room for improvement in screening AI/AN youth for A/SA.

**8. Reasons for Referral.** Clients were referred to the RTCs for a variety of reasons, often for multiple reasons. The reasons most cited included substance abuse behaviors (84%), arrest (50%), school problems (40%), and problems at home (40%).

**9. Mental Health Problems.** The mental health problem most often reported in the charts was depression. Forty percent of the clients were judged to be depressed, and over 28 percent had suicidal thoughts. Almost 20 percent had attempted suicide. The percentage of depressed RTC clients was greater than that reported for the comparison RTCs. The percentage of girls who were depressed (48%) was significantly greater than the percentage of boys (34%); this disparity holds for depression, suicidal ideation, and suicide attempts.

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**10. Family Involvement in Client Treatment.** Family involvement with treatment was coded on a 5-point scale ranging from no involvement to high involvement. Both quality of charting and treatment completion increased as family involvement increased—66% of the clients with highly involved families completed treatment while only 3 1% of the clients with no involvement with their families completed treatment. RTC Directors considered the role of family involvement in treatment outcome to be one of the most important findings in the evaluation.

**11. Representative RTC Client.** Summarizing the client data, it is possible to describe a hypothetical “average” RTC client; this client would be a 16 year old American Indian adolescent who started drinking alcohol at age 11 and smoking marijuana at age 12 (if he had been physically or sexually abused, he would have started drinking at age 9 and have attempted suicide prior to admission to the RTC). Prior to admission, he was living with his mother and siblings, and was attending school earning mostly D’s and F’s. As a result of his substance abuse, the client was arrested and came before the tribal court; he was referred by the court to the RTC. After a 68-day stay, the client was discharged and returned to his home reservation. For the next 6 months he participated in an outpatient alcohol treatment program, and worked toward and obtained a GED. During this period he maintained sobriety. His situation 14 months after leaving the RTC is unknown.

**C. Profiles of RTC Staff and Directors.** Personal interviews were conducted with 141 RTC staff during site visits to each RTC. Of these 141 staff, 9 were RTC directors.

**1. Gender.** The majority of the RTC staff (56%) and directors (67%) were women.

**2. Race-Ethnicity.** The RTCs have been able to recruit and retain AI/AN staff. The majority of the staff were AI/ANs (68%) with whites being the second most common group (28%). Likewise, 5 of the 9 (56%) RTC Directors were AI/AN. It is rare to find such high percentages of AI/ANs employed at all levels of an organization. It is clear that the RTCs employ AI/AN staff who can serve as role models for the clients.

**3. A/SA Recovery Status.** Staff were asked if they were in recovery from A/SA. While the majority (64%) stated that they were not in recovery, over one-third of the staff (36%) indicated that they were in recovery. Three of the 9 RTC Directors stated that they were in recovery.

**4. Education.** The formal education of the staff sample ranged from high school graduate to doctoral degrees. Most (79%) had some type of degree beyond a high school diploma. Over 25 percent had Bachelors and over 20 percent had Masters or other advanced degrees. Seven of the 9 (78%) directors had advanced degrees-4 had Masters degrees, 2 had doctorate degrees, and one had an M.D. The staff sample included key staff from each RTC (Director, Clinical Director, consulting psychologist, etc.), but only a sample of other staff (Counselors, Counselor Aides or Counselor Technicians). Thus, the sample had a disproportionate number of senior staff.

**5. Certification/Licensure.** Forty three percent of the RTC staff interviewed indicated that they are certified in the area of chemical addiction; only 5% indicated that they were certified in the field of

mental health. RTC Directors indicated that there are ongoing efforts to assist junior clinical staff (e.g., Counselors, Counselor-Aides) to obtain relevant certification.

**6. Length of Staff Service (LOSS).** The LOSS ranged from 33 to 3,029 days (8.3 years). The mean LOSS was 3.4 years and the median was 3.0 years. There were significant differences in LOSS across RTCs. Some of this variation is due to the different opening dates of the RTCs. The mean LOSS at each RTC ranged from a low of 522 days (1.4 years) at RTC #4 to a high of 2,010 days (5.5 years) at RTC #1.

Interviews with the RTC Directors revealed unique problems in the Alaska Area. In Alaska, the AI/ANs traditionally hunt and fish to provide food for their families and communities. In addition, during the fishing seasons, persons working on boats can earn thousands of dollars per week. With alternative employment offering remuneration many times that available at the RTCs, it is extremely difficult for the RTCs to retain staff during the fishing season.

**D. Profile of RTCs.** Three of the RTCs are operated by the MS (Unity, New Sunrise, and Desert Visions); the other six are operated by tribes (Jack Brown by the Cherokee Nation of Oklahoma), tribal consortia (Healing Lodge of the Seven Nations is governed by the seven tribes east of the Cascade Mountains, Nanitch Sahallie is a division of the Confederated Tribes of Grand Ronde, and Raven's Way by the Southeast Alaska Regional Health Corporation [SEARHC]), or by tribal contractors (Four Corners under contract to the Navajo Nation).

**1. Location, Size and Setting.** The Aberdeen, Bemidji, Billings, and California IHS Areas do not have an MS-funded RTC; the Alaska and Portland Areas each have two RTCs. Two RTCs, Graf Healing Place in Fairbanks and the Healing Lodge of the Seven Nations in Spokane, occupy new facilities designed and constructed to meet the needs of residential treatment programs for AI/AN adolescents. Other RTCs occupy buildings converted from other uses with attendant compromises and inconveniences. The number of beds at the RTCs range from 10 to 45.

**2. Organizational Structure.** In order to meet their particular needs, each IHS Area has enjoyed considerable autonomy and flexibility in developing its RTC. Some Areas (e.g., Aberdeen, Bemidji, Billings, and California) have elected to use private sector and other facilities rather than develop a separate RTC. Because of this flexibility, each RTC has a unique organizational structure; nevertheless, there are a set of functions and many common elements across the RTCs. Each RTC is managed by a director who is responsible for the overall functioning of the facility and program. In RTCs operated by the MS, the RTC Director reports to the MS Area Director or the Service Unit Director. In RTCs operated by the tribes, the director reports to the tribal chairman and/or council, often through a department such as mental or behavioral health.

Most RTCs have a Clinical Director who reports to the RTC Director. The Clinical Director is responsible for the delivery of clinical services and often operates like a chief operating officer at the RTC. Generally the RTC employs part-time and/or consulting clinicians (e.g., family practice physicians, psychiatrists, psychologists), and these persons generally report to the Clinical Director as do the counseling staff, adjunct therapists (e.g., family, recreational, and occupational therapists), and social worker(s) responsible for coordinating client aftercare.

All the **RTCs** are responsible for providing education to their clients. Some **RTCs** utilize other facilities to provide educational services. For example, Jack Brown is located adjacent to the Sequoyah Boarding School. Most clients at Jack Brown attend classes at Sequoyah for their academic program. Other **RTCs** provide classes on-site. The teacher(s) usually report to the RTC Director.

**3. Special Needs.** The **RTCs** have many special needs and circumstances. One example is the need for secure storage for any material containing solvents including fingernail polish and polish remover, floor waxes, laundry products, gasoline, kerosine, foods and flavorings containing alcohol such as vanilla extract—all these materials must be stored under lock and key in order to prevent consumption by chemically dependent adolescents in search of a high.

**E. RTC Process Outcomes and Factors Affecting Outcomes.** Six process outcomes were evaluated in this study: 1) number of clients served and treatment completion, 2) length of stay (LOS), 3) treatment progress, 4) quality of charting, 5) changes in the client's self-assessment of his/her **A/SA** problem, and 6) client satisfaction.

**1. Clients Served and Treatment Completion.** Of the 407 RTC clients in the sample, 217 (53%) completed treatment. The percentage of RTC clients completing treatment is slightly lower than the 61 percent in the comparison **CATOR** data. Given the differences in the RTC and comparison client populations and the circumstances of the **RTCs**, the completion rate achieved by the **RTCs** is impressive.

Treatment completion is a key outcome measure. It was significantly associated with the five other outcome measures. Compared to drop-outs, completers had less severe **A/SA** problems, a longer LOS, had more complete charts, made more progress in treatment, were more satisfied, and tended to maintain sobriety. These results suggests a strategy for decreasing drop-outs and improving completion rates at the **RTCs**. Efforts to identify potential drop-outs can: 1) begin at intake and **screening**—the clients with the most severe **A/SA** problems may need special attention; 2) failure to make progress and/or dissatisfaction during treatment (as in school) indicates that the client is at risk of dropping out—client satisfaction should be monitored throughout treatment, 3) clients with little or no family involvement in treatment are at risk of dropping out, and 4) clients who have incomplete charts are at risk of dropping out—the reason(s) for missing information (e.g., forms, reason for referral, treatment progress) may indicate poor quality or ineffective services.

**2. Client Length of Stay (LOS).** Client LOS varied from a low of zero days (an immediate transfer) to a high of 196 days. The mean length of stay was 62 days. The mean LOS varied significantly across **RTCs** from 40 to 134 days.

**3. Treatment Progress.** Treatment progress was positively related to treatment completion, length of stay, and client satisfaction and negatively related to physical/sexual abuse, school problems, severity of **A/SA**, and self-identification of **A/SA** problem. One factor that could affect both problems at school and treatment progress is fetal alcohol syndrome or fetal alcohol effect (**FAS/FAE**). RTC staff reported that the numbers of **FAS/FAE** clients have been increasing in recent years.

**4. Quality of Charting.** Quality of charting has been discussed with respect to treatment completion and LOS; however, charting is an important process outcome measure in its own right. The charts serve as the primary source of information regarding client status and needs, for reimbursement by other funders, and for program evaluations. In fact, charting often serves as a proxy measure for the quality of care provided. A chart missing critical information may indicate poor charting, poor quality services, or both. Charts at four RTCs were unacceptably incomplete. This deficiency was acknowledged in interviews of RTC Directors who indicated that charting at their RTC has improved after May 1995—the end of the chart review period of this study.

**5. Change in Client Self-Assessment.** Over 70 percent of the clients 1) openly admitted or partially admitted their problems on both intake and discharge, or 2) exhibited progressive change in self assessment. Almost 30% of the clients were “in denial” of their A/SA at intake and at discharge or moved to a lower level of admission of their A/SA problems from intake to discharge.

**F. RTC Post-Discharge Outcomes.** This study sought to determine the outcomes experienced by the RTC clients following discharge from the RTC. Key outcomes of interest are the extent to which the client maintained the sobriety achieved at the RTC and, conversely, the rate of relapse to A/SA over time. Other post-discharge outcomes of interest included return to school and educational attainment, health status, employment, the presence or absence of criminal or anti-social activity, and the former client’s expectations and plans for the future.

Each RTC is tasked with determining the status of its former clients for a 24 month period after discharge. The study revealed that client follow-up data varied by RTC in both quality and quantity. One RTC provided detailed follow-up data on all clients in the sample; most RTCs provided general, global assessments of client status. At most RTCs, some post-discharge data were available; however, these data were not collected at regular intervals by most RTCs. Furthermore, the data collected were general-detailed information on the type, quantity, and frequency of A/SA were not regularly collected by all RTCs. The paucity of comprehensive post-discharge client follow-up data may indicate a “gap” in the continuity of care of RTC clients.

Clients often reside a great distance from the RTC—in different states and in different IHS Areas. For these and other reasons, it is difficult for the RTCs to maintain information about clients after discharge.

Since comprehensive client follow-up data collected at regular intervals were generally unavailable in the client charts, other data sources were sought. Interviews of the RTC Directors and Clinical Directors yielded global information on the post-discharge status of 129 (32%) of the 407 former RTC clients in the study sample. This information was available for varying time periods after discharge—the observation might be made at any time during the 2 years following the client’s discharge. To supplement the client outcome data available at the RTCs, client status information was solicited from providers and/or referral sources. These efforts yielded post-discharge sobriety information for an additional 80 persons; thus follow-up data was available for 209 (51%) of the 407 persons in the client sample.

The post-discharge status information was classified into three ordinal categories: 1) sobriety, 2) partial relapse, and 3) relapse. Less than one-fourth of the clients had relapsed to **A/SA**, and 39 percent had maintained sobriety. The practical significance of this result is attenuated by two factors: 1) the amount of time since discharge varies for the 209 clients, and 2) there is missing sobriety information for almost one-half (49%) of the study sample. A critical question is, “what is the sobriety rate of the 198 RTC graduates for whom information was unavailable?” The reported sobriety rate of .39 for the 209 former RTC clients compares favorably with the rate of “less than .40” in the **CATOR** sample. Not surprisingly, clients who completed RTC treatment and those who had better quality charts tended to maintain sobriety better than drop-outs and clients who had poor quality charts.

**G. Comparisons Across RTCs.** It is instructive to examine the variation across **RTCs** for a number of variables. In these comparisons, the **RTCs** have been assigned arbitrary identification numbers.

**1. Variation in Client Characteristics Across RTCs.** There was significant variation across **RTCs** for two key client variables—severity of **A/SA** and severity of life stressors. This suggests that some **RTCs** have to work with more impaired clients than do other **RTCs**. These differences were statistically controlled in the analyses comparing the **RTCs** on the outcome variables.

**2. Treatment completion across RTCs.** The percent of clients completing treatment at the **RTCs** ranged from a low of 28 percent to a high of 85 percent.

**3. Variation in LOS Across RTCs.** The mean LOS ranged from a low of 40 days to a high of 134 days. As might be expected, **RTCs** with low treatment completion percentages also had relatively low mean LOS, ranging from 40 to 60 days. Conversely, the **RTCs** with the higher treatment completion percentages had relatively high mean LOS, ranging from 78 to 134 days. From the perspective of treatment efficiency, it is desirable to have a high completion rate and a low mean LOS. The **RTC** with the highest completion rate (.85) had a low LOS (mean=41 days)—this **RTC** was more than twice as efficient with respect to treatment completion and LOS as most other **RTCs**. Better data are needed to determine the long-term post-treatment outcomes (i.e., sobriety) associated with each **RTC** program.

**4. Quality of Charting Across RTCs.** There was significant variation across **RTCs** in the quality of the client charts. At a minimum, four **RTCs** need to improve their charting. To the degree that missing information in the charts indicates that the services were not actually provided, these **RTCs** need to improve the quality of care provided.

**5. Treatment Progress Across RTCs.** There was significant variation in treatment progress across **RTCs** with the effects of both problem severity and severity of life stressors statistically removed. Clients at two **RTCs** exhibited significantly greater progress than clients at three **RTCs**.

## H. Additional Research Questions

**1. The Effect of Positive and Negative RTC Staff Role Modeling.** There was a consensus that role modeling has great impact on the RTC clients. Many staff noted the importance and value of positive staff role modeling, especially for clients who had been living in a problem family situation—parental A/SA or as a victim of physical/sexual abuse by a relative. In addition, there seemed to be a consensus that counselors “in recovery” from A/SA are powerful models for the RTC clients.

The RTC Directors’ characterizations of staff relations ranged from “very cohesive, tight knit group” to “have been dysfunctional—we are now dealing with hard staff issues and allowing the staff to verbalize concerns.” Another characterization was that “there was a time when the staff were not talking to each other.” Staff at some RTCs reported conflict between some staff advocating use of the “confrontation adult model” versus other staff advocating the “adolescent model.” Dissension among staff was seen as damaging to the therapeutic milieu.

**2. Effects of a Problem Family Situation on the RTC Clients.** There was a consensus among the staff that the client’s family is critical to the effectiveness of alcoholism and substance abuse treatment. One informant said “addiction is a family disease, and consequently the family needs to be actively engaged in treatment and follow-up.” Staff said clients from problem families—families in which adult A/SA or physical or sexual abuse occur—require additional resources and staff time for treatment. Such clients are more likely to behave in challenging ways—more conduct disorders, more problems with control issues and anger management. Such clients tend to be unstable or explosive.

Clients who are discharged to a problem family environment face a particularly challenging situation. Post-discharge follow-up revealed incidents in which former clients were ridiculed by family members for not drinking, were shunned by their friends and some family members. There were numerous examples of anti-social or subversive behavior by members of a problem family.

**3. The Top Trends/Changes Likely to Affect the RTCs in the Next Year, in 5 Years, in 10 Years.** Interviews of the RTC Directors and other staff revealed the following six trends: 1) funding/budget issues, 2) a movement in Congress to defund Indian programs, 3) growth-expansion in the treatment population, 4) increased tribal compacting with associated decrease in MS funding and resources, 5) increasing need for RTC services, and 6) increasing severity of client problems.

**4. External Conditions Affecting Success/Failure of the RTCs.** Different external factors seem to affect the RTCs operated by the MS and those operated by tribes. For those RTCs operated by the MS, Federal policies and procedures were cited as causing staff recruitment and hiring to be a slow and cumbersome process. A position description has to be approved, posted, interviewing done, etc. Meanwhile, the RTC must continue to provide services with less than a full complement of staff. This results in staff becoming overworked, possible reduction in the quality of service—less time available for counseling clients.

At tribally-operated RTCs, some staff expressed frustration at the “extra level of bureaucracy” imposed by the tribe. Others said that the tribe or tribal consortium has been a source of support and a factor in the success of the RTC.

**5. How to Improve Success of RTCs.** Based on staff interviews and site visits to the RTCs, four major areas of improvement were identified. They include 1) staff training, 2) improve **aftercare/** follow-up coordination, 3) improve treatment methods, and 4) improve management practices.

## **IV. Conclusions**

Based on the findings of this study, there are seven conclusions concerning the IHS-funded RTCs:

**1. Effectiveness of the RTCs.** The RTCs have developed effective adolescent A/SA programs. The outcomes (treatment completion and subsequent sobriety) achieved by the RTCs seem to be similar to those achieved by other adolescent RTCs in the United States. There is reason to commend the RTC staff, the MS, and tribes who contributed to this achievement.

The evidence of post-discharge sobriety of RTC clients is weak, until better client follow-up is implemented, the post-discharge sobriety of many RTC clients cannot be determined. The needed data include the frequency of use, the number of drugs (including alcohol and tobacco) used, and the pattern of use before and after treatment.

**2. Variability in Effectiveness Across RTCs.** Of the 9 RTCs, 2 have consistently high levels of productivity and performance and 2 have relatively low levels of performance and productivity.

**3. Continuity of Care/Aftercare is the Biggest Problem.** Much is unknown about the care and status of RTC clients after discharge. This lack of information may reflect a lack of services to these former RTC clients. There is insufficient coordination among the RTCs, MS service units, tribal health programs, referral sources, and aftercare programs. This lack of coordination retards effective and efficient delivery of A/SA treatment services. The responsibility and accountability for **aftercare** requires a network of providers, and coordination and commitment among the MS, tribes, and providers.

**4. RTCs Need Additional Mental Health Staff Resources.** Increasing numbers and percentages of clients with substance abuse, mental health, and behavioral problems require staff with expertise in mental health and developmental psychology. Most RTCs lack adequate mental health resources-both alcohol/substance abuse and mental health care providers at the RTCs need **cross-**training.

**5. Identification of Clients at Risk of Dropping Out.** Correlates of treatment completion reported in this study (e.g., severity of life stressors, severity of A/SA, age at admission, client satisfaction, treatment progress, and quality of charting) can serve as markers for targeting clients at risk of

dropping out of treatment. Individualized assessment and treatment planning should include each of the identified correlates of treatment completion.

**6. Client Charting Improvements Needed.** At most RTCs critical information was missing from client charts. Examples of missing critical information include individual treatment plans, critical incidents in treatment, and discharge plan.

**7. Innovative Ways to Increase Family and Community Involvement Are Needed.** Improved alcoholism and substance abuse treatment strategies for adolescents, their siblings, their families, and communities need immediate implementation. It is impractical for many families to travel great distances to visit RTC clients and to participate in family therapy, discharge planning, etc. Innovative ways to enable families to participate in these activities are needed.

## **V. Recommendations**

**A. Improve Continuum of Care for Adolescents with Alcohol and other Substance Abuse Problems.** The RTCs are an important component, but only one component in the continuum of care needed by alcohol and substance abusing AI/AN youth. Achievement of this end will require a series of initiatives and efforts.

**1. Improve ABA Screening and Case Finding for Children by Health Care Providers.** This study and others show that A/SA began in pre-teen years for almost one-half of the youth served by the RTCs. Screening for A/SA should be incorporated into the health care provided by MS and the tribes. Simple verbal screens for A/SA can be used economically and efficiently. The number of referrals to RTCs from MS/tribal health care providers should rival those received from schools. The early detection and prevention of A/SA can be remarkably cost-efficient when compared to the costs associated with addiction caused by long term A/SA.

A/SA screening at Service Units should be conducted systematically on most outpatient encounters of children (starting at age 7) and of adolescents. Identification of parental A/SA should trigger efforts to monitor children living at home as being at risk of A/SA. Screening of children for A/SA should become standard operating procedure at schools in response to discipline or academic problems, at courts in response to arrest, and in response to finding parental A/SA.

**2. Post-Discharge Client Care.** As a rule, each of six components of care are needed:

1. A domicile structured to promote client sobriety. This domicile can be a recovery or half-way house, boarding school, the client's home, or an independent living arrangement such as an apartment. Whatever the post-discharge living arrangement, it is critically important that the environment be prepared to support the client's sobriety. The RTCs are forced to discharge clients to return to reside with their family despite the failure of the family to participate in the discharge plan. Special care is needed when there are active alcohol/substance abusers in the home and when the client has a history of

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physical and/or sexual abuse. Over 36% percent of girls at the RTCs are physically and/or sexually abused. The MS and tribes should develop ways to ensure the safety of AI/AN youth after discharge from the RTCs.

2. Family education and therapy. Even when the client is discharged to a living arrangement other than with his or her family, the discharge plan should include family involvement, education and, if needed, therapy. Education in A/SA effects and prevention should focus on ways to promote the client's sobriety and to prevent A/SA by the client's siblings.

While difficult issues of patient confidentiality are involved, the RTCs should consider providing parents with a video-tape suggesting ways of coping with issues identified during treatment and strategies to promote the client's efforts to maintain sobriety after discharge.

3. Outpatient program support group. Sometimes there will be separate outpatient treatment and relapse-prevention support groups; sometimes outpatient treatment and support groups are combined. In any event, mechanisms and procedures are needed to sustain regular communication and collaboration between the RTC and the client's outpatient program.
4. School/vocational education. Most RTC clients have not completed high school. The aftercare plan should include return to school, vocational education, or job placement with continuing education. For such plans to be effective, they should involve communication among the RTC, the client, the client's family and the school, training program or employer. This study was unable to evaluate the educational process in place at the RTCs. The RTCs should systematically incorporate educational data in the client charts so that it can be used by RTC staff and be included in future evaluations. Anecdotal information suggested significant educational progress for youth in treatment including GED completion, admission to college, and returning to school with a positive view of school.
5. Client tracking/follow-up. Only 3 RTCs reported staff positions of either 1) Aftercare or Continuing Care Specialists, and/or 2) Community Outreach Specialists. Such a position is critical in building a base of networking and community outreach to follow-up the clients. Better procedures are needed to follow-up RTC clients for 24 months after discharge. Examples of approaches RTCs could consider include:
  - Giving clients a toll-free (800/888) telephone number to use when needing support for sobriety maintenance, and providing staffing needed to support the telephone. Include quarterly calls to the RTC as part of the discharge plan signed by the client.
  - Using client tracking or scheduling software to prompt follow-up calls, and letters to former clients.
  - Mailing the RTC clients postage-paid, self-addressed postcards with easy-to-use responses describing post-discharge sobriety as well as a request that the client use the toll free number.

- Systematically contacting parents, aftercare providers (or other contacts provided by the client) of clients who fail to make quarterly contacts after discharge.
- 6. Parental Alcoholism and Substance Abuse. If the alcoholic or substance abusing parent is in recovery, he or she can enhance the adolescent's recovery by attending support groups and active involvement in the youth's A/SA treatment. Conversely, if a parent is an active alcoholic or substance abuser, the youth's chances of recovery are greatly diminished. Information obtained by the RTCs can be helpful in the discharge planning and coordination with treatment programs in the youth's home community. IHS and the tribes need to develop ways to facilitate discharge planning.

**B. Improve RTC Effectiveness and Efficiency.** This study revealed significant variation in RTC effectiveness and efficiency. It appears that many of the barriers to improved efficiency are associated with insufficient resources and with poor management practices. Because most of the RTCs are operated by tribes or tribal consortia, the impetus for improved management practices must come from the tribes as well as the MS.

**1. Organizational Structure and Communication.** Planned and unplanned, formal and informal communication is critical in a stressful work environment such as an adolescent alcohol and drug treatment program. It is important for staff members to perceive that their views are solicited and respected by management. Some of the RTCs that appeared to be most productive promoted communication and support by:

- Giving staff meetings high priority
- Calling special meetings to deal with challenging problems
- Delaying admission of new clients to permit staff to cope with especially difficult clients
- Conducting a period of review and internal evaluation after each treatment cohort finishes
- Fostering a sense that management is accessible and open to staff suggestions, and
- Avoiding unnecessary organizational hierarchy.

2. **Staff Morale.** Those RTCs that appeared to be relatively inefficient and ineffective tended to have low staff morale. Dissatisfied staff complained of favoritism- that some staff were consistently assigned more desirable tasks and schedules, received training, and were treated with greater respect.

3. **Organization of Work.** Some RTCs have started to admit single gender client cohorts, accepting only boys or girls for a particular treatment session. Other RTCs take a break by delaying the acceptance of new clients so that the staff can recover from traumatic events such as a client suicide attempt or attack on staff. RTCs not using such approaches should consider them.

4. **Screening Clients for Special Problems.** Some RTCs reported that clients with major inhalant abuse problems and FAS clients present especially challenging problems, and that limiting the number of such clients at any given time decreases disruption to the program and improved treatment for other clients. Each RTC should screen for inhalant abuse and FAS/FAE as part of the client intake process. The MS should conduct a special review of the treatment provided to and the

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progress made by **FAS/FAE** clients. This special review should include a recommendation concerning the referral of such clients to other facilities or to an RTC specializing in the care of **FAS/FAE** clients.

Intake screening should identify clients with the greatest risk of dropping out prior to treatment completion-clients with the most severe **A/SA** problems and clients with a history of physical and/or sexual abuse. This screening should be supplemented by regular chart reviews to **identify** clients with the other drop-out risk factors-clients who fail to make progress, dissatisfied clients, and clients with incomplete charts.

**5. Staff Training.** Across all RTCs, staff expressed a desire for more training, acknowledging the need for special training in areas such as dealing with physically or sexually abused clients, clients with acute emotional or psychiatric problems, and violent clients. Additional training in these areas could increase staff confidence, reduce anxiety, and improve the quality of care provided. The description and review of successful RTC practices could be a valuable component of the training program.

**6. Better Case Management.** On a regular basis, not less than every 7 days, staff should review the status of each client. These reviews should include input from the teacher, night staff, and adjunct therapists (art, occupational, recreational, etc.), and others with needed information. These status reviews should include evaluation of the client's risk of dropping out of treatment and short term plans and goals, and should be kept in the client chart.

The client status reviews should include discussion of critical incidents (e.g., suicide attempts, premature discharge-a discharge followed by prompt re-admission, client AWOL, etc.) that occurred during the review period. Review of critical incidents should focus on improving understanding of the factors that gave rise to the incident.

**7. Assist in Securing Transitional Housing.** Upon discharge from the RTCs, some clients return to a problem family setting which offers little or no support for maintaining sobriety. The provision of transitional housing integrated with the aftercare plan could benefit the client, his/her family, and community. This housing could be jointly provided by the **IHS** and the tribe, or by the tribe in conjunction with other programs designed to strengthen families. Group homes/transitional living facility services could also be coordinated with Job Corps, vocational training, and other services.

If the alcoholic or substance abusing parent is in recovery, he or she can enhance the adolescent's recovery by attending support groups and active involvement in the youth's substance abuse treatment. Conversely, if a parent is an active substance abuser, the youth's chances of recovery are greatly diminished. Information obtained by the RTCs can be helpful in the discharge planning and coordination with treatment programs in the youth's home community. **IHS** and the tribes need to develop ways to facilitate discharge planning.

Over **25** percent of the RTC clients were physically and/or sexually abused. The **IHS** and tribes should develop ways to ensure the safety of **AI/AN** youth after discharge from the **RTCs**.

**8. Provide Technical Assistance to RTCs with Poor Performance and Productivity.** The RTCs with low percentages of clients completing treatment, poor client charting, and other problems should receive additional assistance-the nature of the problems should be identified and plans for remediation developed.

**9. Improve Client Charting.** At the time period studied (1/1/93 - 5/30/95), the quality of charting was in need of significant improvement, especially at four RTCs. At a minimum, these RTCs should review their policies, procedures and forms related to charting with emphasis on effective description of the client's treatment progress, performance in school, satisfaction with the program, and A/SA after discharge. MS emphasis on counselor certification and clinical supervision should address these charting issues.

**10. Increase Promotion of Family Involvement in Client Treatment.** This evaluation revealed that family involvement was associated with treatment completion, LOS, and quality of charting. The positive effects of family involvement occurred even when such involvement was restricted to telephone contact. The RTCs can further facilitate family involvement by providing toll free telephone numbers to the client's family and by providing access to teleconferencing and video conferencing through the Internet in collaboration with the tribes and IHS service units. *IHS staff felt this to be one of the most important recommendations.*

**11. Utilize Successful Approaches.** Those RTCs in need of T/TA for improved effectiveness could benefit from reviewing successful practices developed by other RTCs.

One RTC in this study (#7) was found to have a significantly higher treatment completion rate combined with a short LOS, good charting, client progress, and client satisfaction. MS should consider the degree to which the approaches used by this RTC can and should be adapted by other programs. Some RTC Directors repudiated the focus on this single program on several grounds including the unique nature of each program. In general, MS should consider promoting successful practices developed by any RTC in ways similar to the "model schools" program developed by the U.S. Department of Education.

**12. Improve Screening and Treatment of Abused Adolescents.** Special efforts are needed to identify physically and/or sexually abused clients and to provide the special therapeutic needs of such clients.

**C. Improve RTC Self-Evaluation.** The more efficient and effective RTCs systematically collect and use client satisfaction, post-discharge, and peer-evaluation data. Some RTC staff seemed to be skeptical about the ability of adolescent alcohol and substance abusers to give unbiased and reasonable evaluations of the RTC programs and staff. Nevertheless, soliciting such information from clients can be part of the therapeutic process. Assessment of client satisfaction and improvement of client satisfaction are central to the improvement of the performance of organizations in the public and private sectors. There is no reason for RTCs to be excluded from these initiatives.

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By radically improving the systematic collection of post-discharge information on client sobriety, employment status, educational attainment and plans, the **RTCs** can obtain feedback on what seems to work and what does not. Equally important, such information collection and exchange can be part of a systematic improvement in the coordination and collaboration among the stakeholders in youth **A/SA** treatment and prevention in Indian Country.

# Evaluation of the Indian Health Service Adolescent Regional Treatment Centers

## FINAL REPORT

### I. INTRODUCTION

The goal of this study is to evaluate the effectiveness and efficiency of, and consumer satisfaction with, the nine Regional Treatment Centers (RTCs) which provide alcoholism and substance abuse rehabilitation treatment to American Indian/Alaska Native (AI/AN) youth. The primary objectives of this evaluation include:

1. The assessment of the quality and effectiveness of the RTCs as measured by outcomes achieved;
2. The determination of what the RTCs have accomplished;
3. The establishment of guidelines and recommendations for continuous quality improvement of the RTCs.

This study is the first comprehensive evaluation of the adolescent RTCs funded by the Indian Health Service (IHS). As of 1996, no comprehensive evaluation of the nine RTCs serving AI/AN youth had been published.<sup>1</sup> As part of the assessment of the accomplishments of the RTCs, this study describes the RTCs as they were in 1996 and the clients they served from 1993 to 1995. Like many health care providers in this time of rapid technological and structural change in the health care arena, the RTCs have experienced change and should be expected to continue to change in the foreseeable future. The findings of this evaluation can serve 1) as a benchmark against which changes and progress can be measured, and 2) to guide improvement of individual RTCs as well as the overall RTC program. Thus, this evaluation should be useful to future researchers, the RTCs, IHS administrators, tribes and tribal organizations, and to others interested in Indian health and the problem of adolescent alcohol/substance abuse. The study was conducted under contract to the IHS by Support Services International, Inc. (SSI). SSI worked closely with a subcontractor, Kauffman and Associates, Inc. (KAI), throughout the study. Both SSI and KAI are Indian-owned and managed consulting firms.

#### A. Background

**1. Need for Adolescent Alcoholism/Substance Abuse Treatment.** Adolescence is a period of extraordinary growth and change. Habits, attitudes, and behaviors that take root at this stage often

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<sup>1</sup> Some RTCs (e.g., Jack Brown and Desert Visions) had commissioned evaluations of their program or components of their program, but no evaluation had been performed of the overall RTC program.

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have serious health repercussions-unhealthy behaviors begun in adolescence can continue to plague an individual throughout adulthood. Alcoholism and substance abuse have long been health and social problems in the United States and other countries, and alcohol and substance abuse (A/SA) represent a special threat to the health and well-being of adolescents. *Healthy Youth 2000* reported that drinking is more prevalent among 18-24 year-olds than it is in any other age group in the United States. Twenty eight percent of 8<sup>th</sup> graders and 38 percent of 10<sup>th</sup> graders admit to occasions of heavy drinking.

A/SA has long been especially pernicious in Indian Country affecting all age groups.<sup>2</sup> For example, the age-adjusted mortality rate associated with alcohol dependence syndrome, alcoholic psychosis, and alcoholic cirrhosis among AI/ANs served by the MS is over 5 times greater than the rate for the U.S. general population (Indian Health Service 1993). The alcoholism mortality rate for AI/ANs between 25 and 34 years of age is over 10 times the rate for that age group in the general population (Indian Health Service 1993). Fetal alcohol syndrome (FAS) has been estimated to be 33 times higher for AI/ANs than for whites (Chavez, Cordero, and Becerra 1989). At least 80 percent of homicides, suicides, and motor vehicle crashes in the AI/AN population are related to A/SA (Smith 1989). Despite their devastating costs, surprising little is known about the prevalence, or effective treatment, of alcoholism and substance abuse in Indian country.

National surveys of adolescent drug use report AI/ANs have higher rates of alcohol and other drug use than any other racial-ethnic group (Beauvais 1992; Oetting et al. 1988). Despite previous treatment and prevention efforts, A/SA continue to be prevalent among AI/AN youth-82 percent of AI/AN adolescents admitted to having used alcohol, compared with 66 percent of non-Indian youth (Beauvais and LaBoueff 1988). In a school-based study, 39 percent of AI/AN high school seniors reported having “gotten drunk” and 39 percent admitted to using marijuana in the month prior to the survey (Beauvais, Oetting, Wolf, and Edwards 1989). Utilization of inhalants by AI/AN youth has been reported to be two to five times greater than that of non-Indian youth (May 1986; Beauvais et al. 1989).

Adolescent A/SA are believed to be both contributors to and the results of other health and social problems including sexually transmitted diseases, physical abuse, sex abuse, poor school achievement and drop-out, and suicide. In the general population, adolescent sexual activity has been associated with A/SA. For example, among youth 11-17 years old, there was little sexual activity by non-substance abusing boys (10%) and girls (3%); in contrast, the majority of polysubstance abusing boys (71%) and girls (52%) were sexually active (Elliott and Morse 1987). A/SA have been shown to be strong predictors of delinquency, violence, and poor academic performance (Hawkins, Catalano, and Miller 1992). The suicide rates for AI/AN youth aged 15-24 are nearly 3 times the national rate.

The abuse of alcohol and other drugs and, consequently, the treatment of this abuse tends to be cyclical in nature. Adherents to the “medical model of alcoholism and substance abuse” describe alcoholism as a chronic disease. Like other chronic diseases (e.g., diabetes, hypertension) alcoholism

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<sup>2</sup> “Indian Country” refers to areas in the United States containing Indian reservations, Alaska Native villages, or where large numbers of AI/ANs reside as in the state of Oklahoma (formerly “Indian Territory”).

is seldom cured by a single **treatment**—alcohol and other drug abusers often require some type of treatment at several periods during their lives (Hester and Miller 1995).

**2. Authorizing Legislation.** Forceful advocacy by tribes, American Indian, and Alaska Native organizations, combined with support by the U.S. Congress resulted in the enactment of the *Indian Alcohol and Substance Abuse Prevention and Treatment Act of 1986*, Public Law (P.L.) 99-570. The *Anti-Drug Abuse of 1988* reauthorized P.L. 99-570 and authorized funding for the construction, renovation and staffing of treatment centers for AYAN youth. Section 704 of P.L. 102-573, amendments to the *Indian Health Care Improvement Act*, further provides for the regional treatment centers for AI/AN youth.

These laws provide for the development and implementation of a program geared toward treatment for Indian youth who are characterized as alcohol and substance abusers. Such a program includes **RTCs** designed to effect rehabilitation for both sexes on a referral basis. Section 704(a) also provides for the integration of the **RTCs** into the intake and rehabilitation programs located in the referring Indian communities.

The original statute authorizing **RTCs** specified that the tribes in each **IHS** Area would agree upon a structure and a location for their **RTCs**. The tribes were to formulate a “Tribal Action Plan” addressing their needs and plans with regard to **A/SA**. The establishment of **RTCs** proved to be a slow process as the tribes in each **IHS** Area struggled to achieve a consensus despite differences in population and reservation size, cultural practices and norms, health care needs and priorities, etc. Furthermore, the renovation of the existing facilities and the construction of new facilities were key determinants of the time required to establish operational **RTCs**.

**3. Establishment of the RTCs.** When funding became available, the **RTCs** began a development period in which facilities were obtained, staff hired and trained, and treatment programs were made ready to house and provide services to clients. The first **RTCs** to begin operation were New Sunrise and Jack Brown in 1988. The newest **RTC**, Desert Visions, was established in 1994 as the successor to the Phoenix/Tucson **RTC**.

Each **MS** Area has enjoyed considerable autonomy in developing its **RTC**. Consequently, there is considerable variation across programs on many dimensions. Two **MS** Areas, Alaska and Portland, have developed two **RTCs**. Since **MS** funding was allocated for only one **RTC** in each Area, these Areas divided their funds for the **RTCs** and supplemental funding has been obtained from other sources (e.g., **MS** Area and contract support funds, tribal and Alaska Native corporation funds, the States, private foundations, etc.). Both the Aberdeen and California Areas continue to pursue the development of an **RTC**. The Aberdeen Area is scheduled to complete restoration of a facility with youth admitted in 1997.

The primary focus of the **RTCs** is to provide treatment to adolescent alcohol and drug abusers. The treatment goals include eliminating physical and psychological dependence on alcohol and other drugs, treatment of physical and other illnesses identified during treatment, the development of independent living skills, provision of schooling appropriate to the client’s level of academic achievement and needs, and helping the client to develop and implement an aftercare plan to

maintain sobriety after discharge. In general, treatment services to meet these goals are provided through a holistic approach rooted in the adolescent's native culture.

Most of the RTCs have a biopsychosocial model in which the abuse of alcohol and other drugs is examined and understood in the context of interactions among biological, psychological, and social factors. In addition, adolescent A/SA and its treatment are understood within the context of child and adolescent development. Consequently, the treatment provided by the RTCs is not a simplistic adaptation of adult alcoholism and substance abuse treatment; rather, the treatment is based on the special needs, concerns, and issues of the adolescent clients.

Emphasis on AI/AN culture is a central component of the IHS-funded RTCs. This emphasis is reflected in most if not all aspects of the RTCs including:

- Affirming cultural norms of sobriety, responsibility to the tribe, band, and/or clan,
- Design and location of the centers,
- Program components such as family involvement, A/SA education, food services, recreation,
- Cultural and spiritual practices involving healing, purification, and forgiving, and
- Cl Indian preference in staff hiring.

Most of the RTCs serve adolescents between the ages of 12- 18; however, some extend their services to individuals up to 21 years of age. In 1996, there were 9 MS-funded RTCs; 6 are tribally-operated and 3 are operated directly by the IHS (see Table 1). The RTCs evolve in response to changing conditions and circumstances. Thus, the number of staff, beds, planned treatment period, and other attributes are not static. There is some disparity among various sources (e.g., RTC Directors, RTC brochures) as to the exact year some RTCs "opened." This disparity probably reflects slight differences in the definition of when an RTC "opened" (e.g., when the staff were in place and the facility was ready to admit clients versus when the first clients were admitted, etc.).

Funding of the RTCs through the IHS reflects, in part, recognition of Indian self-determination and recognition of the importance of tribes actively participating in prevention and treatment of alcoholism and drug addiction of AI/AN youth.

**Table 1. Descriptive Data on RTCs in 1996**

RTC	IHS Area	Operated by	# Beds	# Staff	Planned Treatment Period	Age of Clients
Graf Healing Place	Alaska	Tribal consortium	18	25	30 days	12-18
Raven's Way	Alaska	Tribal consortium	10	18	45 days	13 - 18
New Sunrise	Albuquerque	IHS	22	45	90 days	13 - 18
Unity	Nashville	IHS	16	33	120 days	13 - 18
Four Corners	Navajo	Tribal contractor	24	30	90 days	12 - 19
Jack Brown	Oklahoma City	Tribal contractor	20	37	120 days	13 - 21
Desert Visions	Phoenix/Tucson	IHS	24	25	60 days	12 - 18
Healing Lodge of Seven Nations	Portland	Tribal consortium	45	54	45 days	13 - 17
Nanitch Sahallie	Portland	Tribe	30	31	90 days	13 - 17

*Source: RTC Documents*

**4. Comparable Research on Adolescent A/SA Treatment.** While this study is the first comprehensive outcome evaluation of the nine MS-funded RTCs, several outcome studies of residential A/SA treatment programs for adolescents in the general population have been published. For example, Bergmann, Smith, and Hoffmann (1995) studied 1,483 adolescents admitted to 30 inpatient treatment programs after 1984. While special care must be taken in comparing the results of treatment programs that differ on many dimensions, the results of Bergmann et al. (1995), supplemented by a similar study, are used as a point of comparison for the RTC results found in this evaluation.

## B. Project Steering Committee

A Project Steering Committee (PSC), selected by the MS, assisted in the planning and execution of the RTC evaluation. The PSC was comprised of 12 members, 6 of whom were directors or staff of the RTCs evaluated in the study.<sup>3</sup> The PSC provided consultation and advice in key aspects of the study including study design, sampling, data collection, analysis, and reporting as well as suggesting solutions to practical and technical problems encountered. While the composition of the PSC changed over the life of the study, Table 2 shows the original members.

**Table 2. Project Steering Committee**

Name	Title	City
Joe Connor, Ph.D.	Vice-President, Behavioral Science Consulting	Shildler, OK
Don Gann	ASA Program Coordinator, Phoenix Area IHS	Phoenix, AZ
Don Graham	ASA Program Coordinator, Aberdeen Area IHS	Aberdeen, SD
Arden Green	Director, Phoenix/Tucson RTC	Sacaton, AZ
Robert Johnson, M.D.	Portland Area IHS	Portland, OR
Charlene Lewis, Ph.D.	Director of Evaluations, CSAT	Rockville, MD
Bob Ryan, Ed.D.	Division Manager, Nanitch Sahallie RTC	Keizer, OR
Fred Buckles	Director, Inland Tribal Consortium RTC	Spokane, WA
Mar-v Ann Farrell, M.D.	Director, Unity RTC	Cherokee, NC
Melissa Ring, Ph.D.	Director, New Sunrise RTC	San Fidel, NM
Mr. Pat Hefley	Director, Behavioral Health Services. Raven's Wav RTC	Sitka, AK
Rod Robinson, M.A.	Cornerstone Consultants	Great Falls, MT

*Source: IHS Alcoholism and Substance Abuse Program Branch (ASAPB)*

<sup>3</sup> Other PSC members include MS staff (5), other DHHS staff (1), and private sector consultants (2) experienced in chemical dependency treatment. Two of the original members invited to serve on the PSC actually never participated, and only 5 of the original members were able to participate for the full course of the evaluation.

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## II. METHOD

### A. Study Design

This is a retrospective evaluation of the treatment provided by the RTCs and of the post-discharge outcomes experienced by a sample of 407 adolescents admitted to MS-funded RTCs during the period January 1, 1993 to May 30, 1995. This time period was selected so that it would be possible to determine the status of RTC clients for a period of up to 24 months after discharge. This is a descriptive study-there are no experimental controls or control groups. A retrospective descriptive study was selected in order to provide baseline data needed for the initial evaluation of the RTCs. A more controlled, prospective study would require years to conduct, and the initial findings are needed now.

The data collected in this study permit a number of useful comparisons and analyses; these comparisons are described below:

- ❑ **Comparisons among subgroups of RTC clients.** For example, clients were grouped based on common factors such as severity of addiction or nature of abuse prior to treatment; history of physical, emotional, or sexual abuse; family substance abuse, etc. The study describes the distribution of such factors in the RTC client population and analyzed the relation of such factors to treatment success and to success (e.g., sobriety) after discharge.
- ❑ **Comparisons of the study data with data obtained in other studies of adolescent residential treatment programs.** Since this is the first comprehensive evaluation of the nine MS-funded residential treatment programs for AI/AN adolescents, there are no other directly comparable data available. Nevertheless, a number of studies have been published on adolescent residential treatment programs in the general population. While comparisons across different client populations and different treatment settings must be made with caution, the results of this evaluation were compared to those presented in Bergmann et al. (1995) and Hoffmann and Kaplan (1991).
- ❑ **Comparisons among subgroups of RTC staff.** The interviews of RTC directors and other RTC staff provided information on levels of staff training and certification, job satisfaction, and judgments of the strengths and weaknesses of the RTCs. The study describes the distributions of such variables and compares them to measures of RTC success.
- ❑ **Comparisons across RTCs.** While this study was not designed to evaluate the performance of individual RTCs, comparisons across the RTCs reveal the variation against which the total program data and results can be evaluated and understood. For example, the mean length of stay (LOS) for RTC clients in the sample was 68 days; the mean LOS for individual RTCs ranged from 40 to 134 days.

No RTC client was interviewed in this study—all client data were collected by means of in-depth review of client charts maintained at each RTC. The chart review approach was dictated by the retrospective nature of the study. Practical considerations including the time and level of funding available for the evaluation precluded locating and interviewing the former RTC clients to determine their current status. The collection of follow-up data on clients varied across the RTCs. When such data were missing, information on the current status of former clients was solicited from aftercare providers and/or the referral sources.

## B. Sampling

**1. Client Population.** As part of this study, each RTC reported the number of adolescents accepted for treatment from January 1, 1993 through May 30, 1995. This time period was selected in order to 1) obtain relatively recent and sufficient data reflecting current RTC practices and performance, and 2) allow sufficient time to determine the status of clients up to 24 months after discharge from the RTC. For each such client, the RTC was asked to indicate if treatment was successfully completed or not. The RTCs reported 1,288 adolescents served with 726 (56%) completing treatment (i.e., “completers”) and 562 (44%) not completing treatment (i.e., “drop-outs,” see Table 3).<sup>4</sup> The 1,288 adolescents served represent the RTC client population from which the study sample was drawn. The services provided to these clients also represent a major achievement of the RTCs during the 29 month time period (1/1/1993-5/30/1995) reviewed by this study.

**Table 3. RTC Client Population 1/1/1993 to 5/30/1995**

RTC	Completers		Drop-Outs		TOTAL	
	N	%	N	%	N	%
1	90	67.7	43	32.3	133	10.3
2	85	72.0	33	28.0	118	9.2
3	127 (70)*	60.8 (33.3)*	82 (139)*	39.2 (66.7)*	209	16.2
4	41	39.4	63	60.6	104	8.1
5	87	30.1	202	69.9	289	22.4
6	68	65.4	36	34.6	104	8.1
7	122	85.3	21	14.7	143	11.1
8	90	69.2	40	30.8	130	10.1
9	16	27.6	42	72.4	58	4.5
TOTAL	726 (669)*	56.4 (51.9)*	562 (619)*	43.6 (48.1)*	1,288	100

*Source: RTC Directors or Clinical Directors*

\*Data in parentheses are projected corrections based on coding errors made by RTC #3.

Review of the client charts in the study sample (described in the following section) confirmed the classification of clients as completers and drop-outs at each RTC with one exception-RTC #3 (in Table 3) had miscoded 20 drop-outs as graduates and 1 graduate as a drop-out. Based on the actual

<sup>4</sup> Almost 4% of the “drop-outs” were transferred to other facilities as needed.

numbers of completers in the sample of 63 clients at RTC #3, the percentages of completers and drop-outs were recomputed for that RTC and for the RTCs as a whole-the recomputed percentages are shown in Table 3. The total number of graduates dropped to 669 (52%) and the total number of drop-outs increased to 619 (48%).

**2. RTC Client Sample.** The client sample was a stratified proportional random sample of adolescents treated by the MS-funded RTCs and discharged between January 1, 1993 and May 30, 1995. The primary mode of stratification was the 9 RTCs; the second stratum was client completion status-treatment successfully completed and client discharged (i.e., “completers”) and treatment not successfully completed (i.e., “drop-outs”).

A total of 407 RTC clients was randomly selected from the 18 cells in the sample design (9 RTCs by 2 levels of treatment completion) probability proportionate to size (number of clients in each group). Because there were sufficient numbers of completers and drop-outs in the population data submitted by the RTCs, the client sample was drawn only from clients discharged prior to January 1, 1995 in order to maximize the number of clients for whom at least 18 months had passed since their discharge from the RTC.

**Table 4. RTC Client Sample**

RTC	Completers		Drop-Outs		TOTAL	
	N	%	N	%	N	%
1	30	69.8	13	30.2	43	100.0
2	28	75.7	9	24.3	37	100.0
3	21	33.3	42	66.7	63	100.0
4	13	39.4	20	60.6	33	100.0
5	29	31.9	62	68.1	91	100.0
6	23	67.6	11	32.3	34	100.0
7	39	84.8	7	15.2	46	100.0
8	30	71.4	12	28.6	42	100.0
9	4	22.2	14	77.8	18	100.0
<b>TOTAL</b>	<b>217</b>	<b>53.3</b>	<b>190</b>	<b>46.7</b>	<b>407</b>	<b>100.0</b>

*Source: RTC Directors and Study Contractor*

Table 4 shows that 217 (53%) of the sample were completers and 190 (47%) were drop-outs. Because completion status was a stratum in the sample design, it is not surprising that the percentage of completers in the sample (53%) was similar to that in the population as corrected (52%).

**3. RTC Staff Sample.** Each of the nine RTC Directors was interviewed. In addition, the majority of the staff at each RTC were interviewed-the number of staff interviewed at each RTC ranged from 9 to 27. If available, persons in the following positions were interviewed: clinical director, psychologist, primary counselor, teacher, senior night (after hours) counselor and aftercare specialist. Generally, a sample of the counselors was selected as it was not cost-efficient to interview every counselor, especially at the larger programs. Some RTCs reported 40-50% of staff were Counselor Aides or equivalent.

Because the staff sample included key staff from each RTC (e.g., Director, Clinical Director, Consulting Psychologist), but only a sample of other staff (e.g., Counselors, Counselor Aides), the sample had disproportionate numbers of senior staff.

## C. Data Collection Methods

Data were collected from the following four sources: 1) RTC staff, including the Directors, 2) a sample of client charts, 3) aftercare providers (contacted only when follow-up data were missing from a client chart), and 4) RTC Board members and staff from the MS Alcoholism and Substance Abuse Program Branch (ASAPB). Efforts to involve stakeholders in the **RTCs** included: 1) an introductory letter from Dr. Michael Trujillo, Director of MS, to the RTC Directors, MS Area Directors, and Area Alcoholism and Substance Abuse Program Coordinators; and, 2) teleconferences. Volume 2 contains a copy of each data collection instrument used in the study.

**1. Teleconferences.** As part of the preliminary data collection activities, teleconferences were conducted with the director of each RTC, appropriate MS Area staff (Area Director and/or the Area Alcoholism and Substance Abuse Program Coordinator, ASAPB staff), and contractor staff. The purpose of the teleconferences was to discuss the goals, objectives, and methodology of the evaluation, and to obtain information on the **RTCs** such as mission, treatment approach, operational procedures, available data, etc.

**2. Site Visits.** On-site data collection was conducted at each of the nine **RTCs**. Data collected included interviews of the RTC Directors and a sample of RTC staff, and review of the charts of the clients selected in the sample.

Because the site visits involved interviews of key RTC staff as well as a comprehensive review of a large number of client charts, the site visits had the potential of disrupting services to the RTC clients. To avoid such disruptions, the site visits were planned carefully with close consultation and collaboration among the RTC Directors, the MS Project Officer (who was also the Medical Officer of the ASAPB), the Chief of the ASAPB, and the study contractor. Because of this planning plus the efforts of the persons involved, the site visits were accomplished without a negative incident and with minimal disruption of the **RTCs**.

**2.1. Interviews of RTC Directors.** Face-to-face interviews were conducted with the 9 RTC Directors. Data collection included the knowledge, opinions, and judgments of the Director on topics such as:

- Factors affecting program success and efficiency
- Successful practices developed by the RTC
- Major problems encountered and solutions developed
- Significant trends at the RTC
- Suggestions for program improvement.

**2.2. Interviews of RTC Staff.** Face-to-face interviews were conducted with a sample of RTC staff. Staff interviews included questions about the person's position and responsibilities, training, experience, and qualifications as well as judgments about the strengths and weaknesses of the RTC.

**2.3. Review of RTC Client Charts.** The chart for each client in the sample was reviewed during the RTC site visits. The information recorded during the chart review included:

- Diagnoses at admission
- Treatment schedule/individualized treatment plan
- History of A/SA by the client and client's family
- Life stressors prior to admission to RTC
- Prior medical, psychiatric, and chemical dependency (CD) treatment
- Educational assessment/services
- Progress in treatment
- Level of parent/family involvement in client's treatment
- Discharge data (e.g. diagnosis, prognosis, aftercare plan)
- Satisfaction and/or evaluation of treatment
- Aftercare plan and follow-up data on client at 1, 6, 12, and 24 months, and
- Major incidents during treatment and level of intensity.

**2.4. Client Follow-up Data.** RTCs are required by MS to collect follow-up data on clients after discharge; however, the degree to which follow-up data were collected varied across RTCs. When post-discharge data on client status were missing or sparse, aftercare providers were contacted to obtain information on the current status of the former RTC client.<sup>5</sup> These interviews generally yielded qualitative data that could be coded into three categories:

- 1) sobriety-maintaining sobriety and working, attending school, etc.,
- 2) partial relapse—intermittent periods of A/SA while productively engaged (e.g., working, attending school), and
- 3) relapse-relapse to prior levels of alcohol or other drug use.

### 3. Secondary Data Review

**3.1. RTC Descriptive Materials.** Descriptive materials (e.g., brochures, organizational chart, mission statement) were requested from each of the RTCs in advance of the site visit to provide the data collection teams with background on the facility, staffing, size, governance, philosophy, and history. The organizational materials were reviewed to determine treatment philosophy, mission, organizational structure, size of staff, the physical plant, and Board involvement of each RTC.

**3.2. CDMIS Research.** The IHS requires the RTCs to use its Chemical Dependency Management Information System (CDMIS) or to provide comparable data in a format easily imported into CDMIS. At the time of the site visits, 4 of the 9 RTCs used CDMIS. Three (2 Alaska RTCs and 1 Navajo RTC) collected their data using alternate systems, and provided the required data for import into CDMIS. At the time of the evaluation, two RTCs had not developed the capability to provide the required CDMIS data. However, all RTCs produce regular reports of the number of clients served and other utilization data.

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<sup>5</sup> The collection of post-discharge data in this study was in conformity with DHHS regulations on informed consent—the RTC client records contained informed consent forms signed by both the client and by the client's parents or guardians. The consent forms included a release for follow-up data to be provided by the aftercare treatment program. These consent forms were valid for up to two years after discharge from the RTC treatment program.

Much of the CDMIS data are maintained in a central database at the MS data center; however, data on individual RTC clients are accessible only at each RTC. Since the client charts are the official repository of client records, it was determined that this study would rely exclusively on the data contained in the charts.

**4. Data Collection Team.** The data collection team consisted of nine persons. Each data collector was a member of a Federally-recognized tribe and was experienced in the areas of Indian health and alcoholism/substance abuse treatment. Several had advanced degrees (3 doctorates in psychology, 1 masters in public health and 1 M.S.), one was a nurse-practitioner (RN), and another was a physician's assistant. Each member of the data collection team had experience in interviewing AI/ANs, and in working with medical records and/or patient charts. Most were experienced in charting the care of A/SA patients or clients.

**4.1. Interviewer/chart reviewer training.** The data collection team participated in a 2-day training session. The first day of training included:

- Review of the study goals, objectives, design, and methodology,
- CI The site visit protocol,
- Using the data collection instruments (interview schedules and chart review guide),
- RTC client records (content, layout, etc.),
- Quality Assurance (QA) procedures,
- CI Anticipated problems and proposed solutions,
- Project lines of authority including a point of contact (the Survey Coordinator) for unexpected problems.

The second day of training included pilot testing the instruments at the New Sunrise RTC. Each member of the data collection team reviewed and extracted data from a minimum of two client charts. Analyses of the extracted data showed a high level of agreement across interviewers and chart reviewers. The instruments were edited and modified to facilitate the data collection process.

**4.2. Field testing of the data collection instruments and procedures.** The data collection instruments and procedures were field tested at the Jack Brown RTC. The field testing indicated that the instruments could be used reliably (intraclass correlations of key elements exceeded .85), and the data could be collected without interruption to RTC services.

**5. Confidentiality of Data.** Data collected during this study were maintained in accordance with all requirements of applicable confidentiality regulations (Privacy Act Regulations 45 CFR 5b, and Confidentiality of Alcohol and Drug Abuse Patient Records Regulations, 42 CFR Part 2). In addition, a Certificate of **Confidentiality** was obtained from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) for data collected during this study. This Certificate is provided under the authority of Section 301(d) of the Public Health Service Act (42 U.S.C. Section 241(d)) to protect against involuntary disclosure of the identities of research subjects.

The case histories presented in the Findings Section are taken from actual client records; however, the names, tribes, residences, geographic areas, and other identifying information of the RTC clients and staff have been changed to protect their respective identities.

In order to elicit the candid judgments and opinions of the RTC Directors and staff, they were told that their judgments, opinions, and other information would remain anonymous, and that in comparisons among **RTCs**, each RTC would be identified only by number. The goal of this evaluation was to assess the efficiency and effectiveness of the **RTCs** collectively as a program rather than evaluating the strengths and weaknesses of individual **RTCs**.

**6. Problems Encountered and Solutions Developed.** As with studies involving multiple sites located throughout the United States, especially the first comprehensive evaluation of a program, this study encountered a variety of problems. These problems are summarized below.

**6.1. Securing Clearance from the IHS Institutional Review Boards (IRBs).** As required by DHHS regulations, the study was reviewed and approved by the **IHS IRBs** for each **IHS Area** in which an RTC was located (Albuquerque, Alaska, Nashville, Navajo, Oklahoma City, Portland, Phoenix and Tucson) as well as the **IHS National IRB**. While an expedited review was requested, the review process consumed over 6 months. Some Area **IRBs** meet regularly on a quarterly basis and it was difficult for them to convene special meetings to consider a particular study. The logistics of assembling IRE3 members stationed at different locations throughout an MS Area was compounded by the tribal compacting process and associated MS reorganization described in Section 6.4 below. In addition, the “shutdown” of portions of the Federal government during late 1995 and early 1996 contributed to the delays in obtaining IRE3 clearances.

**6.2. Securing Clearance from Tribes.** Approval to conduct the study was solicited and obtained from the tribal councils for **RTCs** operated by tribes, tribal consortia, or tribal contractors. This process required persistence and four months to accomplish. In addition to the clearance documents required by the **IRB**, two of the tribes operating **RTCs** had their own clearance forms and procedures.

**6.3. Partial Shutdown of Federal Facilities.** Due to the partial shutdown of certain Federal agencies, much of the DHHS was not functioning the fall of 1995 and again in early 1996. These “government shutdowns” increased the time required to obtain clearances from the Area **IRBs** and to complete the study.<sup>6</sup>

**6.4. Tribal Compacting and Reorganization of the IHS.** This study was being conducted at the same time as a significant increase in tribal compacting for the provision of services previously provided by the MS. For example, all the tribes and Native Villages in the Alaska Area assumed responsibility for the bulk of the services previously provided by the MS directly. The tribal compacting process consumed large amounts of MS staff resources and resulted in both a reduction in force and reorganization within the MS. These changes increased the amount of time needed to consult with **IHS** and tribal staff.

**6.5. Negative Attitudes in Indian Country Toward Federally-Sponsored Research.** In the 5 years prior to this study, the media had publicized a Federally-sponsored study, the “Tuskegee Study,” of sexually transmitted diseases. The Tuskegee study involved gross failures by researchers to protect the interests of African-American participants in the study. In addition, some tribal leaders felt that the Center for Disease Control (CDC) had unfairly and/or inappropriately cast blame on the Navajo

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<sup>6</sup> Because they provide critical health care, the **RTCs** continued to operate during the government shutdowns.

Nation in a study of the causes of an outbreak of the Hanta virus in the southwestern United States. Without commenting on the merit of these allegations and perceptions, at the time of this study, the investigators and IHS officials were forced to pass more intense scrutiny and were required to make special efforts to convince various stakeholders that the research was motivated to improve the RTCs and to promote Indian health.

**6.6. Shutdown of the Phoenix-Tucson RTC.** During the study, the MS suspended operation of the Phoenix-Tucson RTC. Determination of the events leading up to the shutdown of this RTC were beyond the scope of the evaluation. Interviews with staff suggested that there was some gang activity occurring near the RTC and staff were concerned about the safety of the adolescents as well as the quality of care being provided. After a period of several months, the Phoenix-Tucson RTC was reorganized and opened as the Desert Visions RTC. Since the client records reviewed in this study predated the reorganization of the RTC, the client records describe the client care provided by the Phoenix-Tucson rather than the Desert Visions RTC.

## **D. Data Analysis**

The data were automated (keyed and verified to ensure an error rate of less than 1%) and were examined for outliers and unusual patterns of response. Suspicious data were checked against the original data collection instruments. Six composite variables were constructed for each RTC client in the study by summing scores on individual component variables collected in the review of client charts. The composite variables are described in greater detail in Appendix 1. An example of a composite variable is “treatment progress.” One point was added to this composite if the chart revealed that the client 1) participated in the development of his/her treatment plan, and 2) if the client successfully completed treatment; points were subtracted from the treatment progress composite if the client 1) had discipline, peer relations, or other problems, and 2) if the client was found to “use” while in treatment.

In order to describe the RTCs, clients, and staff, a variety of descriptive statistics was computed including percentages, measures of central tendency (means, medians), and dispersion (ranges, standard deviations). Frequency distributions were compiled, and charts and graphs were developed to illustrate patterns in the data.

Multivariate analyses (e.g., analysis of variance, regression analysis, discriminant analysis) were performed to determine the relationships among key study variables such as client characteristics, treatment provided by the RTC, and client outcomes. The number of observations in the analyses was 407 unless specific data elements were missing one or more clients in the sample.

The significance level of 90 percent was set for hypothesis testing and estimation of parameters. A sample of 407 clients drawn from a population of 1,288 yields a level of precision of no more than plus or minus 5 percent in estimates of population percentages. The level of precision in estimates of other parameters (e.g., means, medians) depends on the distribution being examined and is presented in the form of confidence intervals around the statistic.

### III. FINDINGS

The study findings are organized into the following sections:

- A. Two RTC client case histories,
- B. Description of the RTC client sample,
- C. Description of the RTC staff sample,
- D. Overview of the RTCs,
- E. Factors affecting client outcomes,
- F. Post-Discharge Client Status
- G. Variation across RTCs on outcome measures and other variables, and
- H. Specific research questions

#### A. **Qualitative Description of Client Outcomes: Illustrative Case Histories**

Numerical data and statistical analyses presented in outcome studies can fail to capture some of the critical aspects of the institutions or programs being evaluated. This section of the report describes two examples of post-discharge client outcomes—a successful outcome and an unsuccessful outcome. In the two case histories, the client and counselor names have been changed as well as slight alteration of other factors (e.g., tribe and geographic location) to ensure client privacy and confidentiality of records.<sup>7</sup>

Data sources for each narrative included RTC staff interviews and follow-up information provided by aftercare workers as well as the client charts. The experiences of these two RTC clients are not unique; in fact, many of the 407 client records examined in this study revealed similar stories.

**CASE 1: Johnny Standing Tall** was 17 years old when he entered treatment at the RTC. At the time of admission, he was living with his biological mother and father at a Pueblo in New Mexico. During the intake interview, Johnny said that his younger brother and sister were active alcohol and marijuana users, and his father was in recovery—his father had been sober for about 1 year after having been a binge drinker as long as Johnny could remember. Johnny stated that he had few friends, but that he had 2 or 3 friends he liked to “hang out with.” At age 11 he began drinking beer and liquor weekly; by age 15 he was also smoking cigarettes daily. By age 16, he was smoking marijuana whenever he could get it, usually daily. When he entered the RTC, Johnny had completed the 11<sup>th</sup> grade and had been making mostly A’s and B’s in school. Such superior academic achievement is highly unusual for a polysubstance abuser, especially those who begin drinking regularly at an early age.

On admission to the RTC, Johnny’s intake assessment indicated evidence of suicidal ideation—he said that he’d “messed up” his life and that he had no future; he was obviously depressed and withdrawn. Johnny admitted to being both the victim as well as a perpetrator of physical abuse. He said that he and his father had arguments and when Johnny yelled at his father during arguments, his father would beat him up. In the 10<sup>th</sup> grade, Johnny had a girlfriend with whom he spent lots of time. He admitted to punching his girlfriend on several occasions during arguments.

<sup>7</sup> Information pertaining to the tribes and Native Village cited in these case histories has been changed in order to disguise the client’s actual tribe. No judgments or aspersions against any tribe, clan or other group is intended.

The precipitating event for his coming to the RTC was Johnny's arrest for a drunken brawl involving several other teenagers. By his seeking treatment at the RTC, the drunk and disorderly and assault charges against Johnny were dropped. Prior to admission to the RTC, Johnny had participated in outpatient chemical dependency treatment (offer&f by the tribe) and had used traditional healers and/or medicine for A/SA and for other illness&.

On completion of intake, Johnny was assigned to Bill Allen as his primary counselor; Bill Allen is a 38 year old in recovery after 10 years as an alcoholic. Bill has been sober for over 6 years. He has worked at the RTC for 2 years and received certification as an alcohol counselor, Level 1; in 1995. During Johnny's first IO days at the RTC, he worked with Bill to develop a treatment plan. Johnny's treatment plan included three-goals: 1) learning about and understanding; the nature of his addictions, 2) learning ways to control and deal with anger; and 3) return to school and to earn a high school diploma.

His chart indicates that overall Johnny did very well at the RTC. He had some problems controlling aggression and in his social relations with his peers. Several times he had arguments with other clients, both boys and girls, which escalated to the point of fighting. The counselors intervened and helped Johnny learn new ways of dealing with aggression and anger; the issues of anger and control were confronted in both group therapy and in individual sessions; with Bill Allen. After initial resistance, Johnny gradually developed a trusting relationship with Bill Allen. Bill felt a turning point occurred when Johnny confided his shame at having been excluded from Badger clan ceremonies because of his substance abuse.

Johnny's family was involved and supportive of his treatment at the RTC. His mother, brother, and sister often-spoke with him by telephone. During "family week" at the RTC, Johnny's parents, brother and sister, uncle and grandmother visited him. Johnny and his parents participated in a session with the family therapist. The chart describes a productive session during which Johnny's father tearfully expressed remorse for beating Johnny and for his own substance abuse. Johnny accepted his father's statements and expressed his remorse for "screwing up so bad."

The chart shows that over time Johnny came to actively participate in group sessions and by week 5 began to show leadership skills. He made good progress in academic classes and in A/SA education. After 12 weeks at the RTC, he had achieved almost all of the goals in his treatment plan achieving Step 5 in the AA-like program. As the time of his discharge approached, Bill Allen contacted the A/SA program to plan for Johnny's aftercare and to support Johnny's desire to regain good standing in the Badger clan.

Johnny was discharged from the RTC after 14 weeks of treatment. He returned to live with his parents and graduated from high school the next year. He attended AA meetings regularly and participated actively. He worked as a volunteer at the INS hospital to satisfy the community service component of his RTC discharge plan. He gained valuable work experience at the hospital; and received a Certificate of Appreciation for his work. Johnny applied to and was accepted by the University of New Mexico (UNM). He is currently enrolled as a Junior at UNM.

**CASE 2: Amy Chukwak** is member of a Native village in Alaska, located on an island over 1,000 miles west of Anchorage, Alaska. The island is accessible to the mainland by boat or float plane and has a population of less than 900. There are no movie theaters, supermarkets (there is a trading post/store), television (there are a number of television/VCRs), newspapers, or shopping malls on the island. Most of the residents are employed as fishermen or fishing-related jobs. The school has three teachers employed by the Bureau of Indian Affairs (BIA).

Prior to admission to the RTC, Amy was living with her aunt and uncle, two brothers, a sister and three cousins. Amy's father is an active alcoholic and her parents separated when she was 4 years old. Her mother died in an alcohol-related accident when Amy was 8 years old and she has been living with her aunt since that time. Her native language is spoken at home, but classes at school are conducted in English. Amy is fluent in both languages. She was referred to the RTC by the CD outpatient program for substance abuse and for suspension from school in the 10<sup>th</sup> grade for "passing out in

class drunk." Amy began smoking cigarettes at 7 years of age, and began drinking beer and hard liquor on a weekly basis when she was 9. Amy was 15 years old when she was admitted to one of the RTCs in Alaska.

Prior to her admission to the RTC, Amy was given physical and psychological evaluations at the Alaska Native Medical Center in Anchorage. The psychological evaluation revealed Amy was clinically depressed and had attempted suicide in the previous 12 months. The medical work up revealed Amy had contracted sexually transmitted diseases. She was treated and cured, and was given education on the chronic nature of STDs. Assessments conducted during intake at the RTC revealed a history of sexual abuse—Amy had been raped seven different times by cousins and other Village boys.

Amy's primary counselor at the RTC was Barbara Teckkech, a 42 year old Alaska Native from a different Village from Amy's, Barbara is an RN and a certified alcoholism counselor. She worked at an IHS-funded RTC in "the lower 48" for 3 years prior to returning to Alaska. She has worked at the Alaska RTC for 2 years. Amy's chart indicated that she and Barbara formed a close relationship almost immediately. Amy soon became a model RTC client. Unlike many new residents, she did not go through a rebellious period in which A/SA problems are denied and rules and limits imposed by the staff are tested. Rather, Amy freely admitted that she had serious substance abuse problems, and that she was depressed and had tried to kill herself. Amy seemed to enjoy developing her treatment plan with Barbara and was an active participant in individual and group therapy.

At week 3 the chart indicates that Amy had been acting seductively toward several of the boys on the unit. This issue was encountered both in group sessions and in individual counseling sessions. Amy expressed outrage at these observations- vehemently denied acting in a seductive way and claimed that it was the boys who had been "hassling" her. This issue was the focus of much work with Amy during the remaining weeks she was at the RTC. In week 5 there was an especially intense group session in which Amy expressed both rage and helplessness associated with her history of sexual abuse. The support given Amy by both boys and girls in the group surprised her and seemed to help her work on this issue.

Amy had a slow start in her academic classes, having particular problems with mathematics. At the teacher's suggestion, Barbara Teckkech volunteered to help Amy with her academic work (at this RTC, as in most, primary counselors generally have little involvement with the client's academic work). Around week 2 Amy decided that she wanted to become a nurse. Barbara explained the mathematics required in nursing school and continued to help Amy with her school work. Towards the end of treatment, the teacher noted in Amy's chart that she had "really focused" on her school work and was making good progress.

Amy's aftercare plan included placement in a group home and participation in a 12-step AA-like program, group counseling, involvement in cultural and spiritual activities, and clarification of education and vocational goals. After completing treatment at the RTC, Amy was discharged from the RTC to the group home. Follow-up data indicated that she was at risk for relapse at 1 month (drank several beers with classmates on a Saturday); but had made maintained sobriety at 6, 12, and 18 months after discharge. She completed the 11<sup>th</sup> and 12<sup>th</sup> grades in high school. She applied to and matriculated to a university in the "lower 48." At the university, under unknown circumstances, Amy committed suicide.

## B. Profile of RTC Client Sample

The study produced extensive information about the client sample. The profile of the RTC clients is presented in this section; detailed information about the RTC clients is presented in Volume 2 of the report. Information on client characteristics and outcomes is based on review of RTC client charts. Findings based on the chart reviews pertain to the care provided by the RTCs during the period January 1, 1993 through May 30, 1995; any changes implemented by the RTCs after May 30, 1995 are not reflected in the client outcome or client characteristics reported in this study.

**1. Comparison Data.** Where possible, the profile and outcomes of the client sample are compared to a sample of 1,483 adolescents who were in residential or inpatient treatment at 30 treatment programs throughout the United States-referred to as the **CATOR-2** sample throughout this report (Bergmann et al. 1995). When comparison data in the **CATOR-2** sample are unpublished, a similar sample of 826 adolescents in residential **A/SA** treatment is used-the **CATOR-1** sample (Hoffmann and Kaplan 1991).<sup>8</sup> Because the RTC and **CATOR** samples differ along many dimensions, the comparisons must be interpreted with great caution. For example, the majority (94%) of the adolescents in **CATOR** sample were white (less than 1% was AI/AN), most resided in and were treated in metropolitan areas and had a different pattern of substance abuse from the RTC clients (see Table 5). Nevertheless, the **CATOR** data represent an instructive point of reference for this study.

It is not the intent of the evaluation of the MS RTCs to reanalyze the **CATOR** data nor to determine the factors that underlie many differences and similarities between the RTC and **CATOR** data. The **CATOR** data are presented because they represent some of the few published data on multiple adolescent alcohol and substance abuse treatment programs.

**2. Client Attributes and Outcome Measures.** Multivariate analyses revealed that 10 client attributes were significantly associated with one or more of the 6 outcome measures used in this study: 1) quality of client charting, 2) treatment progress, 3) length of stay (LOS), 4) treatment completion, 5) client satisfaction, and 6) post-discharge status.<sup>9</sup> The client variables included:

- gender
- Cl age
- school problems
- abuse (physical and/or sexual)
- Cl grades in school
- referral source
- Cl severity of life stressors
- severity of **A/SA**
- self-identification of problem at discharge
- Cl family involvement with treatment.

The client variables and their associations with outcome measures are discussed below. Table 6 summarizes the significant associations among client attributes and outcome measures.”

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<sup>8</sup> Unless otherwise specified, references to the **CATOR** data in this report refer to the **CATOR-2** sample.

<sup>9</sup> Quality of client charting, treatment progress, and client satisfaction are composite measures computed for each RTC client; these composite measures are described in Appendix I.

<sup>10</sup> While the effects for specific RTCs are not a pure outcome measure, these effects are included in Table 6 for the sake of completeness.

**Table 5. Comparison of the RTC and CATOR Samples**

		<b>RTC</b>	<b>CATOR-1</b>	<b>CATOR-2</b>
<b>Number of adolescents</b>		407	826	1,483
<b>Gender</b>				
Boys		57%	64%	60%
Girls		43%	36%	40%
<b>History of Abuse</b>				
Sexual abuse only	Boys	11%	4%	5%
	Girls	18%	19%	22%
Physical abuse only	Boys	12%	27%	29%
	Girls	15%	21%	18%
Both	Boys	5%	5%	5%
	Girls	18%	25%	30%
None	Boys	77%	65%	62%
	Girls	49%	36%	29%
<b>Race/Ethnicity</b>				
White		0%	90%	100%
Hispanic		0%	2%	0%
African-American		0%	1%	0%
Native American		100%	2%	0%
Other/unknown		0%	5%	0%
<b>School Status</b>				
In school		59%	80%	81%
Suspended/Excelled		17%	3%	N/A
Graduated		3%	2%	N/A
Other		18%	10%	N/A
Unknown		3%	1%	N/A
<b>Age</b>				
14 and younger		24%	12%	N/A
15		21%	21%	N/A
16		22%	31%	15 - 17 (75%)
17		24%	29%	N/A
18		7%	7%	N/A
19 and older		2%	1%	N/A
<b>Primary Living Arrangement</b>				
With both parents		16%	46%	44%
With mother or father		33%	44%	48%
With other/unknown		51%	10%	8%
<b>Parental A/SA</b>				
Father abuser		90%	N/A	43%
Mother abuser		75%	N/A	8%
Both abusers		76%	N/A	5%
<b>Psychological/Emotional Problems</b>				
Depression		40%	28%	33%
Suicide Attempts		19%	17%	21%
Girls		27%	N/A	32%
LOS		4 - 17 weeks	4 - 8 weeks	N/A
Total abstinence - 1 year post-discharge		39%	25% - 66%	39%
Age at first use - alcohol		11.7	11.5	N/A
Percent completing treatment		53%	61%	60%

SOURCE: Client Charts, Bergmann et al. (1995), Hoffmann and Kaplan (1991)

**Table 6. Significant Associations Among Client Variables and RTC Outcome Measures**

Client Variable	OUTCOME MEASURES						RTC
	Treatment Completion	LOS	Treatment Progress	Quality of Charting	Client Satisfaction	Post-Discharge Sobriety	
Gender						X	
Age	P						
Severity of A/SA	N		N		N		X
Physical/Sexual Abuse			N	P			
School Grades	P						
School Problems			N				
Source of Referral		X					
Self-Identification of A/SA	P	P	P	P	P		X
Family Involvement in Treatment	P			P			X
Severity of Life Stressors	N						X

*SOURCE: Client Charts*

**Legend:** P= Positive (Direct) Association  
N= Negative (Inverse) Association  
X =Direction of association is arbitrary or multidimensional

The outcome measures most influenced by and/or influencing client variables were treatment completion and treatment progress.

**3. Gender.** There were 230 (57%) boys and 177 (43%) girls in the RTC client sample. Across RTCs, the percentage of boys ranged from a low of 44 percent to a high of 68 percent; however, this variation in percentages was not statistically significant (Chi Square=9.7, df=8, p>.28).<sup>11</sup> The percentages of boys and girls in the RTC sample are similar to those in the CATOR sample-there was a slightly greater percentage of boys (60%) and a corresponding lesser percentage of girls (40%) in the CATOR sample.

Gender was significantly associated with one of the RTC outcome measures-client post-discharge status. Girls maintained a higher level of post-discharge sobriety than did boys. On the 3-point post-discharge sobriety scale (1=Sobriety, 2=Partial Relapse, 3=Relapse), girls did better (mean=1.7) than boys (mean=2.1, F=13.4, df=1,205, p<.001). This result was confirmed by a nonparametric Chi Square analysis (Chi Square=10.8, df=2, p<.001). The percentage of girls (46%) who were sober was greater than that of boys (33%). Conversely, the percentage of girls who had relapsed (13%) was less than that of boys (33%).

<sup>11</sup> Throughout this report, the probabilities associated with significance tests are reported. Some analysts argue that the actual probabilities should not be reported-that significance tests should be conducted in accordance with decision rules based on a level of significance (probability of making a Type I or false positive error) specified by the investigator(s). In this study the significance level was set at 0.10; however, since any particular level of significance involves a degree of arbitrariness, the actual probabilities are reported for the benefit of readers who might prefer a different level of significance.

4. **Age.** The mean and median age of the client sample was 16.2 (CI-L=16.0, CI-U=16.3)<sup>12</sup> years. Girls were slightly but significantly younger (mean=15.8 years) than boys (mean=16.4 years) (t=4.3, df=1,403, p<.001). The relative youth of the girls can be seen in Table 7.<sup>13</sup> The majority of the 13- and 14-year old clients were girls while the majority of the 15-, 16-, 17-, 18-, and 20-year old clients were boys (Chi Square= 20.8, df=7, p<.01).

The RTC clients tended to be younger than the CATOR-1 sample-24 percent of the RTC clients were 14 or younger in contrast to 12 percent of the CATOR clients (see Table 5).

**Table 7. Distribution of RTC Clients by Gender and Age**

Age	Boys				Girls				TOTAL			
	N	%	CI-L	CI-U	N	%	CI-L	CI-U	N	% of Total	CI-L	CI-U
11	1	50.0%	0.0%	148.0%	1	50.0%	0.0%	148.0%	2	0.5%	0.0%	10.2%
12	4	57.1%	8.6%	105.6%	3	42.9%	0.0%	98.9%	7	1.7%	0.0%	11.4%
13	12	37.5%	10.1%	64.9%	20	62.5%	41.3%	83.7%	32	7.9%	0.0%	17.2%
14	24	43.6%	23.8%	63.4%	31	56.4%	38.9%	73.9%	55	13.6%	4.5%	22.6%
15	45	52.9%	38.3%	67.5%	40	47.1%	31.6%	62.6%	85	21.0%	12.3%	29.6%
16	48	53.3%	39.2%	67.4%	42	46.7%	31.6%	61.8%	90	22.2%	13.6%	30.8%
17	68	70.8%	60.0%	81.6%	28	29.2%	12.4%	46.0%	96	23.7%	15.2%	32.2%
18	21	72.4%	53.3%	91.5%	8	27.6%	0.0%	58.6%	29	7.2%	0.0%	16.5%
19	1	25.0%	0.0%	109.9%	3	75.0%	26.0%	124.0%	4	1.0%	0.0%	10.7%
20	3	75.0%	26.0%	124.0%	1	25.0%	0.0%	109.9%	4	1.0%	0.0%	10.7%
21+	1	100.0%	100.0%	100.0%	0	0.0%	0.0%	0.0%	1	0.2%	0.0%	10.0%
TOTAL	228	56.3%	49.9%	62.7%	177	43.7%	36.4%	51.0%	405*	100.0%	100.0%	100.0%

SOURCE: Client Charts

\*Charts for 2 of the 230 boys lacked date of birth so age at admission was indeterminate and the total clients was 405 rather than 407.

Client age was significantly associated with one outcome measure-treatment completion. Completers were older (mean=16.3 years) than drop-outs (mean=16.0 years) (F=7.2, df=1,403, p<.008).

**5. Substances Abused and Frequency of Use.** The charts were examined for data on each substance abused by the client, the age at first use, and frequency of use. By far the most frequently used substances by RTC clients were alcohol, used by 377 (92.6%) of the clients, and marijuana, used by 343 (84.3%) of the clients. Few of the adolescents used barbiturates 4.9%, or cocaine (5.2%).

<sup>12</sup> The 95 percent confidence interval is given for most statistics presented in this report. The lower (CI-L) and upper (CI-U) limits of the confidence interval are given. In this example, there is a 95 percent chance that the average age of the 1,288 clients in the client population was between 16.0 and 16.3 years, based on the mean age of 16.2 years found for the sample of 407 clients.

<sup>13</sup> The total number of clients in Table 7 is 405 (rather than 407) because the date of birth was missing in the charts of 2 clients.

Table 8 presents the frequency of use data for the RTC clients as well as that for the **CATOR** comparison group. For the RTC data, the last two columns in Table 8 show the total number of clients who reported using the substance and the corresponding percentage of the entire sample of 407 RTC clients.

**Table 8. Frequency of Use of Alcohol and Other Drugs by RTC and CATOR Clients**

Substance	Frequency of Use								TOTAL	
	Episodic		Monthly		Weekly		Daily			
RTC Clients	N	%	N	%	N	%	N	%	N	%
Alcohol	32	7.9%	35	8.6%	209	51.4%	101	24.8%	377	92.6%
Marijuana	55	13.5%	34	8.4%	122	30.0%	132	32.4%	343	84.3%
Tobacco	8	2.0%	2	0.5%	19	4.7%	139	34.2%	168	41.3%
Inhalants	88	21.6%	10	2.5%	28	6.9%	19	4.7%	145	35.6%
Cocaine	15	3.7%	1	0.2%	3	0.7%	2	0.5%	21	5.2%
Stimulants	51	12.5%	14	3.4%	28	6.9%	16	3.9%	109	26.8%
Hallucinogens	80	19.7%	10	2.5%	12	2.9%	4	1.0%	106	26.0%
Barbiturates/Sedatives	15	3.7%	1	0.2%	4	1.0%	0	0.0%	20	4.9%
Narcotics/Opiates	50	12.3%	12	2.9%	18	4.4%	12	2.9%	92	22.6%
<b>CATOR Clients</b>										
Alcohol	N/A			87.0%	N/A			11.0%		98.0%
Marijuana	N/A			72.0%	N/A			28.0%		100.0%
Tobacco	N/A			N/A	N/A			N/A		N/A
Inhalants	N/A			14.0%	N/A			3.0%		17.0%
Cocaine	N/A			16.0%	N/A			0.0%		7.0%
Stimulants	N/A			22.0%	N/A			2.0%		23.0%
Hallucinogens	N/A			21.0%	N/A			12.0%		10.0%
Barbiturates/Sedatives	N/A			7.0%	N/A			4.0%		20.0%
Narcotics/Opiates	N/A			9.0%	N/A			5.0%		27.0%

*SOURCE: Client Charts and Bergmann et al. (1995)*

While the **CATOR** frequency of use data are not identical to the RTC data (e.g., only percentages are available for the **CATOR** data, and the frequency categories are limited to “daily” and “monthly plus”), Table 8 reveals interesting similarities and differences in the patterns of alcohol and other drug use by RTC and **CATOR** clients:

- Both alcohol and marijuana were used by most RTC and **CATOR** clients
- The percentage of RTC clients reporting daily alcohol consumption (24.8%) was over twice that of the **CATOR** clients (11%)
- The percentage of inhalant users among RTC clients (35.6%) is over twice that of the **CATOR** clients (17%)
- Over 11 percent of the RTC clients reported using inhalants weekly or daily
- The general usage patterns of the two groups for stimulants, narcotics, and cocaine are similar.

The use of inhalants by more than one-third of the RTC clients (35.6%) is especially troubling given the toxicity and resulting brain damage associated with inhalant use. Interviews with staff revealed that inhalant abusers tended to be far more combative and disruptive to the **RTCs** than other clients.

The daily consumption of alcohol by almost one-fourth (24.8%) of the RTC clients is similarly troubling. This finding suggests that RTC clients are much farther down the road to alcohol addiction than non-Indian counterparts served by other adolescent residential programs.

5.1. *Age at First Use.* The age at first use varied with the substance. Alcohol (mean age=11.7), marijuana (mean age= 12.3), tobacco (mean age=12.0), and inhalants (mean age=12.5), were used at the youngest ages (see Table 9). Narcotics (mean age=14.2) and over-the-counter drugs (mean age=14.8) were first used at older ages. These data suggest that RTC clients started abusing alcohol before smoking cigarettes.

There was a relationship between age at first use and history of physical and sexual abuse--clients who were abused tended to smoke cigarettes and drink at earlier ages than those who had not been abused.

**Table 9. Age at First Use by Substance**

Substance	Mean	Mean CI-L*	Mean CI-U*	Median	SD**	N
Alcohol	11.7	11.4	11.9	12.0	2.5	373
Tobacco	12.0	11.6	12.4	12.0	2.4	134
Marijuana	12.3	12.0	12.6	13.0	2.5	320
Inhalants	12.5	12.1	12.9	13.0	2.7	127
Stimulants	13.6	13.2	14.1	14.0	2.5	97
Cocaine	13.4	12.8	14.0	14.0	2.7	76
Hallucinogens	13.8	13.2	14.3	14.0	2.5	85
Barbiturates	13.6	12.5	14.8	14.0	2.3	18
Narcotics	14.2	13.1	15.2	14.0	2.0	17
Steroids	18.0	18.0	18.0	18.0	0.0	1
OTC Drugs	14.8	12.4	17.1	14.0	1.5	4

SOURCE: Client Charts

\*CI-L=Lower 95 percent confidence limit  
 \*CI-U=Upper 95 percent confidence limit  
 \*\*SD=Standard deviation

5.2 *Age at First Use and Gender.* Boys drank alcohol (mean=11.5 years, CI-L=11.1, CI-U=11.9) at significantly younger ages than did girls (mean=11.9 years, CI-L=11.6, CI-U=12.2).<sup>14</sup> Gender differences in the age at first use of tobacco, marijuana, and other drugs were not significant. The RTC clients' age at first use of alcohol was similar to that of the CATOR sample. On the average, CATOR boys and girls first used alcohol at 11.5 years.

Data from client charts show that some clients reported using alcohol as early as 2 to 4 years of age; 21% reported age of first use at 7-10 years of age. One client record indicated that family members had placed alcohol in his bottle when he was a toddler. These findings on age at first use have implications for A/SA prevention efforts--efforts that target teenagers and high school students will be "too late" for many adolescents who begin to abuse alcohol by age 11 or younger. If prevention

<sup>14</sup> Significance test for alcohol: F=6.9, df=1, p<.009.

efforts are to impact children before they begin to drink and/or smoke, the efforts have to target children in elementary schools at ages younger than 11 years and even in the Head Start program.

**6. Severity of Alcohol/Substance Abuse.** This is a composite measure consisting of three components extracted from the clients history of substance abuse. The components are 1) substances used, 2) frequency of use, and 3) intensity of use. Severity of **A/SA** is significantly associated with three outcome measures-treatment completion, treatment progress, and client satisfaction. In addition, there was significant variation in Severity of **A/SA** across **RTCs**.

Clients with the most severe **A/SA** problems made less progress in treatment, tended to be less satisfied with treatment, and tended to drop-out more than clients with less severe **A/SA** problems. These findings are described in Section E (pages 38 to 48).

**7. History of Physical and Sexual Abuse.** Review of the charts revealed that 11 percent of the clients reported that they had been both sexually and physically abused (See Table 10). The percentage of girls who had been both sexually and physically abused (18%) was over three times that of the boys (5%) (Chi Square=14.3, df=1, p<.001). The percent of boys in the **RTC** sample who had been both sexually and physically abused was the same as that in the **CATOR** sample (5%); the percent of girls in the **RTC** sample (18%) was lower than that in the **CATOR** samples (25% - 30%).

**Physical abuse only.** Over 13 percent of the **RTC** sample reported that they had been physically but not sexually abused. The percent of the girls that had been physically abused (15%) was greater than that of the boys (12%) but this difference was not statistically significant (Chi Square=0.0, df=1, p>.90). In the **CATOR-1** sample, the percentage of both boys (27%) and girls (21%) who had been physically abused were greater than the percentages of boys (12%) and girls (15%) in the **RTC** sample.

**Sexual abuse only.** The percentage of girls that had been sexually abused (18%) was significantly greater than that of boys (11%) in the **RTC** sample (Chi Square=8.0, df=1, p<.005). The percentage of girls in the **RTC** sample who had been sexually abused was slightly lower than that in the **CATOR** sample (22%); the percentage of **RTC** boys who had been sexually abused (11%) is over 2 times that of **CATOR** boys (5%).

**Table 10. History of Physical and Sexual Abuse of RTC Clients**

Abuse	Boys				Girls				TOTAL			
	N	%	CI-L	CI-U	N	%	CI-L	CI-U	N	%	CI-L	CI-U
Physical	28	12.2%	0.1%	24.3%	27	15.3%	1.7%	28.8%	55	13.5%	4.5%	22.5%
Sexual	25	10.9%	0.0%	23.1%	32	18.1%	4.7%	31.4%	57	14.0%	5.0%	23.0%
Both	12	5.2%	0.0%	17.8%	31	17.5%	4.1%	30.9%	43	10.6%	1.4%	19.8%
None	165	71.7%	64.9%	78.6%	87	49.2%	38.6%	59.7%	252	61.9%	55.9%	67.9%
Total	230	100.0%	100.0%	100.0%	177	100.0%	100.0%	100.0%	407	100.0%	100.0%	100.0%

*Source: Client Charts*

The observation that 14 percent of the **RTC** sample had been physically (or sexually abused), while correct, should be presented in the context that another 11 percent had suffered both sex and physical

abuse. Without the inclusion of the “both” group, it would be more accurate to say that almost one-quarter (24%) of the RTC clients had suffered physical (or sexual) abuse.

Several RTC directors indicated that they estimate the percentage of girls who had been sexually abused to be far greater than the 35.6 percent found in the chart review.” A recent study (Brindis, Berkowitz, and Peterson 1995) found that 43 percent of women in IHS-funded alcoholism and substance abuse treatment programs reported that they had been sexually abused as children; 44 percent indicated they had been physically abused. Some RTC directors suggested that fear, shame, denial, repression, and other factors seem to inhibit girls from admitting their history of sexual abuse. Furthermore, RTC staff and members of the project steering committee suggested that concerns about the confidentiality of client data may have caused some clinicians to address the client’s sexual abuse issues without documenting it in the client charts.

**7.1. Relationship between abuse and outcome measures.** Multivariate analyses on the RTC outcome measures revealed that physical/sexual abuse was significantly associated with two of the composite outcome measures--quality of charting and treatment progress. The association with quality of charting was positive and the association with treatment progress was negative as described below.

**Abuse and quality of charting.** Quality of charting is a composite measure computed by assigning an initial value of 10 to each chart reviewed, and subtracting 1 point for each critical item (e.g., reason for referral, history of A/SA, primary counselor, etc.) that was missing from the chart.<sup>16</sup> Sparsely documented charts earned negative values on this composite; the higher the positive score, the better the quality of the charting of the client’s experiences, performance, status, and outcomes at the RTC. Scores on this composite measure ranged from a -17 to 10 with a mean of -0.2, a median of 0.0, and a standard deviation of 5.6.

The charts of clients who had been physically and sexually abused were more complete (mean=2.4) than the charts of clients who had not been abused (mean=-0.8) (F=4.2, df=3,403, p<.006; Bonferoni pairwise comparison p<.003). This difference suggests special efforts were made at charting and, perhaps serving, the abused RTC clients.

**Abuse and treatment progress.** Treatment progress is a composite measure. Points were added to this measure if the client participated in the development of his/her treatment plan, remained “clean” (i.e., no A/SA at the RTC), and for achieving treatment goals; points were subtracted for problems (e.g., peer relations, discipline), and for A/SA during residence at the RTC. Treatment progress scores ranged from a low of -1 to a high of 14; the mean was 8.2, the median was 9.0, and the standard deviation was 3.8.<sup>17</sup>

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<sup>15</sup> For girls, sexual abuse only (18.1%) plus both sexual and physical abuse (17.5%) indicated that 35.6 had been sexually abused.

<sup>16</sup> Details about the composite measures are presented in Appendix 1.

<sup>17</sup> Scores on the treatment progress composite measure do not indicate the timing of a client’s progress (or the behaviors indicating a lack of progress). For example, it is possible for two clients to have the same or similar scores on treatment progress, but one client could manifest problems near the beginning of treatment, and the other client could manifest problems near the end of treatment.

RTC clients who had been both physically and sexually abused made significantly less progress (mean=6.2) than clients who had not been abused (mean=8.7) ( $F=3.4$ ,  $df=3,175$ ,  $p<.02$ ; Bonferoni pairwise comparison  $p<.07$ ). The result for quality of charting suggests that special efforts may have been made to serve abused clients at the RTCs; however, the analysis of treatment progress suggests that still greater efforts or different approaches may be needed to meet the therapeutic needs of adolescents who have experienced abuse.

**7.2. Relationship Between Abuse and Other Client Characteristics and Experiences.** These findings relating physical/sexual abuse to other variables represent an initial information base that treatment providers and health educators may be able to use in developing or modifying substance abuse (and child abuse) treatment and prevention programs. Physical/sexual abuse was significantly associated with four client characteristics: 1) gender, 2) level of physical health problems, 3) severity of substance abuse, and 4) age at first use of alcohol and marijuana.

**Abuse and gender.** The relationship with client gender has already been described—significantly higher percentages of girls had been physically and sexually abused.

**Abuse and physical health problems.** There was a significant association between physical/sexual abuse and the composite measure of physical health problems ( $F=4.5$ ,  $df=3,399$ ,  $p<.004$ ).<sup>18</sup> Clients who had been both physically and sexually abused had significantly more physical health problems (mean=10.93) than clients who were only physically abused (mean=10.85;  $p<.02$ ) or not abused (mean=10.56;  $p<.04$ ). Also, clients who had been physically abused had significantly more health problems (mean=10.85) than those who were not abused (mean=10.56;  $p<.05$ ).<sup>19</sup>

It is to the credit of the RTCs that they identify the health problems of abused clients. Examples of these health problems include asthma, obesity, dermatological problems, and sexually transmitted diseases.

**Abuse and severity of A/SA abuse.** There was a significant relationship between physical/sexual abuse and the composite measure of severity of A/SA ( $F=2.3$ ,  $df=3,399$ ,  $p<.08$ ).<sup>20</sup> Clients who had been both physically and sexually abused had more severe A/SA problems (mean=18.1) than clients who had not been abused (mean=12.7,  $p<.05$ ).

**Abuse and age at first use of alcohol and tobacco.** There were dramatic differences in the age at first use of alcohol ( $F=2.1$ ,  $df=3,365$ ,  $p<.10$ ) and of tobacco ( $F=3.9$ ,  $df=3,126$ ,  $p<.01$ ) as a function of the clients' history of physical/sexual abuse. For alcohol, the effects of abuse were different for boys and girls ( $F=3.1$ ,  $df=3,365$ ,  $p<.03$ ). Boys who had been sexually abused began drinking at a younger age (mean age=9.4 years) than any other gender and abuse combination.

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<sup>18</sup> The physical health composite is described in Appendix 1. Scores on this composite reflect the sum of physical health problems reported in the client's chart.

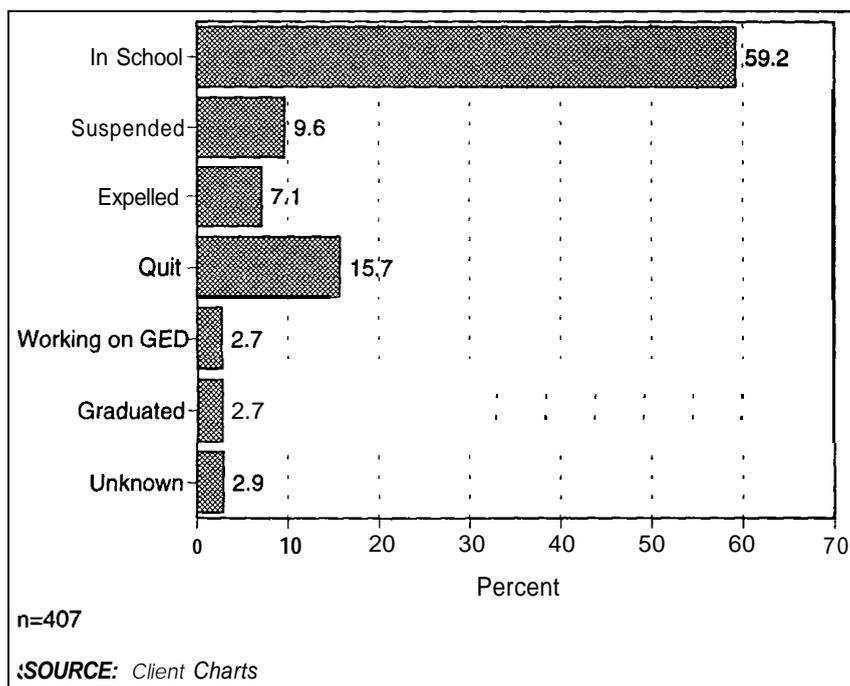
<sup>19</sup> All p values are Bonferoni pairwise probabilities that the differences between the pair of means is due to random sampling error.

<sup>20</sup> The severity of A/SA composite is described in Appendix 1. Scores on this composite reflect accumulation of the number of substances abused, the frequency of use, and level of intoxication achieved.

For tobacco, the youngest smokers were the clients who suffered both physical and sexual abuse (mean age=9.4 years); clients who were not abused started to smoke at the oldest age (mean=12.4 years). It may be that a 9 year-old begins to drink or smoke as a form of escape in reaction to the abuse experienced; alternatively, it may be that the environmental factors that allow early drinking and smoking may be associated with child abuse.

**8. School Status and Grades.** Prior to admission to the RTC, the majority (59%) of the clients had been attending school (see Figure 1). About one-third had either quit school (16%), been suspended (10%) or expelled (7%). A far greater percentage (81%) of the **CATOR** sample had been attending school prior to admission (compared to 59% in the RTC sample) and only 15 percent had either dropped out, been suspended, or expelled from school (see Table 5).

The client charts often contained information about the client’s grades in school prior to admission. School grades were coded on a 3-point ordinal scale as follows: 1=mostly A’s and B’s, 2=mostly C’s, and 3=mostly D’s and F’s. Data were available for 289 (71%) of the 407 clients. The majority (62%) of these clients had unsatisfactory school grades, earning mostly D’s and F’s.



**Figure 1. School Status of WTC Clients Prior to Admission**

Client scores on the ordinal scale of school grades prior to admission were significantly related to treatment completion ( $t=2.7, df=1,287, p<.01$ ) but not to other outcome measures. Program completers had significantly better grades on the 3-point grade scale (mean=2.4) than did drop-outs (mean=2.6). The relationship between client grades and program completion is shown in Table 11. Of those clients who had mostly A’s and B’s in school, 67 percent completed the RTC program; in contrast, only 47 percent of the students who had mostly D’s and F’s in school completed the program-these differences are statistically significant (Chi Square=7.9,  $df=2, p<.02$ ). These results suggest that the few RTC clients who earned good grades in school are much more likely to complete treatment at an RTC than clients who earned bad grades.

**Table 11. School Grades and Treatment Completion**

Grades	Completers				Drop-Outs				TOTAL			
	N	%	CI-L	CI-U	N	%	CI-L	CI-U	N	% of Total	CI-L	CI-U
Mostly A's and B's	22	67.0%	47.4%	86.6%	11	33.0%	5.2%	60.8%	33	11.0%	0.3%	21.7%
Mostly C's	50	63.0%	49.6%	76.4%	29	37.0%	19.4%	54.6%	79	27.0%	17.2%	36.8%
Mostly D's and F's	84	47.0%	36.3%	57.7%	93	53.0%	42.9%	63.1%	177	62.0%	54.8%	69.2%
<b>TOTAL</b>	<b>156</b>	<b>54.0%</b>	<b>46.2%</b>	<b>61.8%</b>	<b>133</b>	<b>46.0%</b>	<b>37.5%</b>	<b>54.5%</b>	<b>289</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*SOURCE: Client Charts*

**9. School Problems.** This is a composite measure consisting of five components: 1) The client was referred to the RTC by the school (through the tribal CD program), 2) the reason for referral included disciplinary problems at school, 3) academic failure was included as a life stressor, 4) the client had been suspended, expelled, or other specific discipline problems were recorded on the chart, and 5) the client grades were “mostly D’s and F’s” in school. Scores on the school problems composite ranged from a low of 10 to a high of 16 (see Appendix 1 for information on school problems and other composite measures).

Multiple regression analyses revealed a significant negative association between the school problems composite and the treatment progress outcome measure with the effects of other predictors statistically controlled (Partial  $F=7.6$ ,  $df=1,177$ ,  $p<.007$ ). The simple regression of treatment progress on school problems indicated that the addition of each school problem decreased treatment progress 0.3 units (regression coefficient=-0.3, standardized regression coefficient=-0.1). These results indicate that the children who had more problems at school also had more problems at the RTCs as reflected in the treatment progress outcome measure.

**10. Referral Source.** The principal referral sources were various courts (35%), tribal CD and other tribal programs (27%), self-referrals (12%), and school (10%). These referral sources represent the original referrals. Regardless of the original source, almost all clients are referred to the RTCs by the tribal A/SA programs.\* Figure 2 illustrates the original referral sources. Any referrals originated by MS or tribal health care providers would be included in the “other” category. The paucity of referrals originated by health providers suggests that there may be room for improvement in screening AI/AN youth for A/SA by tribal and IHS health care providers.

To help primary care providers to better detect adolescent A/SA, Bergmann et al. (1995) developed a 3-question screen for adolescent A/SA that avoids value-laden questions likely to elicit negative reactions from adolescents. The screen (known by the acronym AMP) consists of three questions:

- Do you prefer to go places where alcohol or other drugs are **available**?
- Does it take **more** alcohol or drugs to get you high than it used to?
- Do you ever drink or use drugs more than you **planned**?

<sup>21</sup> RTC directors stated that the programs do not accept clients in response to direct court orders; rather, courts generally refer adolescents for chemical dependency evaluation and recommendations. Subsequently, the youth may be offered treatment at an RTC as part of the terms of probation.

Bergmann et al. found that 98 percent of adolescent weekly users endorsed at least one of the three AMP questions. MS and tribal health care providers should consider using the AMP or other cost-efficient methods of screening AI/AN youth for A/SA during primary care encounters.

**10.1. Referral source and LOS.** There was an association between referral source and LOS ( $F=4.0$ ,  $df=5$ ,  $p<.002$ ). Clients referred by schools had a shorter LOS (mean=44.3 days) than clients referred by courts (mean=73.4 days, Bonferoni pair-wise comparison  $p<.04$ ). This effect may reflect that RTC clients originally referred by courts may be more likely to complete treatment because of the terms and conditions of their probation.

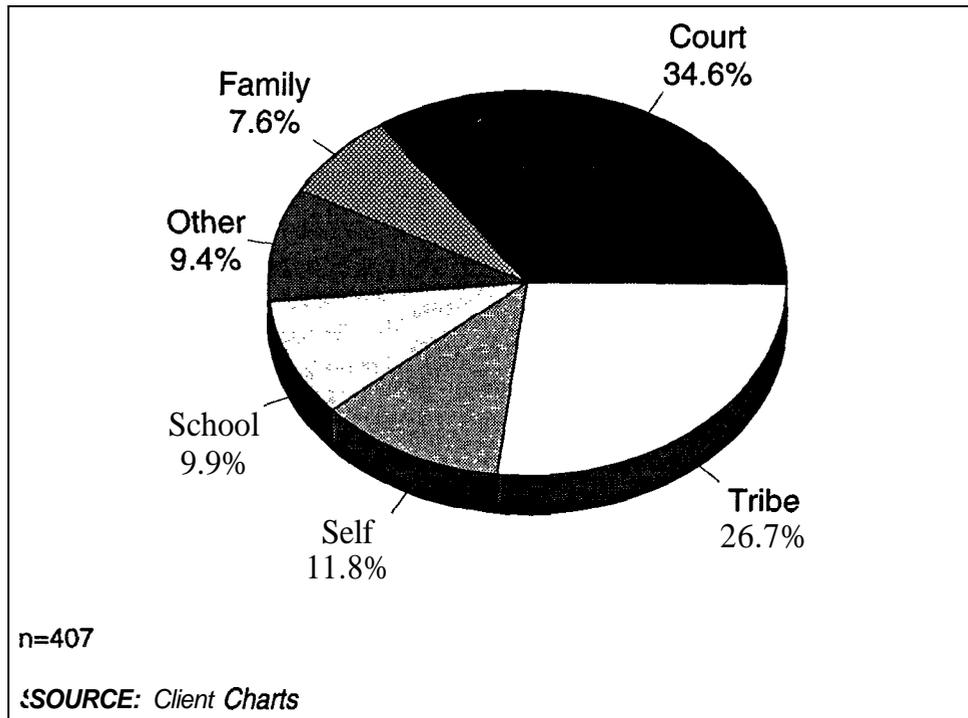


Figure 2. Source of Referral to RTC

**11. Reasons for Referral.** Clients were referred to the RTCs for a variety of reasons, often for multiple reasons. The reasons most cited included substance abuse behaviors (84%), arrest (50%), school disciplinary actions or other problems (40%), and problems at home (40%).

**12. Self-Identification of A/SA Problems at Discharge.** Each client's identification of his or her A/SA problems at the time of discharge was coded as: 1) denial, 2) partial admission, or 3) open admission of the problems. Scores on this measure were significantly associated with five of the six outcome measures. These associations are summarized in Table 12. Clearly, there are dramatic differences between RTC clients who are able to admit their A/SA problems and those clients still "in denial" at discharge. Compared to clients "in denial" at discharge, clients who openly admitted their A/SA problems: 1) had a much higher completion rate, 2) had a longer LOS, 3) made

more progress in treatment, 4) had higher quality charts, and 5) were more satisfied with the program.<sup>22</sup> In addition, there was significant variation across RTCs on this measure,

**Table 12. Self-Identification of A/SA Problems and Outcome Measures**

Outcome Measure	Self-Identification of A/SA Problems			F*	df**	p***
	1 Denial	2 Partial Admission	3 Open Admission			
Percent Completion	7%	58%	72%	75.7	2	.001
Mean LOS (days)	36.4	75.2	76.0	21.1	2,286	.001
Mean Treatment Progress	5.1	8.1	9.3	28.5	2,288	.001
Mean Quality of Charting	-2.5	1.1	2.0	21.1	2,288	.001
Mean Client Satisfaction	2.9	2.2	2.0	10.1	2,50	.001
Mean RTC	N/A	N/A	N/A	3.2	8,282	.001

*SOURCE: Client Charts*

\*F = The observed F statistic from the analysis of variance or the Chi Square statistic for the percent data.

\*\*df = The degrees of freedom in the significance test.

\*\*\*p = The probability that the observed differences are the result of random sampling variation (i.e., a false positive result).

**13. Family Involvement in Treatment.** The family’s involvement with the client’s treatment at the RTC was classified into the following five categories:

- 0 = No family involvement
- 1 = Little family involvement
- 2 = Involvement restricted to telephone
- 3 = Moderate involvement
- 4 = Family highly involved

There were significant positive associations between scores on the family involvement measure and two outcome measures-treatment completion, and quality of charting; also there was significant variation in family involvement across RTCs.

Table 13 shows that clients with no family involvement had the lowest completion rate (.31). Conversely, clients with highly involved families had the highest completion rate (.66). Program completion was relatively high (62%) even when family involvement was restricted to telephone contact (usually because of the great distance between the family’s residence and the RTC and the relatively low level of resources available to the family). This finding suggests that the RTCs should continue to promote and expand family involvement with client care telephone contacts when direct participation at the RTC is impractical. RTC Directors viewed the relationship between family involvement and treatment outcome to be one of the key study findings.

<sup>22</sup> Scores on the client satisfaction measure ranged from 1 (very satisfied) to 4 (dissatisfied); thus, low scores on this measure indicate greater client satisfaction.

**Table 13. Significant Associations Between Family Involvement and Outcome Measures**

Outcome Measure	None	Little	Phone Only	Moderate	Highly Involved	F	df	p
Percent completing treatment	31%	58%	62%	60%	66%	18.1	5	.001
Quality of charting	-2.5	0.7	-0.3	1.6	2.2	7.0	4,342	.001

*SOURCE: Client Charts*

The measure “quality of charting” indicates the degree to which the client’s chart was complete (see Appendix 1). Scores on this composite measure ranged from a -17 to +10. A negative score indicates that the client’s chart lacked a number of important elements (e.g., individual treatment plan, history of family A/SA, etc.). A high score on this measure indicates that the client’s chart was complete and contained detailed information.

Table 13 shows that low levels of family involvement were associated with low quality of charting scores and, conversely, high levels of family involvement are associated with high quality of charting scores. It seems unlikely that there is a direct relationship between these two variables-as a rule, families would have no way of knowing the quality of the client’s charts and, thus, would be unaffected by it. If, however, the quality of charting serves as an indirect measure of the quality of care provided by the RTCs, this result is more comprehensible. From this perspective, the absence of information in the client’s chart may indicate that the client, in fact, did not receive at least some of the undocumented services or the quality of the care provided was low. If so, the same factors that are associated with superior care (e.g., superior charts) are associated with promoting a high degree of family involvement.

**14. Mental Health Problems.** Although the charts often contained client psychological evaluations, most of these evaluations were conducted as part of the referral process prior to the client’s admission to the RTC. Often, there was no reference to the psychological evaluations in the treatment plan or in the progress notes. The charts also contained information from client intake and history interviews conducted as part of the admissions process; however, this information was often impressionistic and descriptive as opposed to a formal diagnoses made by a psychiatrist or clinical psychologist. Thus, the data on the mental health of RTC clients presented below reflects the nature of the data available, and may not give a complete description of the nature and extent of the clients’ mental health problems.

The mental health problem most often reported in the charts was depression. Table 14 shows that 40 percent of the clients were judged to be depressed, and over 28 percent reported suicidal thoughts. Almost 20 percent had attempted suicide. The percentage of depressed RTC clients was greater than that reported for the CATOR samples-28 to 33 percent of the CATOR adolescents were judged to be depressed. A higher percentage of RTC clients had suicidal ideation (28%) than did CATOR clients (22%), and the percentage of RTC clients that had attempted suicide (19%) was similar to that reported in the CATOR data (17-21%). Nevertheless, suicide is an especially critical problem in Indian country. For example, the suicide rate for AI/ANs 15-24 years-old (37.3 per 100 thousand) is almost 3 times that of all races in the United States, 13.2 per 100 thousand (MS 1995).

The percentage of girls who were depressed (48%) was significantly greater than the percentage of boys (34%); this disparity holds for depression, suicidal ideation, and suicide attempts. Similarly, the percentage of girls with eating disorders (21%) was significantly greater than that of boys (1%). These gender differences are consistent with similar differences in abuse. Since significantly more girls at the RTCs were physically and/or sexually abused than boys, it is not surprising that proportionally more girls were depressed than boys. Of course, other factors may have contributed to the observed gender differences in depression and eating disorders. In light of gender differences in both abuse and mental health problems, it is surprising that gender was significantly associated with only one of the six outcome measures—post-discharge sobriety. Despite the abuse and mental health problems experienced by the girls, they had significantly better sobriety scores (**mean=1.7**) than did boys (**mean=2.1**)—scores on the 3-point sobriety scale ranged from 1 indicating maintenance of sobriety, to 2 indicating partial sobriety, to 3 indicating relapse. A higher percentage of girls maintained post-discharge sobriety (46%) than did boys (33%) (see Table 25).

**Interviews** with RTC Directors and other staff revealed that there has been an increase in the numbers of clients with both severe A/SA and psychiatric problems (“dual diagnosis” clients) in recent years. Such clients represent a major challenge to the RTCs. To cope with these dual diagnosis clients, the RTCs are obtaining consultation from psychiatrists and clinical psychologists on ways to provide the needed care. In addition, efforts are being made to obtain appropriate training for RTC counselors and other staff.

**Table 14. Client Mental Health Problems**

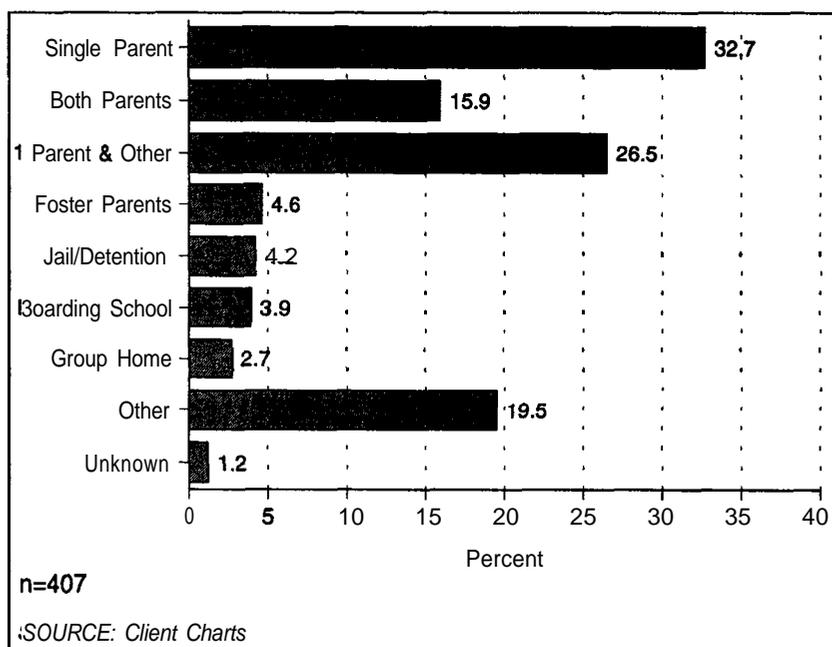
Problem	Boys*				Girls*						Total				
	N	%	CI-L	CI-U	N	%	CI-L	CI-U	Chi Square	df	p	N	%	CI-L	CI-U
Depression	77	33.5%	23.0%	44.0%	85	48.0%	37.4%	58.6%	8.8	1	.01	162	39.8%	32.3%	47.3%
Suicidal Ideation	56	24.3%	13.1%	35.5%	60	33.9%	21.9%	45.9%	4.5	1	.05	116	28.5%	20.3%	36.7%
Suicide Attempt	32	13.9%	1.9%	25.9%	47	26.6%	14.0%	39.2%	10.2	1	.005	79	19.4%	10.7%	28.1%
Eating Disorder	3	1.3%	0.0%	14.1%	13	7.3%	0.0%	21.4%	9.7	1	.05	16	3.9%	0.0%	13.5%

*SOURCE: Client Charts*

*There were 230 boys and 177 girls in the study sample.*

**15. Living Arrangement Prior to Admission.** RTC clients had a variety of living arrangements prior to admission (see Figure 3). The majority (75%) of the clients lived with a parent, either a single parent (33%), with both parents (16%), or with a parent and another person (26%). Five percent were living with foster parents, 4 percent were in jail or juvenile detention facilities, 4 percent in boarding schools, 3 percent in group homes, and 20 percent were living with “others.” The “other” category often included relatives such as older siblings, aunts and uncles, and grandparents. The living arrangement prior to admission was not recorded in 5 client charts (1%) of the sample.

The living arrangements of the RTC clients were markedly discrepant from the adolescents in the CATOR sample—a much higher percentage of the CATOR sample resided with both parents (44%); **only 16 percent of the RTC clients had been living with both parents prior to admission (see Table 5).**



**Figure 3. Client Living Arrangement Prior to Admission**

**16. Severity of Life Stressors.** *Severity* of life stressors is a composite measure derived from 15 component stressors such as family A/SA, physical abuse, sexual abuse, and death of a parent (see Appendix 1). A severity of life stressors score was computed for each adolescent in the study. Scores ranged from 10 to 21 with a mean of 13.8. There was a significant association between severity of life stressors and one of the six outcome measures-treatment completion. Surprisingly, RTC clients who completed treatment reported more life stressors (**mean=13.9**) than clients who failed to complete treatment (**mean=13.6**; see Table 16). The factors underlying this finding are unclear. It may be that clients who have experienced a greater number of stressors become more motivated to complete treatment or that RTC staff make special efforts to help such clients to complete treatment.

**17. Representative RTC Client.** Summarizing the client data, it is possible to describe a hypothetical “average” RTC client; this client would be a 16 year old MAN adolescent who started drinking alcohol at age 11 and smoking marijuana at age 12 (if he had been physically or sexually abused, he would have started drinking at age 9 and have attempted suicide prior to admission to the RTC); prior to admission, he was living with his mother and siblings, and was attending school earning mostly D’s and F’s. As a result of his substance abuse, the client was arrested and appeared before the tribal court; he was referred by the court to the tribal chemical dependency (CD) program. The tribal CD program evaluated the client and referred him to the RTC. After a **68-day** stay, the client was discharged and returned to his home reservation. For the next 6 months he participated in an outpatient alcohol treatment program, and worked toward and obtained a GED. During this post-discharge period he maintained sobriety. His situation 14 months after leaving the RTC is **unknown**.<sup>23</sup>

<sup>23</sup> In addition to this hypothetical “average” RTC client, hvo actual case histories are **presented** on **pages 14-16**.

## C. Profiles of RTC Staff and Directors

Personal interviews were conducted with 141 RTC staff, including nine directors, during site visits to each RTC. A sample of counselors was selected at each RTC as it was not practical to interview every counselor at the larger centers. The staff interviewed were RTC employees when the site visits were conducted in the summer and fall of 1996; thus, some of these persons were not working at the RTC during the time that the study sample was at the RTCs (1/1/1993-5/30/1995). Given the median length of staff service (LOSS) of 3 years, about 50 percent of the staff were working at the RTC at the time the clients in this study were in attendance.

A separate questionnaire was used in interviews of the nine RTC Directors and their data were analyzed separately from that of the other 132 RTC staff. The profiles of both groups are presented in this section of the report.

**1. Gender.** The majority of the RTC staff (56%) and directors (67%) were women.

**2. Race-ethnicity.** The RTCs have been able to recruit and retain AI/AN staff. Of the 132 RTC staff interviewed as part of the study, 2 declined to specify their race/ethnicity. Figure 4 shows that, of the 130 staff who reported their race/ethnicity, the majority were AI/ANs (68%) with whites being the second most common group (28%). Likewise, five of the nine (56%) RTC directors were AI/AN. It is rare to find such high percentages of AI/ANs employed at all levels of an organization. It is clear that the RTCs employ AI/AN staff who can serve as role models for the clients.

The distribution of staff by race significantly varied across RTCs (Chi Square=99.6, df=40, p<.001). The percent of staff who were AI/AN ranged from a high of 87 percent at RTC #9 to a low of 35 percent at RTC #6-the only RTC with less than 50 percent AI/AN staff.

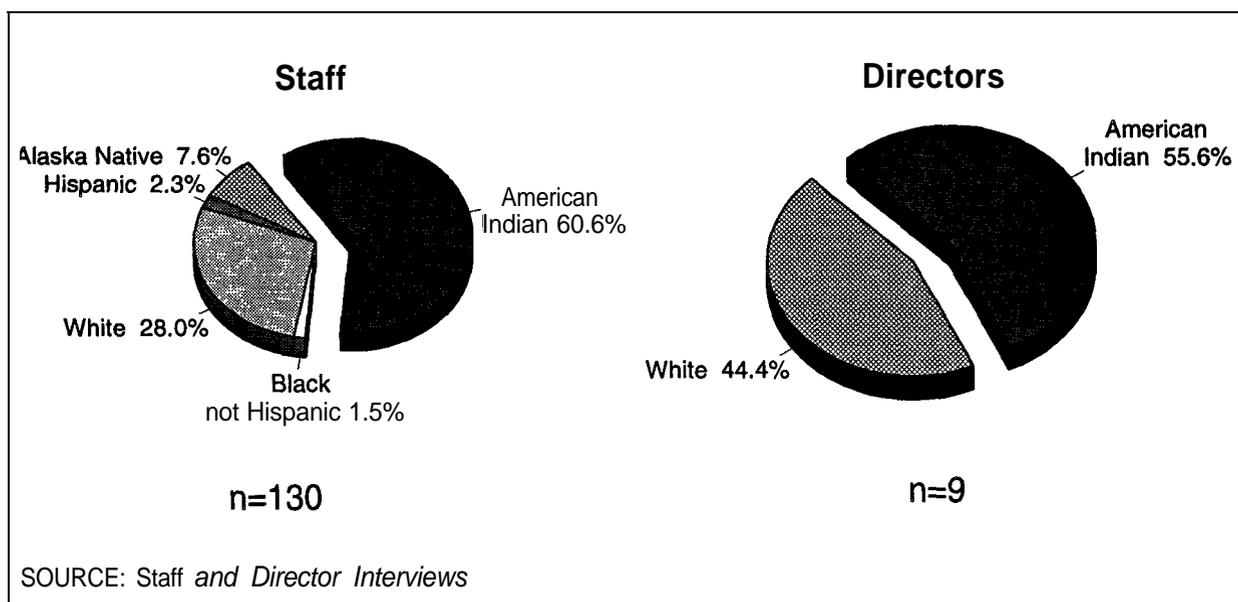


Figure 4. Race/Ethnicity of Staff and Directors

**3. A/SA Recovery Status.** Both RTC Directors and other staff indicated that it is very important for the RTCs to provide positive role models for their AI/AN clients. The objective is to employ A/SA counselors who are American Indians or Alaska Natives, who have lived on or near reservations, who have abused alcohol or other drugs and have been able to overcome addictions. Such staff “in recovery” are expected to serve as powerful positive role models for RTC clients.

Staff were asked if they were “in recovery” from alcoholism or substance abuse. While the majority (64%) stated that they were not in recovery, over one-third of the staff (36%) indicated that they were in recovery. Three of the nine (33%) RTC Directors indicated they were in recovery. These results probably under-report the percentage of A/SA Counselors and Counselor-Aides who are in recovery-only a sample of such staff were interviewed because of their relatively large numbers whereas most of the more senior staff were included in the staff sample. Consequently, the A/SA Counselors and Counselor-Aides are under-represented in the sample.

**4. Education.** The formal education of the staff sample ranged from high school graduate to doctoral degrees. Most (79%) had some type of degree beyond a high school diploma (see Figure 5). Over 25 percent had Bachelors and over 20 percent had Masters or other advanced degrees. Seven of the 9 directors had advanced degrees-4 had Masters degrees, 2 had doctorates, and one had an M.D.

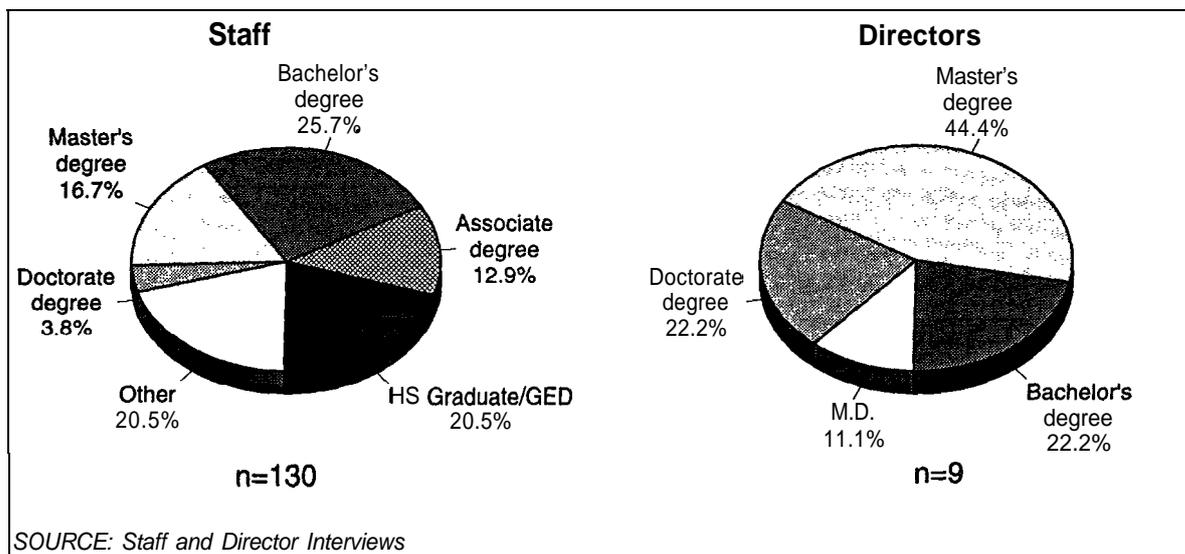


Figure 5. Academic Degrees of Staff and Directors

**5. Certification/Licensure.** Only 5 percent of the sample indicated that they were certified in the field of mental health; in contrast, 43 percent indicated that they were certified or licensed in the area of chemical addiction.

Because the staff sample included key staff from each RTC (e.g., Director, Clinical Director, consulting psychologist), but only a sample of other staff (e.g., Counselors, Counselor Aides), the sample had disproportionate numbers of senior staff. The RTC Directors indicated that the percentages of counselors who were certified in the area of chemical addiction was probably lower

than the 43 percent found for the sample. The Directors stated that they had been actively working to increase the numbers of certified counselors.

In discussions of the current and anticipated trends affecting the RTCs over the next 5 to 10 years, RTC staff indicated that there is now and will continue to be a need for additional staff, and more highly trained staff to deal with clients having multiple problems (e.g., dual diagnoses, polysubstance abuse, history of violence, FAS/FAE, etc.). These findings underscore the need for additional staff training to meet the needs of RTC clients.

**6. Length of Staff Service (LOSS).** The LOSS ranged from 33 to 3,029 days (8.3 years). The mean LOSS was 3.4 years and the median was 3.0 years. There were significant differences in LOSS across RTCs ( $F=4.6, df=8, 121, p<.001$ ). The mean LOSS ranged from a low of 522 days (1.4 years) at RTC #4 to a high of 2,010 days (5.5 years) at RTC #1. In part, the differences in LOSS may reflect the different opening dates of the RTCs.

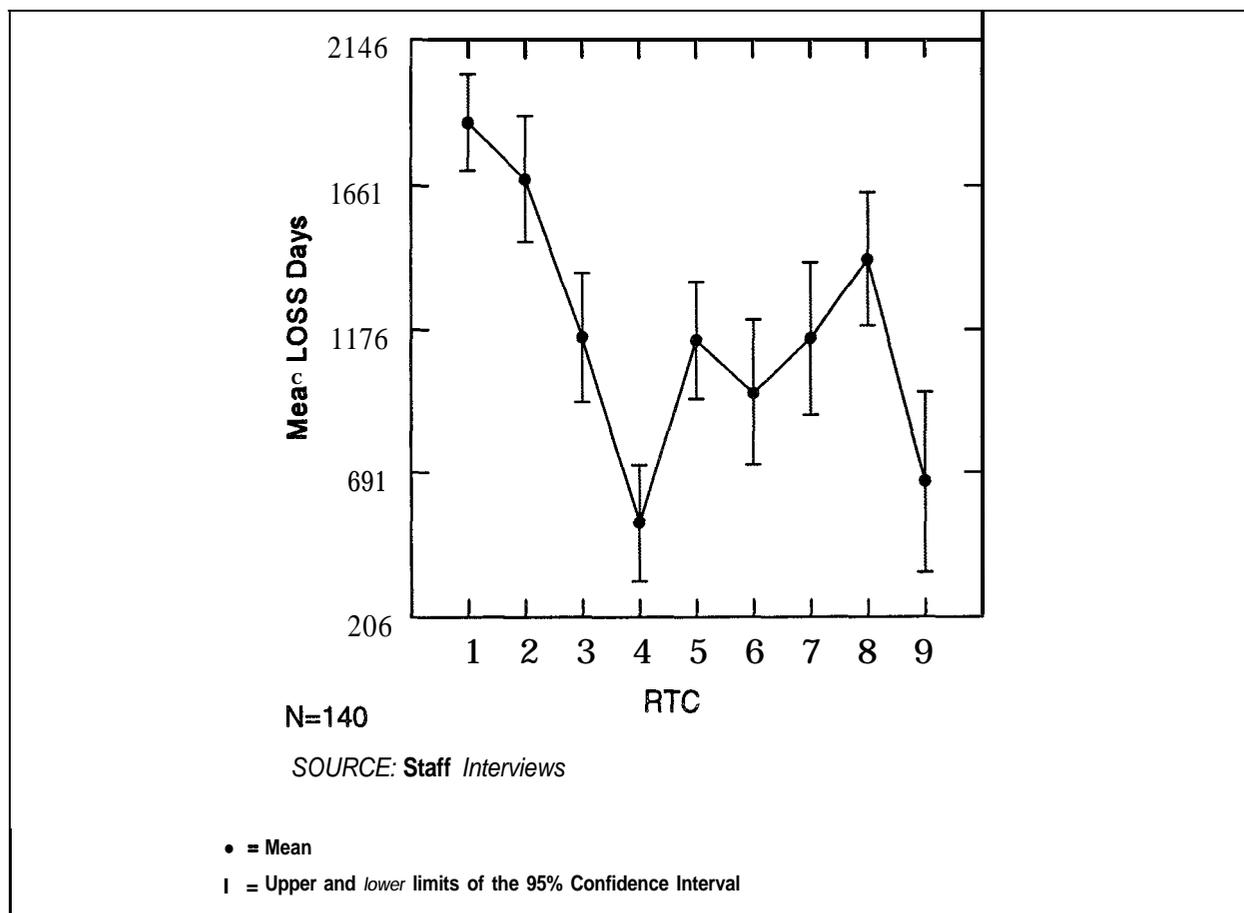


Figure 6. Mean LOSS Across RTC

Interviews with the RTC Directors revealed unique problems in the Alaska Area. In Alaska, the AI/ANs traditionally hunt and fish to provide food for their families and communities. In addition, during the fishing seasons, persons working on boats can earn thousands of dollars per week. With alternative employment offering remuneration many times that available at the RTCs, it is extremely difficult for the RTCs to retain staff during the fishing season.

## D. Profile of RTCs

The following section presents a general description of the **RTCs** at the time of the study. Three of the **RTCs** were operated by MS (Unity, New Sunrise, and Desert Visions). Five **RTCs** were operated by tribes (Jack Brown by the Cherokee Nation of Oklahoma) or tribal consortia-Healing Lodge of the Seven Nations was governed by the seven tribes east of the Cascade Mountains,<sup>24</sup> Nanitch Sahallie was a division of the Confederated Tribes of Grand Ronde, Raven's Way was operated by the Southeast Alaska Regional Health Corporation (SEARHC), and Graf Healing Center was operated by the Fairbanks Native Association (FNA). One RTC, Four Corners, was operated by a tribal contractor for the Navajo Nation. Detailed information on each RTC is presented in Appendix 2 of this report.

**1. Location, Size, and Setting.** The location of the nine **RTCs** is shown in Figure 7. At the time of the study, the Aberdeen, Bemidji, Billings, and California MS Areas did not have an IHS-funded RTC; these Areas offered alternate methods of meeting the residential needs of their youth. The Alaska and Portland Areas each had two **RTCs**. Two **RTCs**, Graf Healing Center in Fairbanks and the Healing Lodge in Spokane, occupy new facilities designed and constructed to meet the needs of residential alcoholism/substance abuse treatment programs for AI/AN adolescents. The remaining seven **RTCs** occupy renovated buildings originally designed for other functions. The number of beds at the **RTCs** ranged from 10 to 32. While **RTCs** generally give preference in admission to clients who reside in their IHS Area, most **RTCs** serve clients from any IHS Area.

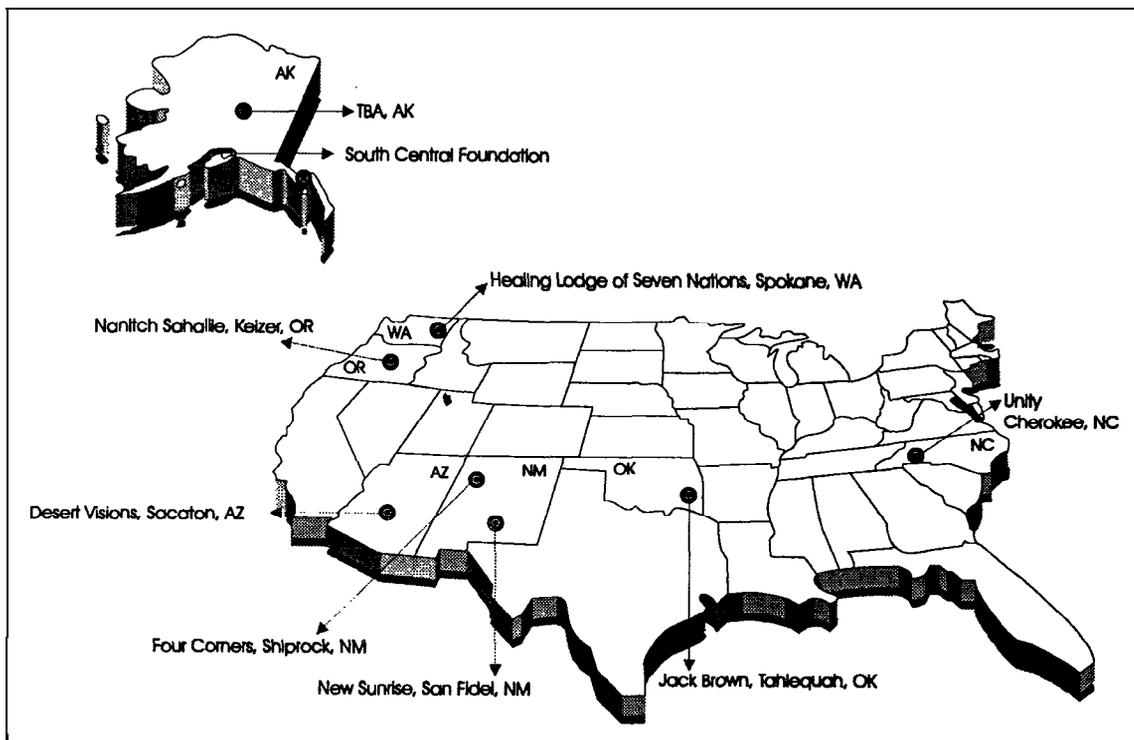


Figure 7. Location of the Nine Regional Treatment Centers (RTCs)

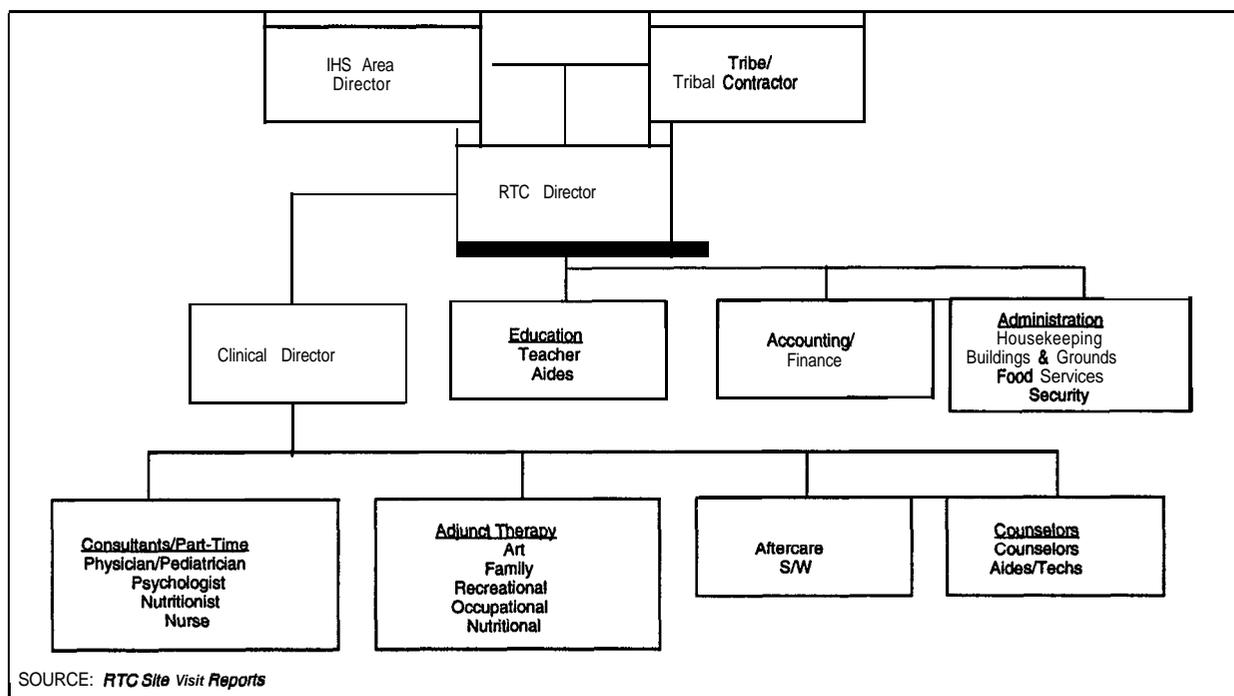
<sup>24</sup> Colville, Kalispel, and Spokane Tribes in Washington State; Nez Perce, Kootenai, and Coeur d'Alene Tribes of Oregon; and the Umatilla Confederated Tribes of Oregon.

**2. Organizational Structure.** In order to meet their particular needs, each MS Area has enjoyed considerable autonomy and flexibility in developing its RTC. Some Areas (e.g., Aberdeen, Bemidji, Billings, and California) have elected to use private sector and other facilities rather than develop a separate RTC for IHS beneficiaries. Because of this flexibility, each RTC has a unique organizational structure; nevertheless, there are a set of common functions and many common elements across the RTCs. Figure 8 illustrates organizational elements shared by most of the RTCs.

Each RTC is managed by a director who is responsible for the overall functioning of the facility and program. In RTCs operated by the MS, the RTC Director reports to the MS Area Director or the Service Unit Director. In RTCs operated by the tribes, the director reports to the tribal chairman and/or council, often through a department such as mental or behavioral health.

Most RTCs have a clinical director who reports to the RTC Director. The clinical director is responsible for the delivery of clinical services and often operates like a chief operating officer at the RTC. Generally the RTC employs part-time and/or consulting clinicians (e.g., family practice, physicians, psychiatrists, psychologists), and these persons generally report to the clinical director as do the counseling staff, adjunct therapists (e.g., family, recreational, occupational, therapists), and social worker(s) responsible for coordinating client aftercare.

All the RTCs are responsible for providing education to their clients. Some RTCs utilize other facilities to provide educational services. For example, Jack Brown is located adjacent to the Sequoyah Boarding School operated by the Cherokee Nation. Most clients at Jack Brown attend classes at Sequoyah for their academic program. Other RTCs provide classes on-site. The teacher(s) usually report to the RTC director. The accounting/finance and administration departments or functions report to the RTC director as well.



**Figure 8. Prototypical RTC Organizational Chart**

## E. RTC Process Outcomes and Factors Affecting Outcomes

The outcomes experienced by RTC clients are grouped into 1) those that occur during the client's stay at the RTC (process outcomes), and 2) those experienced after leaving the RTC (post-discharge outcomes). The process outcomes are discussed in this Section (E) and the post-discharge outcomes are discussed in Section F.

Six process outcomes were evaluated in this study: 1) number of clients served and treatment completion, 2) length of stay (LOS), 3) treatment progress, 4) quality of charting, 5) client satisfaction, and 6) post-discharge sobriety.<sup>25</sup> These participant outcome measures were selected because they have face validity, are commonly used in health care evaluation research, and/or are examined by certifying organizations such as the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) or the Commission on the Accreditation of Rehabilitation Facilities (CARF). Some valuable outcome measures (e.g., post-discharge frequency of use of alcohol or other drugs, school completion, employment, arrest, incarceration, death) were not included in the study because the necessary information was not readily available, Table 15 summarizes the relationships among the outcome measures.

**Table 15. Relationships Among the Outcome Measures**

Outcome Measures	1	2	3	4	5	6	7
1	—						
2	.001	—					
3	.001	.001	—				
4	.001	.009	.001	—			
5	.001	.001	.001	•	—		
6	.003	•	•	.08	•	—	
7	.001	.001	.001	.001	.09	•	—

SOURCE: Client Charts

**Legend**  
 1 Treatment Completion  
 2 LOS  
 3 Treatment Progress  
 4 Quality of Charting  
 5 Client Satisfaction  
 6 Post-Discharge Sobriety  
 7 RTC

*The values in this table are probabilities associated with multiple regression models that include both client and outcome measures.*  
 •= $p > .10$ .

Multivariate analyses, including multiple regression (both complete and step-wise) and discriminant analyses, were performed on the outcome measures. Effects coding was used for categorical variables (e.g., completers vs. drop-outs). Treatment completion was significantly associated with

<sup>25</sup> While the specific RTCs do not constitute an outcome variable, the variation across RTCs was analyzed and is included in this discussion for the sake of completeness.

every other outcome measure. LOS had significant associations with every outcome measure except post-discharge status. Quality of charting was also significantly associated with post-discharge sobriety as well as varying across individual RTCs. Post-discharge sobriety was correlated with treatment completion and quality of charting. Each of the significant associations shown in Table 15 are discussed in turn starting with the first column (Treatment Completion) through column 6 (Post Discharge Status); these associations are described below.<sup>26</sup>

**1. Clients Served and Treatment Completion.** The client sample in this study was drawn from a population of 1,288 clients served by the MS-funded RTCs from January 1, 1993 to May 30, 1995. The services to these clients represent one of the fundamental accomplishments of the RTCs. Of this population, 669 (52%) completed treatment (completers) and 619 (48%) did not complete treatment (drop-outs).<sup>27</sup> A key part of this study is the evaluation of the services provided to a random sample of 407 AI/AN adolescents drawn from the population served. The evaluation of the services provided was based on in-depth review of a sample of client charts during site visits to the RTCs.

Of the 407 RTC clients in the sample, 216 (53%) completed treatment. Because the sample was stratified by completion status (completer vs. drop-out), the percentage of completers in the sample (53%) was similar to that in the population (52%).

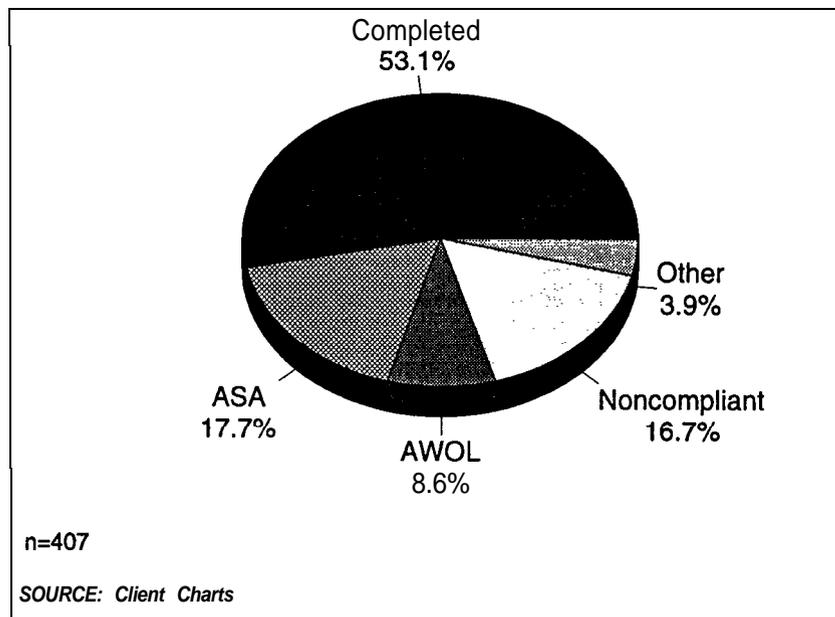
The percentage of RTC clients completing treatment (53%) is lower than the 61 percent in the CATOR-1 data and the 60 percent in the CATOR-2 data (see Table 5). Given the differences in the RTC and CATOR client populations and the circumstances of the RTCs, the completion rate achieved by the RTCs is impressive.

Figure 9 shows the major ways that RTC clients terminated treatment. The majority (53.1%) of the sample successfully completed treatment and were discharged. Some clients (17.7%) withdrew from the RTCs against staff advice (ASA), some (8.6%) were absent without permission or leave (AWOL); some (16.7%) were discharged for major rule violation (noncompliance), and some clients (3.9%) were discharged for “other” reasons including transfers to another facility, inappropriate admissions, etc.

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<sup>26</sup> Variation across RTCs (column 7 in Table 15) is discussed in section G (pages 54-62) of this report.

<sup>27</sup> See discussion on page 7-8 concerning correction of the numbers of completers and drop-outs.



**Figure 9. Reasons for Termination of RTC Treatment**

In many ways treatment completion is a pivotal outcome measure. It was significantly associated with five other outcome measures: 1) LOS, 2) quality of charting, 3) treatment progress, 4) client satisfaction, and 5) post-discharge sobriety. In addition, there were significant differences across RTCs in the percentage of clients who successfully completed treatment. Completers had a longer LOS, had more detailed charts, made more progress in treatment, were more satisfied, and tended to maintain sobriety more than the drop-outs. Each of these associations are discussed in the following section. Table 16 presents the client characteristics and outcome measures significantly associated with treatment completion.

**Table 16. Comparison of RTC Completers and Drop-outs**

Client Characteristics	Completers n=217			Drop-Outs n=190			F	df	P
	N	Mean	St. D	N	Mean	St. D			
Severity of Life Stressors	217	13.91	(2.1)	190	13.6	(2.0)	2.9	1,405	.090
Severity of A/SA	217	11.2	(10.9)	190	16.01	(14.3)	14.7	1,405	.001
Age at Admission	217	16.3	1.7	189	16.0	(1.5)	7.2	1,404	.003
School Grades	156	2.4	(0.7)	133	2.6	(0.6)	7.3	1,207	.007
<b>Outcome Measures</b>	<b>N</b>	<b>Mean</b>	<b>St. D</b>	<b>N</b>	<b>Mean</b>	<b>St. D</b>			
Length of Stay (LOS) - days	217	93	(51.0)	187	40	(36.7)	11.6	1,402	.001
Treatment Progress	217	10.2	(2.4)	190	5.8	(3.7)	21.6	1,405	.001
Quality of Charting	217	1.2	(5.2)	190	-1.9	(5.6)	32.8	1,405	.001
Client Satisfaction	32	1.8	(0.6)	28	3.0	(0.2)	52.2	1,216	.001
<b>Post-Discharge Sobriety</b>	145	N	(%)	64	N	(%)	7.4*	2	.003
Sober		61	(75%)		20	(25%)			
Partial Relapse		57	(73%)		21	(27%)			
Relapse		27	(54%)		23	(46%)			

SOURCE: Client Charts

\*Chi Square statistic rather than F statistic

**1.1. Client Characteristics and Treatment Completion.** The client characteristics associated with the outcome measures are discussed in Section “B” (pages 16-32 ) of this report

**1.2. Treatment Progress, Completion, and LOS.** Some of the reported associations are more important than others. For example, the associations between LOS and 1) progress at the RTC, and 2) treatment completion verge on being completely determined or tautological-clients who fail to complete treatment (“drop-outs”) by definition tend to have shorter LOS than clients who complete treatment. Similarly, the greater the LOS, the greater the opportunity to make progress in treatment. While the association between LOS and client satisfaction could take various forms, it is not surprising that clients satisfied with the RTC tended to have a longer LOS than dissatisfied clients.

The LOS of completers (mean=93.0 days) was significantly greater than that of drop-outs (mean=40.0 days) ( $R^2=0.3$ ,  $F=13.17$ ,  $df=1,400$ ,  $p<.001$ ). Treatment progress of completers (mean=10.2) was significantly greater than that of drop-outs (mean=5.9) ( $R^2=0.4$ ,  $F=193.9$ ,  $df=1,403$ ,  $p<.001$ ).

**1.3. Treatment Completion and Quality of Charting.** Quality of charting is a composite measure computed by assigning an initial value of 10 to each chart reviewed and subtracting 1 point for each critical item (e.g., reason for referral, history of A/SA, primary counselor, etc.) that was missing from the chart. Sparsely documented charts earned negative values on this composite; the higher the positive score, the better the quality of the charting of the client’s experiences, performance, status, and outcomes at the RTC. Scores on quality of charting ranged from a low of -17.0 to 10.0; the mean was -0.2 and the median score was 0.0. Quality of charting is a process outcome measure-it is worthy of analysis in its own right, and is also discussed on page 46; in addition, this outcome measure was significantly associated with the treatment completion outcome measure, as discussed below.

Completers had significantly better documented charts (mean=1.2) than drop-outs (mean=-1.9) ( $F=35.5$ ,  $df=1,40$ ,  $p<.001$ ). It seems likely that this relationship is mediated by other variables. Since RTC clients are generally unaware of the quality of their charts, something associated with the quality of the charts may affect how long the client stays and if he/she completes treatment. As discussed in the context of variation in family involvement (page 29), it may be that the quality of the charts reflects the level of organization and quality of RTC services. When a chart fails to document the provision of services to the client, it may be that the services were not provided, or that they were provided in a disorganized fashion, or that they were provided but not documented. Poor quality charts were associated with poor quality treatment or other factors associated with client drop-out. Thus, the relationship between quality of charting and treatment completion suggest that the quality of charting might serve as a basis for internal RTC assessments, staff training, and feedback.

**1.4. Treatment Completion and Client Satisfaction.** Client satisfaction was assessed using an ordinal scale with the following scores: 1=Very satisfied, 2=Satisfied, and 3=Dissatisfied. Most client charts lacked sufficient information to permit determination of client satisfaction-satisfaction scores could be assigned to only 60 (15%) of the 407 clients in the sample. Thus, while it was possible to perform multivariate analyses on the client satisfaction measure, these analyses are 1)

relatively weak because of the small number of observations, and 2) may not be representative of the entire sample.

Some directors stated that their RTC did not begin to systematically collect client satisfaction data until after the time period covered by the client sample (1/1/93 - 5/30/95). Other directors said that client satisfaction data were systematically collected but were not included in client charts. Several RTC staff suggested that client satisfaction might fluctuate significantly over a client's stay and have a complex relationship with progress. For example, clients might be dissatisfied while learning to accept and conform to reasonable limits and rules. Nevertheless, Federal initiatives to promote customer satisfaction require some type of assessment, and the results presented below indicate that treatment completion is affected by client satisfaction.

Completers were more satisfied with the RTC experience than were drop-outs. Analysis of covariance revealed that completers were more satisfied (mean=1.8) than drop-outs (mean=3.0) even when treatment progress was controlled ( $F=8.17$ ,  $df=1,56$ ,  $p<.001$ ). This finding suggests that client satisfaction (like treatment progress) can be used as a marker for clients who are at risk of dropping out.

**1.5. Treatment Completion Across RTCs.** Some RTCs achieved significantly higher completion rates than others (Chi Square=75.1,  $df=8$ ,  $p<.001$ ). At five RTCs (1, 2, 6, 7, and 8) more than 65 percent of the clients completed treatment. At four RTCs (3, 4, 5, and 9), less than 43 percent of the clients completed treatment. These RTCs are candidates for technical assistance (T/A) designed to improve their completion rates. Indicators of clients at risk of dropping out are discussed in Section 1.7 below.

**1.6. Treatment Completion and Post-Discharge Sobriety.** RTC clients who completed the program tended to maintain sobriety after discharge compared to clients who failed to complete the program. This finding is discussed in the section on post-discharge sobriety (pages 48-52).

**1.7. Prediction of Program Completers.** Discriminant analyses were performed to determine the variables that contributed most to program completion. In these analyses LOS was omitted because it lacks heuristic value in predicting or understanding factors contributing to failure to complete the program (see Section 1.2 on page 41). When client satisfaction is included in the model, the analysis is restricted to the 60 clients for whom client satisfaction data were available. In this analysis, scores on three variables, client satisfaction, treatment progress, and severity of A/SA, successfully classified 91 percent of the 32 completers and 96 percent of the 28 drop-outs for whom client satisfaction data were available. This result suggests that the RTCs could identify potential drop-outs by monitoring client satisfaction, treatment progress, and severity of client A/SA. Clients who are (or become) dissatisfied, who make little or no progress in treatment, and who have the most severe A/SA problems are at greatest risk of dropping out of the RTC.

Because of the small number of RTC clients in the sample that had client satisfaction data, another set of discriminant analyses was performed to determine the variables that best distinguished between completers and drop-outs, omitting client satisfaction. These analyses included 217 completers and 190 drop-outs. Treatment progress and severity of A/SA were again found to contribute to the distinction between the completion and drop-out groups. In addition, quality of

charting was added to the model. Using client's scores on these three predictors (severity of **A/SA**, treatment progress, and quality of charting), 83 percent of the 217 completers and 76 percent of the drop-outs were successfully classified.

Taken together, the two sets of discriminant analyses suggest a strategy for decreasing drop-outs and improving completion rates at the **RTCs**. Efforts to identify potential drop-outs can:

1. Begin at intake and screening-the clients with the most severe **A/SA** problems may need special attention;
2. Failure to make progress or experiencing dissatisfaction during treatment (as in school) indicates that the client is at risk of dropping-out; special or different approaches may be warranted for such clients; and
3. Clients who have incomplete charts are at risk of dropping-out-the reason(s) for missing information (e.g., forms, reason for referral, treatment progress) may indicate the client is not receiving services, that the services are incomplete or otherwise lacking critical components.

**2. Client Length of Stay (LOS).** A review of 384 studies indicated that positive treatment outcomes for adults were a positive function of LOS (Emrick 1995). At the **RTCs**, client LOS varied from a low of zero days (an immediate transfer) to a high of 196 days. The mean length of stay was 62 days, the median was 47 days, and the standard deviation was 45.1 days. The chart review revealed that 42 (10%) of the adolescents in the sample had been readmitted to an **RTC**. For the second admissions, the mean LOS was 64 days and the median was 58 days. For those clients who had been readmitted to an **RTC**, the LOS was adjusted to reflect their total LOS at an **RTC**.

Multiple regression analyses revealed that five outcome measures and two client variables were significantly associated with LOS (see Table 17). Taken together, these variables accounted for the majority (54%) of the variation in LOS. Variables analyzed but which failed to be significantly associated with client LOS included measures of physical health, life stressors, age at first use, type of abuse, gender, school problems, grades, and post-discharge status. This is not to say that these variables would be unimportant in a different context; rather, they did not have a significant association with LOS in this study.

The referral source was significantly associated with LOS (see Table 17). Clients referred by courts (mean=73.4 days), self-referrals (mean=8 1.4 days) had significantly longer LOS than clients referred by the schools (mean=44.3 days).<sup>28</sup> The client's self-identification of his or her **A/SA** problem at the time of discharge was significantly associated with LOS. The client's self-assessment was coded as denial (1), partial admission (2), or open admission (3). The average LOS of clients who openly admitted their **A/SA** problem (mean=76.1 days) and those who partially admitted (mean= 75.7 days) were over twice as long as the LOS of clients who were in denial at discharge (mean=35.4 days). These differences probably reflect two related processes. First, many of the clients who leave treatment early, before program completion, leave because they refuse to accept they have a drinking or drug abuse problem. Conversely, clients who remain in treatment come to accept that they have an **A/SA** problem and learn ways to overcome the problem.

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<sup>28</sup> Virtually all clients are referred to the **RTCs** by these sources through the tribe or tribal CD program.

**Table 17. Variables Influencing LOS**

Client Variables	Significance Test Statistics		
	F	df	p
Referral Source	4.0	5,375	.002
Self-Identification of A/SA Problem	21.1	2,256	.001
RTC/Outcome Measures			
Quality of charting	6.9	1,402	.009
Treatment progress	19.2	1,402	.001
Treatment completion	116.9	1,402	.001
Client satisfaction	15.6	1,257	.001
RTC	27.2	8,395	.001

SOURCE: Client Charts

Stepwise multiple regression analyses revealed that when the effects of the quality of charting, treatment completion, and individual RTC were added to the model, the associations between LOS and 1) client satisfaction, 2) severity of A/SA, and 3) referral source become insignificant (i.e.,  $p > .10$ ). Quality of charting, treatment completion, and specific RTCs continued to be significantly associated with LOS and explained 55 percent in the variation in LOS (Multiple  $R^2=0.55$ ). The association with treatment completion has been discussed; the association with RTCs is discussed in Section G-comparisons across RTCs; the remaining associations are discussed below,

**2.1. LOS, Client Satisfaction, and Treatment Progress.** Dissatisfied clients had a shorter LOS (mean=39.7 days) than either “very satisfied” clients (mean=78.5 days) or “satisfied” clients (mean=105.7 days) ( $F=15.6$ ,  $df=2,57$ ,  $p<.001$ ). Dissatisfied clients also made less progress (mean=5.1) than either very satisfied (mean=10.0) or satisfied (mean=10.5) clients. It may be that clients who make little progress in treatment become dissatisfied and drop-out before completing treatment. Conversely, dissatisfied clients may make little progress and then drop out. Either way, client satisfaction can serve as a marker for failure to progress in treatment and of potential drop out. Thus, client satisfaction should be monitored during treatment as well as at the time of discharge as is customary.

**2.2. LOS and Quality of Charting.** The association between LOS and quality of charting was positive with a multiple regression coefficient of 1.9—as the quality of charting improved one point, there was a 1.9 day increase in LOS. Clients who have complete charts tend to remain at the RTC longer than clients who have incomplete charts.

**2.3. LOS and RTC.** There was significant variation in LOS across RTCs. Such variation is to be expected, in part, because of variation in the nature and planned duration of the RTC treatment approaches (see Table 1). These differences are discussed in Section G of this report.

**3. Treatment Progress.** Treatment progress is a composite measure. Points were added to this measure if the client participated in the development of his/her treatment plan, remained “clean” (i.e., no A/SA), and for achieving treatment goals; points were subtracted if the client had problems (e.g.,

in peer relations, discipline), and for A/SA while at the RTC.<sup>29</sup> Treatment progress scores ranged from a low of -1 to a high of 14; the mean was 8.2, the median was 9.0, and the standard deviation was 3.8. Treatment progress and other composite measures are discussed in Appendix 1.

Multivariate analyses indicated there were four client variables (abuse, school problems, severity of A/SA, and self-identification of A/SA problem), and three RTC/outcome measures (LOS, treatment completion, and client satisfaction) significantly associated with treatment progress (see Table 18). Together, these variables accounted for 50 percent of the variation in treatment progress. Treatment progress was positively related to self-identification of A/SA problem, treatment completion and client satisfaction, and negatively related to abuse, severity of A/SA, and school problems,

**Table 18. Variables Influencing Treatment Progress**

Client Variables	Significance Test Statistics		
	F	df	p
Abuse	3.5	3,177	.018
School Problems	7.6	1,177	.007
Severity of A/SA	11.3	1,177	.001
Self-identification of A/SA problem	28.5	2,288	.001
RTC/Outcome Measures			
Treatment Completion	6.9	1,402	.009
Client Satisfaction	15.6	1,177	.001
LOS	19.2	1,402	.001

*SOURCE: Client Charts*

None of these relationships are surprising. The relationship between treatment completion and progress in treatment is probably influenced by a ceiling effect—clients who leave the RTC prior to completing treatment cannot continue to make progress there. Similarly, dissatisfied clients had shorter LOS and made less progress in treatment (mean=5.1) than did satisfied clients (mean=10.0). Clients who openly admitted their A/SA problem(s) made more progress in treatment (mean=9.3) than clients who denied their A/SA problem(s) (mean=5.1).

The negative relationship between treatment progress and school problems is more interesting?<sup>30</sup> The school problems composite reflects behavioral and discipline problems the client experienced prior to admission to the RTC. Thus, progress in treatment at the RTC cannot have influenced the client's school problems—the school problems, or factors associated with the school problems, interfere with treatment progress. One factor that could affect both problems at school and treatment progress is

<sup>29</sup> The chart review procedures used in this study did not record when, during the client's stay, treatment goals were accomplished or when problems occurred. Consequently, the treatment progress composite measure does not provide unequivocal information about the chronology or sequence of a client's progress in treatment. It is possible for one client to have a score on this composite (e.g., 9) by manifesting problems early during his or her stay at the RTC. Another client might have the same score on this measure by manifesting problems late in his or her stay. The treatment progress composite fails to discriminate between two such clients. Despite this weakness, there were significant associations between the treatment progress composite and four client variables (see Table 6) and with three of the other five outcome measures (see Table 15); in general, the nature of these associations are consistent with relevant research and experience.

<sup>30</sup> The regression coefficient was -0.3; thus, treatment progress decreased 0.3 units with the addition of each school problem reported by the client.

fetal alcohol syndrome or fetal alcohol effect (FAS/FAE). RTC staff reported that the numbers of FAS/FAE clients seem to be increasing; however, these impressions were not supported by careful diagnostic evaluations as such evaluations are difficult to obtain - few pediatricians, psychiatrists, or other diagnosticians are qualified to make this diagnosis. Alternatively, antisocial or rebellious behavior could be associated with problems at school and with failure to progress in A/SA treatment.

**4. Quality of Charting.** There were significant positive associations between quality of charting and three outcome measures: 1) LOS, 2) treatment completion, and 3) post-discharge sobriety. In addition, there was significant variation across RTCs with respect to quality of charting. There were significant positive associations between quality of charting and three client variables: 1) history of abuse, 2) self-identification of A/SA problem, and 3) family involvement (see Table 19).

Quality of charting has been discussed with respect to treatment completion and LOS; however, charting is an important process outcome variable in its own right. The charts serve as the primary source of information regarding client status and needs, for reimbursement by other funders, and for program and treatment outcome evaluations. For these reasons, quality review agencies such as CARF and JCAHO evaluate the quality of the client charts. In fact, charting often serves as a proxy measure for care provided. A chart missing critical information may indicate poor charting, that the services were not, in fact, provided, or both.

The variation in quality of charting across RTCs is discussed in Section G of this report (pages 54-62); the association between quality of charting and post-discharge sobriety is discussed in Section F (pages 48-53). The relationship between quality of charting and treatment completion and LOS were discussed on pages 41 and 44. The relationship between quality of charting and the three client variables was discussed on pages 24, 29, and 30.

Table 19. Variables Influencing Quality of Charts

	Significance Test Statistics		
	F	df	p
<b>Client Variables</b>			
Abuse	2.6	3,165	.06
Self-identification of A/SA problem	21.1	2,288	.001
Family involvement	5.7	5,343	.01
<b>RTC/Outcome Measures</b>			
Treatment Completion	6.4	1,165	.02
Post-discharge sobriety	3.2	1,165	.08
LOS	6.9	1,402	.009
RTC	34.2	8,165	.001

SOURCE: Client Charts

**5. Change in Client Self-Assessment.** As part of the admission process, clients were asked to describe the nature of their A/SA problem(s). Review of the charts included classification of the client's self-assessment into one of four categories: 1) the information was absent from the chart, 2) the client openly admits the problem, 3) the client partially admits the problem, and 4) the client denies the problem. At the time of discharge from the RTC, clients are again asked to describe the

nature and causes of their A/SA problem(s). Since the goals of client education and therapy include developing insight into the nature and dynamics of one's A/SA problem(s), it is appropriate to determine if there was any change in the client's self-assessment from the time of admission to the time of discharge. Table 20 summarizes the change in self-assessments for the study sample. Information on change in self-assessment was available for 282 (69%) of the sample. Self-assessment at discharge was generally unavailable for clients who terminated treatment against staff advice or who left without being discharged (AWOL).

Some clients did not change their self-assessments. Over one-third (37%) of the clients openly admitted their A/SA problem at intake and did so again at discharge. Some clients (16%) partially admitted their problems at both intake and at discharge. Among the least successful clients (13.5%) on this measure were those who were "in denial" at intake and at discharge.

Fifty clients in the sample (18%) moved in the direction of greater admission of their A/SA problems. The least desirable change in self-assessment at discharge is retrogressive-moving in the direction of greater denial of one's A/SA problem(s); 16 percent of the sample was judged to change in this retrogressive fashion. The dynamics of this retrogressive change in the client's self-assessment of his or her A/SA problem are unclear and are worthy of additional study. It is possible that the client's self-assessment was miscoded at intake or at discharge; alternatively, the adolescent may have entered the program admitting an A/SA problem but, at discharge, repudiated a mental health problem diagnosed during treatment.

The number of clients who openly admitted (104) at both intake and discharge plus those clients exhibiting progressive change (50) totals 154 (55%)—the majority of clients with self-assessment data were discharged with good or improved understanding of their ABA problem(s).

**Table 20. Changes in Client Self-Assessment of A/SA Problems from Intake to Discharge**

Nature of change	N	%	CI-L	CI-U
<b>1. No change—total</b>	<b>187</b>	<b>66.3%</b>	<b>59.5%</b>	<b>73.1%</b>
Openly admits on both	104	36.9%	27.6%	46.2%
Partially admits on both	45	16.0%	5.3%	26.7%
Denial on both	38	13.5%	2.6%	24.3%
<b>2. Progressive Change—total</b>	<b>50</b>	<b>17.7%</b>	<b>7.1%</b>	<b>28.3%</b>
Denial to partial admission	16	5.7%	0.0%	17.0%
Partial to open admission	23	8.2%	0.0%	19.3%
Denial to open admission	11	3.9%	0.0%	15.3%
<b>3. Retrogressive Change—total</b>	<b>45</b>	<b>16.0%</b>	<b>5.3%</b>	<b>26.7%</b>
Open to partial admission	23	8.2%	0.0%	19.3%
Partial to denial	16	5.7%	0.0%	17.0%
Open to denial	6	2.1%	0.0%	13.7%
<b>4. Grand Total</b>	<b>282</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<i>SOURCE: Client Charts</i>				

**6. Client Satisfaction.** There were significant associations between client satisfaction, treatment completion, LOS, and treatment progress. These relationships have been discussed.

The charts at most RTCs did not contain a formal evaluation of the RTC by the client.<sup>31</sup> The chart review revealed some information about the client’s satisfaction with the program for 60 (15%) of the clients. When client satisfaction information was present in the chart, it was recorded. The available data were coded into three ordinal categories: 1) very satisfied, 2) satisfied, and 3) dissatisfied. Table 21 presents the client satisfaction scores for the 60 clients having such data. One-half (50%) were judged to be satisfied or very satisfied, the other half of the clients were dissatisfied. While the number of charts with client satisfaction information is small and may not be representative of the entire client sample, the associations found among client satisfaction and treatment progress and completion suggest that client satisfaction should be monitored and subjected to further analysis.

**Table 21. Client Satisfaction with the RTC Experience**

<b>Client Satisfaction</b>	<b>N</b>	<b>%</b>	<b>CI-L</b>	<b>CI-U</b>
Very satisfied	8	13.3%	0.0%	36.9%
Satisfied	22	36.7%	16.5%	56.8%
Dissatisfied	30	50.0%	32.1%	67.9%
<b>TOTAL</b>	<b>60</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*SOURCE: Client Charts*

## **F. Post-Discharge Client Status**

This study sought to determine the outcomes experienced by clients following discharge from the RTC. Key outcomes of interest are the extent to which the client maintained the sobriety achieved at the RTC and, conversely, the rate of relapse to A/SA over time. Other post-discharge outcomes of interest included return to school and educational attainment, health status, employment, the presence or absence of criminal or anti-social activity, and the former client’s expectations and plans for the future.

Post-discharge status is a complex measure influenced by many factors external to the RTC treatment experience, including community and family risk factors. The extent to which the availability or quality of aftercare (i.e., continuing care) resources within communities match the needs of youth is beyond the scope of this report but are important considerations in analyzing outcome status.

Considerations such as costs, time required, burden on data sources, and client confidentiality required that the data collected in this study be limited to information available at the RTCs and available from aftercare providers. Post-discharge information on the client’s health status, employment status, arrests, convictions, and even whether or not the client had died was generally

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<sup>31</sup> Some of the RTCs collected client satisfaction data and maintained the data in files separate from the client charts. It was not feasible to collect and analyze client satisfaction data maintained apart from the client charts in this study.

unavailable and unknown at the RTCs or from the aftercare providers. Therefore, these outcome measures were not assessed in this study.

**1. Data Collected by the RTCs.** Each RTC is tasked with determining the status of its former clients for a 24 month period after discharge. This information, when collected, is generally recorded in the former client’s chart or in client status tracking files. There was wide variation across RTCs in the quality of client post-discharge data. One RTC (#7) followed up 100 percent of its former clients at regular intervals. Other RTCs failed to track most of their clients after discharge. When the clients were tracked, data were often collected on an *ad hoc* basis rather than at regular intervals. In addition, the available data were seldom maintained in a comprehensive fashion. The paucity of comprehensive post-discharge client follow-up data suggests a “gap” in the continuity of care of RTC clients.

Each RTC receives referrals from many tribes or Native Villages. Clients often reside a great distance from the RTC-in different states and in different MS Areas from where the RTC is located. For these and other reasons, it is difficult for the RTCs to maintain information about clients after discharge. This section describes the post-discharge data maintained by the RTCs. Section 2 (Page 50) includes information obtained from aftercare providers.

**1.1. Client Interests and Expectations After Discharge.** The treatment provided by the RTCs is intended to help the adolescent become a productive member of his or her community by maintaining sobriety, continuing formal education, and securing employment. Chart reviews revealed post-discharge information about the plans or interests of some clients. The amount of time after discharge that the data were collected was often variable or unrecorded. Plans/interest data were available for 152 (37.3%) former clients out of the sample of 407 (see Table 22). As appropriate for this age group, clients expressed an interest in getting a job or pursuing a career (40.1%) or continuing their education (32.2%). Many respondents indicated concerns related to their A/SA problem such as staying sober (13.8%) or obtaining counseling (11.2%).

**Table 22. RTC Client Interests and Expectations after Discharge**

<b>Client Plans/Expectation</b>	<b>N</b>	<b>%</b>	<b>CI-L</b>	<b>CI-U</b>
Stay sober	21	13.8%	0.0%	28.6%
Continue counseling	17	11.2%	0.0%	26.2%
Continue education	49	32.2%	19.1%	45.3%
Obtain job - Career	61	40.1%	27.8%	52.4%
Other	4	2.6%	0.0%	18.2%
<b>TOTAL</b>	<b>152</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*SOURCE: Client Charts*

**1.2. Former Client Sobriety/Relapse Status at 1, 6, 12, and 24 Months.** Review of client charts indicated that follow-up data on client sobriety after discharge were often incomplete and collected at irregular intervals. Coding of client relapse/sobriety status at intervals of 1, 6, 12, and 24 months after discharge yielded data for 60 to 82 clients, depending on the specific time interval. Correspondingly, data were unavailable for 325-347 clients depending on the time interval. Because

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follow-up data were missing for so many clients, analyses of the relapse/sobriety status of RTC clients *at fixed intervals* after discharge were abandoned.

Client follow-up data varied by RTC in both quality and quantity. One RTC (#7) provided detailed, follow-up data on all the clients sampled from that RTC; however, most RTCs, when follow-up data were available, provided general, global assessments of client status such as “doing OK” collected on an irregular, ad hoc basis.

As noted by Bergmann et al. (1995), recovery should be assessed by using measures such as frequency of use, number of drugs used, and patterns of alcohol and other drug use before and after treatment. Such assessments cannot be made without major changes in the ways RTC clients are tracked after discharge.

1.3. *Global Assessment of Post-Discharge Sobriety.* Since comprehensive follow-up data collected at regular intervals were generally unavailable in the client charts, other information sources were sought. Often the RTC Director and/or the Clinical Director, in consultation with RTC staff, were aware of the general status of some of the former clients. Interviews of the RTC Directors and Clinical Directors yielded global information on the post-discharge sobriety of 129 (31.7%) of the 407 former RTC clients in the study sample. This post-discharge sobriety information was classified into three ordinal categories: 1) sobriety-maintenance of sobriety and participation in some type of aftercare program; attendance in school, or employment without legal problems, 2) partial relapse- periods of relapse but with continued participation in an aftercare program, attendance in school, or employment, and 3) relapse-frequent A/SA, participation in an aftercare program discontinued, unemployment, or school drop-out.<sup>32</sup> The client post-discharge sobriety information was available for varying time periods after discharge-the observation might be made at any time during the 2 years following discharge. These data are reported in Table 23 under the heading “RTC Sources” and are discussed in the following section in conjunction with data provided by aftercare sources.

2. **Post-Discharge Client Sobriety According to RTC and Aftercare Providers.** In order to supplement the client outcome data available at the RTCs, aftercare providers and/or referral sources were contacted to solicit information on the sobriety/relapse status and other outcomes of persons in the client sample for whom follow-up data were unavailable at the RTCs. These efforts produced client status data for an additional 80 persons in the client sample. These client status data were classified into the same three general categories as the global assessments collected at the RTCs. Table 23 presents the client status data obtained from sources outside the RTC as well as from the RTCs.

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<sup>32</sup> Economic opportunities are few and unemployment is high on many Reservations, American Indian, and Alaska Native communities. Consequently, it is difficult for all AI/AN youth to obtain employment, especially those “in recovery.” Thus, the lack of employment opportunities and A/SA often constitute a “vicious cycle” for AI/AN youth.

**Table 23. Post-Discharge Client Sobriety**

Client Status	RTC Sources				Aftercare Sources				TOTAL			
	N	%	CI-L	CI-U	N	%	CI-L	CI-U	N	%	CI-L	CI-U
Sobriety(1)	48	37.2%	23.5%	50.9%	33	41.3%	24.5%	58.0%	81	38.8%	28.1%	49.4%
Partial Relapse(2)	54	41.9%	28.7%	55.0%	24	30.0%	11.7%	48.3%	78	37.3%	26.6%	48.1%
Relapse(3)	27	20.9%	5.6%	36.3%	23	28.8%	10.3%	47.2%	50	23.9%	12.1%	35.7%
TOTAL	129	100.0%	100.0%	100.0%	80	100.0%	100.0%	100.0%	209	100.0%	100.0%	100.0%

*SOURCE: Client Charts, RTC staff interviews, Aftercare Provider interviews*

Research on adolescent treatment programs has consistently shown that a single course of treatment seldom “cures” adolescent alcohol and other drug users—often 50 percent or more of the adolescents relapse to some A/SA 1 year after discharge (e.g., Harrison and Hoffmann 1987, 1989; Hoffman and Kaplan 1991). On the other hand, these studies show a decrease in the frequency of use and level of intoxication as a function of treatment.

Table 23 shows client post-discharge sobriety based on RTC sources, aftercare sources, and the combined data. The RTCs provided information for 129 (31%) of the client sample, and the aftercare sources provided information for an additional 80 (20%) of the client sample. Together, these sources provided information on 209 (51%) of the client sample.

The distribution of client sobriety varies according to the data source. A lower percentage of clients followed-up by the RTCs maintained sobriety (37%) than those followed-up by aftercare providers (41%). A lower percentage of clients followed-up by the RTCs had relapsed (21%) than those followed up by aftercare providers (29%).

Figure 10 presents the post-discharge sobriety for the 209 clients from both data sources. These data indicate that less than one-fourth of the sample had relapsed to A/SA. The practical significance of this result is attenuated by two factors: 1) the amount of time since discharge varies for the 209 persons, and 2) there is missing sobriety information for almost one-half (49%) of the study sample. A critical question is, “what is the sobriety rate of the 198 RTC clients for whom information was unavailable?” It is possible to project the “best” and “worst” cases from the available data. Table 24 illustrates these best and worst projections: 1) best case—all the 198 clients for whom post-discharge sobriety were unavailable maintained sobriety; 2) worst case—all the 198 clients relapsed.

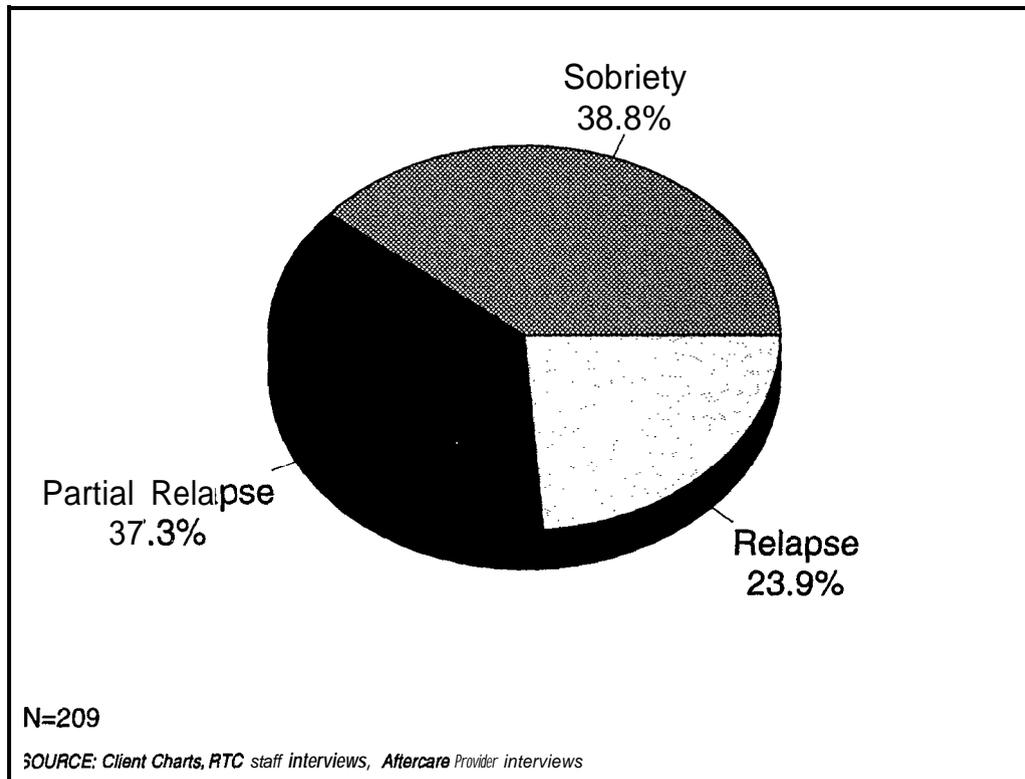


Figure 10. Combined Post-Discharge Client Sobriety

The actual data showed 39 percent maintained sobriety. Under the worst case scenario, 20 percent would have maintained sobriety; under the best case scenario, 69 percent would have maintained sobriety. The reported sobriety rate of .386 for the 207 former RTC clients is similar to the rate of “less than .40” in the CATOR-2 data, and the range of .25 to .66 in the CATOR-1 data (see Table 5).

Table 24. Actual, Best Case, and Worst Case Scenarios for Post-Discharge Sobriety

Client Sobriety	Actual Data				Worst Case				Best Case			
	N	%	CI-L	CI-U	N	%	CI-L	CI-U	N	%	CI-L	CI-U
Sobriety (1)	81	38.8%	28.1%	49.4%	81	19.9%	11.2%	28.6%	279	68.6%	63.1%	74.0%
Partial Relapse (2)	78	37.3%	26.6%	48.1%	78	19.2%	10.4%	27.9%	78	19.2%	10.4%	27.9%
Relapse (3)	50	23.9%	12.1%	35.7%	248	60.9%	54.9%	67.0%	50	12.3%	3.2%	21.4%
TOTAL	209	100.0%	100.0%	100.0%	407	100.0%	100.0%	100.0%	407	100.0%	100.0%	100.0%

SOURCE: Client Charts, RTC staff interviews, Aftercare Provider interviews

**2.1. Post-Discharge Sobriety and Treatment Completion.** If the treatment program is effective, treatment completion should have positive impact on post-discharge sobriety. Evaluations of the effects of treatment completion in adolescent alcoholism/substance abuse treatment programs are

rare. One study found that treatment completers had higher recovery rates than non-completers; however, 1 year after discharge the abstinence rates for male completers and non-completers was no longer significant (Alford, Koeler, and Leonard 1991). For RTC clients, there was a significant association between the measure of post-discharge sobriety and treatment completion ( $F=2.9$ ,  $df=1,206$ ,  $p<.003$ ). Completers ( $mean=1.7$ ) tended to score better on the 3-point sobriety-relapse scale than did drop-outs ( $mean=2.1$ ).<sup>33</sup> This result supports the view that treatment completion improves the post-discharge sobriety of the RTC clients. This result was confirmed by the nonparametric Chi Square test. Table 25 shows that the percentage of RTC completers who were sober (42%) was significantly greater than the percentage of drop-outs who were sober (31%); conversely, more drop-outs (36%) had relapsed than completers (19%) (Chi Square=7.4,  $df=2$ ,  $p<.03$ ).

**2.2. Post-Discharge Sobriety and Quality of Charting.** There was a significant association between the measure of post-discharge sobriety and the composite measure of quality of charting ( $F=4.3$ ,  $df=2, 206$ ,  $p<.02$ ). Former clients who maintained sobriety ( $mean=0.5$ ) or who experienced partial relapse ( $mean=1.7$ ) had significantly better quality charts than former clients who experienced relapse ( $mean=-1.3$ ). This finding gives credence to the view that the quality of charting measure serves as a proxy for quality of treatment-it seems more plausible that good care at the RTC “produced” post-discharge sobriety than the alternative explanation that complete charts “produced” post-discharge sobriety.

**Table 25. Variables Associated with Post-Discharge Sobriety**

Predictor Variable	Post-Discharge Sobriety					
	1 Sober n=81		2 Partial Relapse n=78		3 Relapse n=50	
Client Characteristics	N	(%)	N	(%)	N	(%)
Gender						
Boys	37	(33%)	39	(34%)	37	(33%)
Girls	44	(46%)	39	(41%)	13	(13%)
Treatment Completion						
Outcome Measures						
Completed	61	(42%)	57	(39%)	27	(19%)
Drop-out	20	(31%)	21	(33%)	23	(36%)
Composite Outcome Measures	Mean	St. D.	Mean	St. D.	Mean	St. D.
Treatment Progress	9.5	(3.4)	9.2	(3.4)	8.4	(3.5)
Quality of Charting	0.5	(5.7)	1.7	(5.6)	-1.3	(5.6)
Client Satisfaction	2.2	(0.7)	2.3	(0.8)	1.8	(0.8)

*SOURCE: Client Charts, RTC staff interviews, Aftercare Provider interviews*

<sup>33</sup> Low scores on this 3-point ordinal scale are better than high scores: 1=Sobriety, 2=Partial relapse, and 3=Relapse.

## G. Comparisons Across RTCs

The purpose of this study is to evaluate the MS-funded RTCs as a program rather than to evaluate the performance of any particular RTC. In addition, the stakeholders in the evaluation agreed that specific RTCs would not be evaluated in order to maximize the candor and full disclosure of the judgments and opinions of RTC staff participating in the study. Nevertheless, it is instructive to examine significant variation across RTCs. In these comparisons, the RTCs have been assigned arbitrary identification numbers.

The multivariate analyses summarized in Table 15 revealed significant variation across RTCs on four outcome measures: 1) treatment completion, 2) LOS, 3) quality of charting, and 4) client satisfaction. In addition, there was significant variation across RTCs for four key client variables-1) severity of A/SA, 2) self-identification of A/SA problem at discharge, 3) family involvement with client treatment, and 4) severity of life stressors. Because clients at some RTCs had significantly more severe A/SA problems and severity of life stressors than clients at other RTCs, these client attributes were statistically controlled in analyses of covariance on the six outcome measures. These analyses revealed that significant variation across the RTCs on treatment completion, LOS, quality of charting, and client satisfaction persisted after controlling for variation in severity of A/SA and severity of life stressors. These findings suggest that some RTCs are more efficient and effective than others, and that interventions to assist RTCs to improve their services in specific areas may be in order.<sup>34</sup>

**1. Treatment Completion Across RTCs.** The first two rows of Table 26 present the number of clients admitted and the number completing treatment at each RTC. These data, while of interest, were not subjected to statistical analysis because some of the RTCs were not serving clients during the entire study period (1/1/93 to 5/30/95); however, the percentage of clients completing treatment (row 3 of Table 26) is a reasonable measure of the productivity of each RTC when productivity is operationally defined in terms of treatment completion.

The percent of clients completing treatment at the RTCs ranged from a low of 28 percent to a high of 85 percent (Chi Square=75.2, df=8, p<.001). Table 3 shows the distribution of completers and drop-outs by RTC (population data for the study period). Table 4 presents the completion data for the sample.

In RTCs #s 3, 5, and 9 one-third or fewer clients in the sample completed treatment. In contrast, more than two-thirds of the clients completed treatment RTC #s 1, 2, 6, 7, and 8. Clients at RTC #7, with a completion rate of .85, were twice as likely to complete treatment than clients at RTC #s 3, 4, 5, or 9.

**2. Variation in LOS across RTCs.** There is variation across the RTCs with respect to the planned length of treatment. Some RTCs admit cohorts of clients for a relatively fixed treatment program (e.g., 45 days). Other RTCs have rolling admissions and provide treatment as needed by individual clients. Therefore, it is not surprising that there was significant variation in LOS across

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<sup>34</sup> Since this is a retrospective study, these analyses are based on data in client charts that is more than 2 years old. Any changes in treatment practices and outcomes occurring after May 30, 1995 cannot be reflected in this report.

RTCs. Interviews with RTC directors revealed that more RTCs have adopted or are considering adopting the admission of cohorts of clients for relatively fixed treatment periods. Further studies of this approach including post-discharge status will be needed to determine the effectiveness of this approach.

Table 26 shows the mean LOS and other variables for each RTC. The mean LOS ranged from a low of 40 days (RTC 5) to a high of 134 days (RTC 8). As might be expected, RTCs with low treatment completion percentages (3, 4, 5, and 9) also had relatively low mean LOS, ranging from 40 to 60 days. Conversely, the RTCs with the higher treatment completion percentages (1, 2, 6, and 8) had relatively high mean LOS, ranging from 78 to 134 days. From the perspective of treatment efficiency, it is desirable to have a high completion rate, a low mean LOS, and high rates of post-discharge sobriety. RTC #7, with the highest completion rate (.85) and a low LOS (mean=41 days), was more than twice as efficient with respect to treatment completion and LOS than RTCs 3, 4, 5, and 9. Additional data and analysis relating LOS, methods and cost of treatment, availability and utilization of aftercare, and post-discharge sobriety will be required to document treatment efficiency.

**3. Quality of Client Charts Across RTCs.** There was significant variation across RTCs in the composite measure of the quality of the data in the client charts ( $F=52.1$ ,  $df=8,398$ ,  $p<.001$ ). Mean charting scores ranged from a low of -6.5 for RTC 8 to a high of 5.7 for RTC 1 (see Figure 11). Bonferoni pairwise comparisons revealed that the three RTCs with the highest mean scores (1, 7, and 9) each had significantly better charting (QRTCC) than the three RTCs with the lowest scores (4, 6, and 8). At a minimum, four RTCs (#s 4, 5, 6 and 8) need to improve their charting. To the degree that missing information in the charts indicates that the services were not actually provided, these RTCs need to improve the quality of care provided.

It is important to note that the quality of charting scores are based on review of charts during the study period that ended in May 30, 1995; several RTC Directors indicated that their charting practices had undergone substantial improvement after that date.

**Table 26. Distributions of Key Variables Across RTCs**

Outcome Measures	RTCs (by number)									All RTCe	R <sup>2</sup>	F	df	P
	1	2	3	4	5	6	7	8	9					
1. Number of clients admitted (population)	133	118	209	104	289	104	143	130	58	1,288	n/a	n/a	n/a	n/a
2. Number clients completing treatment (population)	90	85	70	41	87	68	122	90	16	669	n/a	n/a	n/a	n/a
3. Percent completing treatment (population)	68%	72%	33%	39%	30%	65%	85%	69%	28%	52%	n/a	75*	8	0.00
4. Post-discharge number tracked	34	13	12	7	27	30	45	33	8	209	n/a	n/a	n/a	n/a
5. Mean LOS in days	103	102	58	44	40	78	41	134	60	68	0.34	27.2	8,395	.001
6. Mean quality of client charts	5.7	1.2	1.0	-3.5	-2.4	-4.7	5.7	-6.5	2.8	-0.25	0.54	44.9	8,396	.001
7. Mean progress composite	9.1	8.9	6.9	6.4	7.2	10.6	9.5	9.2	6.7	8.2	0.17	6.5	8,396	.001
8. Mean client satisfaction (Low=Satisfied)	2.0	2.3	2.5	2.8	2.8	2.2	2.0	1.0	2.7	2.4	0.22	1.8	8,396	.001
9. Post-discharge sobriety (1=Sober)	1.8	1.5	1.6	2.1	2.0	1.8	2.0	1.9	1.8	1.9	0.0	1.1	8,198	ns
<b>Client Attributes - Mean</b>														
1. Severity of A/SA	10.7	13.5	21.0	15.1	10.8	14.0	15.3	5.2	16.5	13.4	0.15	5.4	8,397	.001
2. Severity of life stressors	13.8	14.4	14.3	12.5	13.6	14.1	15.2	12.4	12.7	13.8	0.20	8.8	8,397	.001
3. Self-identification of A/SA problem	2.6	2.4	2.2	2.3	1.9	2.3	2.7	2.4	2.2	2.3	0.10	3.2	8,282	.001
4. Family involvement	2.0	2.3	2.0	1.8	1.7	1.8	2.7	1.6	2.1	2.0	0.10	2.9	8,340	.001
<b>Staff Ratings and Judgments - Mean (Low=Favorable)</b>														
1. Overall effectiveness of RTC	1.5	2.3	2.3	2.4	2.5	2.1	1.2	1.8	3.5	2.1	0.34	7.7	8,122	.001
2. Staff performance	1.7	1.9	2.1	2.3	2.2	2.4	1.6	1.9	2.5	2.0	0.13	2.3	8,121	.03
3. RTC organization & management	1.8	2.0	2.7	2.1	2.3	3.2	1.1	1.7	3.7	2.1	0.35	8.2	8,120	.001
4. Staff job satisfaction	1.2	1.4	1.6	1.4	1.5	1.5	1.1	1.2	1.4	1.3	0.06	1.0	8,121	.44
<b>Staff Ratings of Program Treatment Components - Mean (High=Favorable)</b>														
1. A/SA Counseling	4.1	3.0	3.3	3.3	3.8	4.4	4.0	4.1	2.6	3.7	0.29	3.2	8,63	.004
2. Education	4.4	3.5	3.0	3.3	3.2	4.2	4.7	3.7	3.4	3.7	0.33	6.9	8,113	.001
3. Individual Psychotherapy	3.9	3.3	2.2	4.0	3.9	3.0	4.5	3.6	2.8	3.6	0.23	3.5	8,89	.001
4. Tobacco cessation	3.7	3.3	2.7	3.3	4.0	2.8	2.9	3.4	2.0	3.3	0.21	3.5	8,105	.001
5. Client follow-up	3.6	2.9	2.3	2.4	2.4	2.7	4.1	3.6	1.9	3.0	0.28	4.6	8,95	.001
6. Cultural	4.2	3.2	3.9	3.4	4.4	3.8	4.0	4.1	2.7	3.8	0.46	4.0	8,121	.001
7. Treatment Composite	3.8	3.4	3.2	3.4	3.5	3.4	4.0	3.6	2.8	3.5	0.21	4.0	8,122	.001

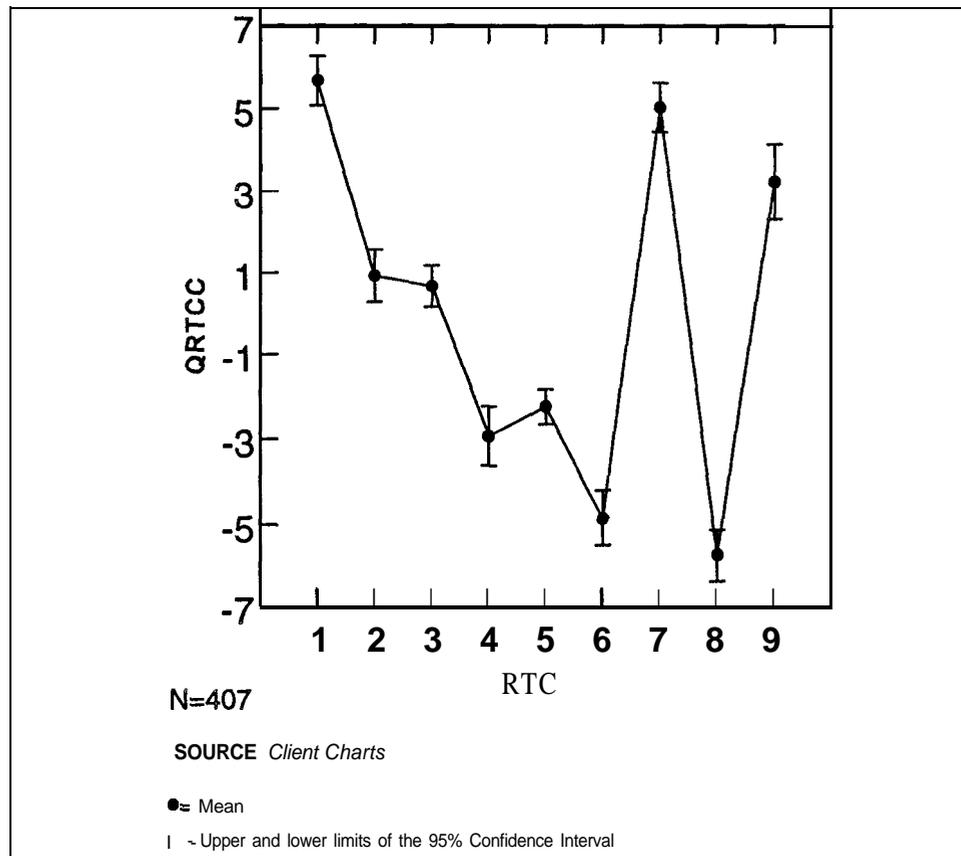
SOURCE: Client *Charts*, RTC *staff interviews*

● Chi Square Statistics reported rather than F-ratio for testing differences in percentages.

Review of the client charts suggested that some of the problems in charting were attributable to the organization and format of forms and documents (e.g., intake, client history, discharge, and post-discharge status) used. If narrative descriptions of client progress, satisfaction, post-discharge A/SA, and other variables were supplemented by rating scales, standardized response alternatives, and check lists, the level of detail in the charts could be greatly increased with little or no increase in the time and effort expended. With more detailed and precise data available, assessment of changes could be greatly facilitated. Revision of existing forms and development of new forms could significantly improve the quality of charting at some RTCs. Review of the data collection instruments in Volume 2 of this report could be a source of ideas for new or revised forms.

The use of automated systems could decrease the burden of charting and increase access to, and utilization of, the information in the charts. In interviews, some RTC Directors reported they have found automated systems to be very useful. The Chemical Dependency Management Information System (CDMIS) was designed by MS to support the information needs of the various alcoholism

and substance abuse treatment programs, including the **RTCs**. Interviews with **RTC** Directors gave mixed reviews of **CDMIS**. Three directors indicated that **CDMIS** was of some value to the **RTCs**; however, two of these directors were using different automated systems that exported the data required by **CDMIS**. Four directors indicated that **CDMIS** provided information of little or no value for the administration and management of the **RTCs**. While the **IHS** has apparently invested a great deal of effort in developing **CDMIS**, further efforts are needed if the system is to be really useful to the **RTCs**. Alternatively, **IHS** could facilitate sharing/borrowing of the alternate automated support systems among the **RTCs**.



**Figure 11. Quality of Charting (QRTCC) Across RTCs**

**4. Client Satisfaction Across RTCs.** Client satisfaction data were available for only 60 (15%) of the 407 clients in the sample. Two **RTCs** (#7 and #8) each had only one chart with client satisfaction data; **RTC** #2 had the most charts (15) with client satisfaction data. While there were significant differences in mean client satisfaction across **RTCs** ( $R^2=0.22$ ,  $F=1.8$ ,  $df=8,51$ ,  $p<.10$ ), none of the pairs of means were significantly different (i.e., all Bonferoni pairwise tests had  $p>.10$ ).

**5. Treatment Progress Across RTCs.** There was significant variation in mean treatment progress scores across **RTCs** with the effects of both severity of **A/SA** problem and severity of life stressors statistically controlled in an analysis of covariance ( $R^2=0.17$ ,  $F=6.5$ ,  $df=8,396$ ,  $p<.001$ ).

Clients at RTCs #6 and #7 exhibited significantly greater progress than clients at RTCs 3, 4, 5, and 9 (see Figure 12).

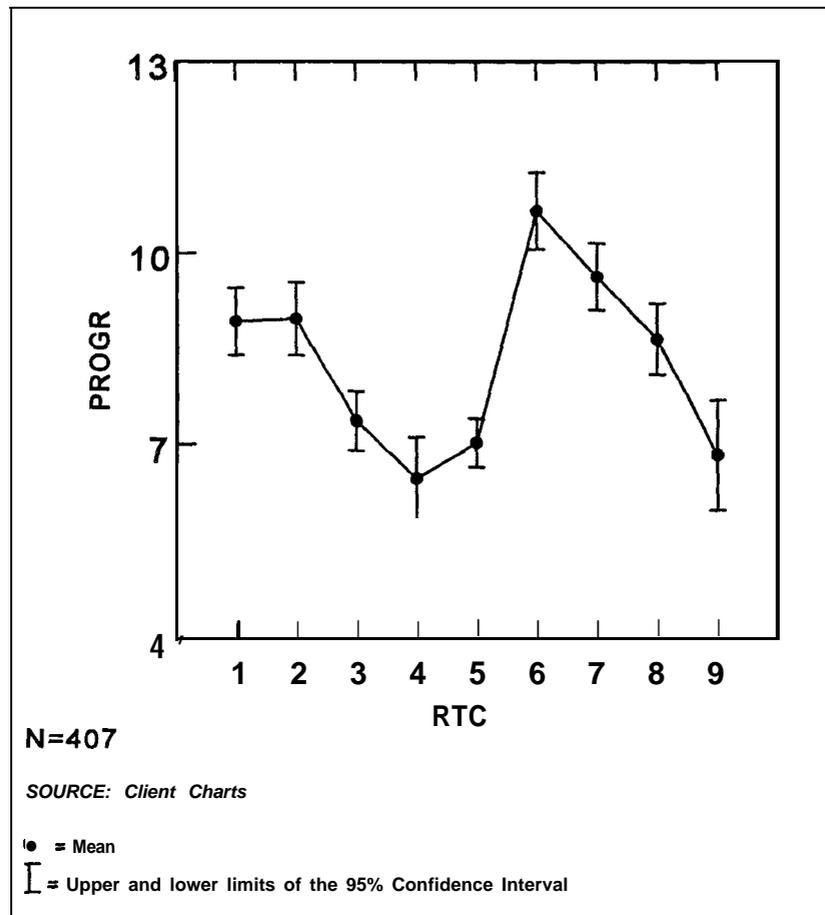


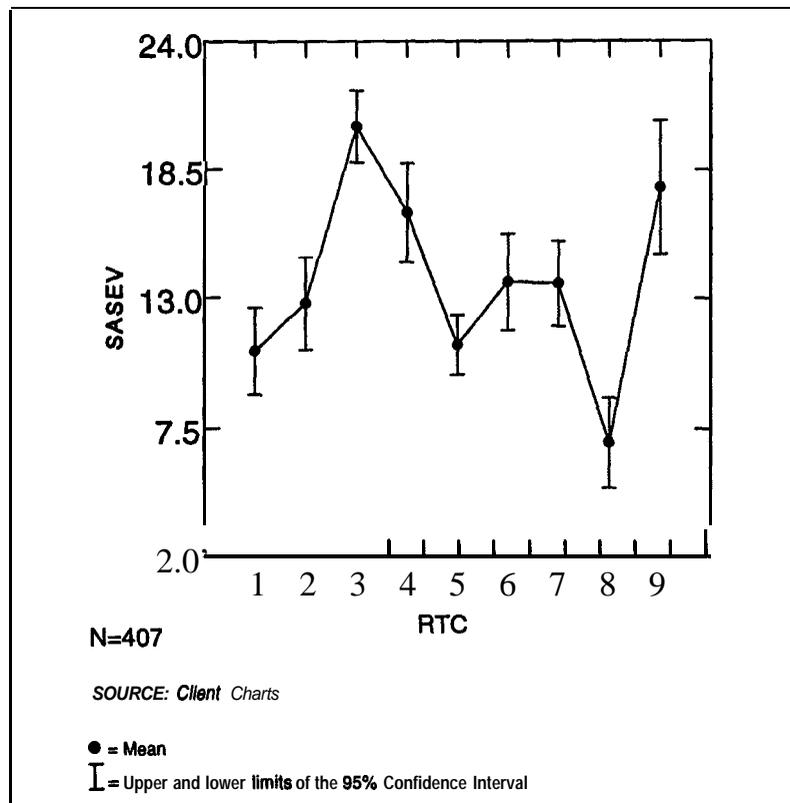
Figure 12. Treatment Progress (PROGR) by RTC

**6. Post-discharge Sobriety Across RTCs.** There were post-discharge sobriety data for 209 clients (51%) in the sample. The number of post-discharge sobriety observations ranged from a low of 7 for RTC #4 to a high of 45 for RTC #7. The variation in post-discharge sobriety across RTCs was not significant (Partial  $R^2=0.04$ ,  $F=1.1$ ,  $df=8,198$ ,  $p>.36$ ).

**7. Variation in Client Characteristics Across RTCs.** There was significant variation across RTCs for two client variables--severity of A/SA and severity of life stressors. **These differences are described below.**

7.1. **Severity of A/SA.** Severity of A/SA is a composite measure based on the product of the number of drugs used, the frequency of abuse, and the level of intoxication (see Appendix 1). There were significant differences in mean severity of clients' A/SA across RTCs with the severity of life stressors controlled in an analysis of covariance ( $F=6.6$ ,  $df=8,398$ ,  $p<.001$ ). Figure 13 shows that RTC #3 had the highest mean A/SA severity (SASEV) (mean=21.0) and clients at RTC #8 had the lowest (mean=5.2). Pairwise comparisons showed RTC #3 to have significantly higher mean A/SA

scores than RTCs #1, #2, #5, and #8. RTC #8 had significantly lower mean A/SA scores than all other RTCs except #1 and #5.



**Figure 13. Severity of A/SA Problem (SASEV) by RTC**

7.2. *Severity of life stressors.* Severity of life stressors is a composite measure that reflects the number of major stressors experienced by the client such as family A/SA, parental divorce or death (see Appendix 1). There was significant variation across RTCs in clients' severity of life stressors with severity of A/SA statistically controlled (partial  $R^2=0.20$ ,  $F=8.8$ ,  $df=8$ , 397,  $p<.001$ ). Pairwise comparisons revealed that clients at RTC #7 had significantly more severe life stressors than clients at RTC #s 4, 8, and 9 (see Figure 14).

7.3. *Family involvement with client treatment.* There was significant variation in the level of family involvement with the client's treatment across RTCs (Multiple  $R=0.1$ ,  $F=2.9$ ,  $df=8,340$ ,  $p<.001$ ). Bonferoni pairwise comparisons revealed that there was significantly more family involvement at RTC #7 (mean=2.7) than at RTC #5 (mean=1.7) or RTC #8 (mean=1.6). The factors underlying these differences are unclear. It could be that RTC #7 has developed especially effective ways of generating parent involvement; alternatively, logistical or other factors could facilitate family involvement with client treatment at that RTC. Additional research could indicate if RTC #7 would be a good candidate for sharing model practices in the promotion of family involvement.

7.4. *Self-identification of A/SA problem at discharge.* While there was a significant association between RTC and client's self-identification of his/her problems at discharge (Multiple  $R=0.10$ ,  $F=3.2$ ,  $df=8,282$ ,  $p<.001$ ), Bonferoni tests revealed that only one pair of means was significantly

different--clients at RTC #5 had more open admission of their A/SA problems (mean=1.9) than clients at RTC #1(mean=2.6). Given that RTC #5 has a relatively low completion rate (3%), quality of charts, client satisfaction, and post-discharge sobriety, it is somewhat surprising to see its clients tend to more openly admit their ABA problems.

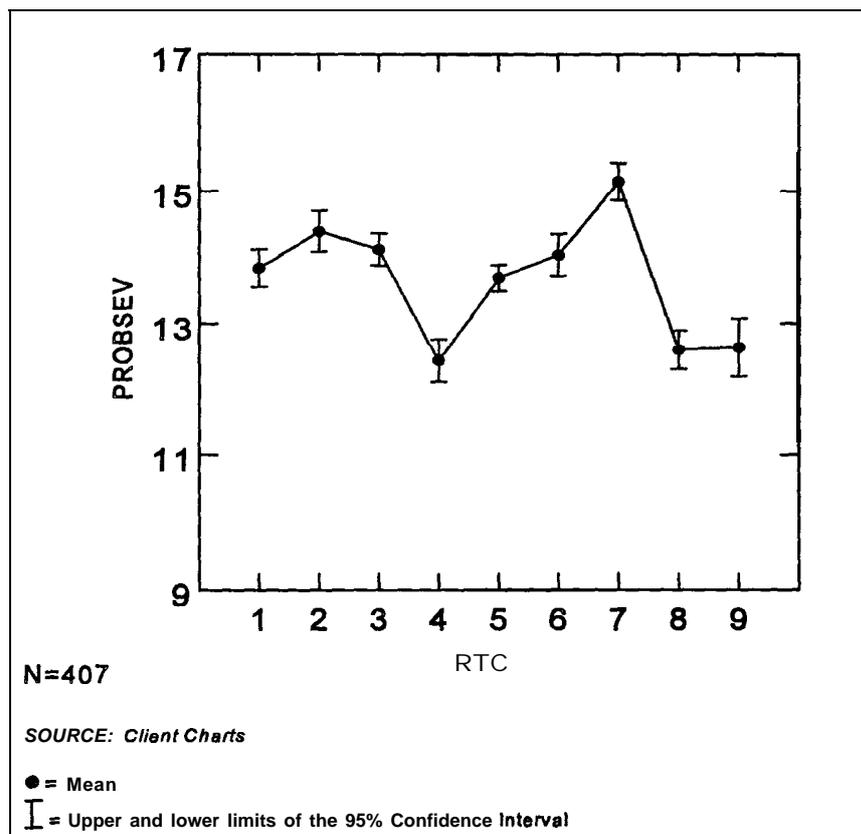


Figure 14. Severity of Life Stressors (PROBSEV) by RTC

8. **Variation in staff ratings across RTCs.** Judgments and evaluations by RTC staff were solicited on various topics including:

- Overall effectiveness of the RTC for its clients
- Overall work performance of RTC staff
- Cl Organization and management of the RTC
- Employee job satisfaction
- Impact of positive and negative staff role-modeling on clients
- Components of the **RTC** treatment and education services.

These judgments were obtained on 5-point rating scales (see the Staff Interview Instrument in Volume 2). Analyses of the rating scales revealed significant variation across RTCs. These findings are described below and are summarized in Table 26.

**8.1. Overall RTC Effectiveness.** Staff at each RTC rated the overall effectiveness of the RTC for its clients on a 5-point scale ranging from very effective(1) to very ineffective(5). There was

significant variation in these ratings across RTCs ( $R^2=.34$ ,  $F=7.7$ ,  $df=8,122$ ,  $p<.001$ ). Only the staff of RTC #9 rated its effectiveness on the ineffective side of the scale ( $mean=3.5$ ).

RTC #7 had the most favorable ratings of overall effectiveness ( $mean=1.2$ ). This positive evaluation by its staff is consistent with RTC #7's relatively high completion rate, quality of client charts and progress scores. RTC #7 had the most favorable staff ratings on other measures including staff performance ( $mean=1.6$ ), RTC organization and management ( $mean=1.1$ ), and staff job satisfaction ( $mean=1.1$ ).

**8.2. Staff Work Performance.** Staff at each RTC rated their overall work performance on a 5-point scale ranging from very good(1) to very bad(5). There was significant variation in these ratings across RTCs ( $R^2=0.13$ ,  $F=2.3$ ,  $df=8,124$ ,  $p<.03$ ). Staff at each RTC rated their work performance favorably ( $mean<3.0$ ).

RTC #9 had the least favorable ratings on this scale ( $mean=2.5$ ) as well as on the measure of overall effectiveness ( $mean=3.5$ ), and RTC organization and management ( $mean=3.7$ ). These ratings, coupled with 1) the lowest treatment completion rate (.28), 2) poor client satisfaction scores ( $mean=2.7$ ), and 3) consistently below average treatment component ratings, suggest that RTC #9 is a good candidate for technical assistance.

**8.3. RTC Organization and Management.** Staff at each RTC rated the organization and management of the RTC on a 5-point scale ranging from very good(1) to very bad(5). Only two RTCs, #6 ( $mean=3.2$ ) and #9 ( $mean=3.7$ ), received negative ratings (i.e., mean greater than 3.0).

**8.4. Job Satisfaction.** Staff ratings of job satisfaction on a 5-point scale ranging from “like very much”(1) to “dislike very much”(5) were uniformly positive. Means for the RTCs ranged from 1.2 to 1.6, and this variation was not statistically significant ( $R^2=0.06$ ,  $F=1.0$ ,  $df=8,121$ ,  $p>.40$ ).

These ratings show that despite the stress inherent in working with alcohol and substance abusing adolescents, RTC staff, on the average, are satisfied with their jobs. Job satisfaction ratings were the most favorable of all the variables rated by the staff.

**8.5. Evaluation of Specific RTC Program Components.** The staff rated the quality of six RTC program components:

- Substance abuse counseling
- AI/AN cultural activities
- Education
- Psychotherapy
- Tobacco cessation
- Aftercare/follow-up, and
- Composite measure of treatment program ratings.

Each component was rated on a 5-point scale ranging from “poor”(1) to “excellent”(5) with 3 represented as “average.” These ratings are also presented in Table 26. The variation across staff ratings was statistically significant on each of these six program components. These judgments could

serve as a guide for identifying T/A needed by individual RTCs. The results for each of the six program components are described below.

**AS/A Counseling.** Each RTC was rated as above average except for RTC #2 (mean=3.0) and RTC #9 (mean=2.6).

**Cultural Component.** Each RTC was rated as above average except for RTC #9 (mean=2.7).

**Education.** All RTCs were rated as above average except for RTC #3 which was rated as average (mean=3.0).

**Psychotherapy.** Two RTCs were rated below average in psychotherapy-RTCs #3 and #9; all others were rated as above average.

**Tobacco Cessation.** In accordance with DHHS regulations, all IHS-funded RTCs are “smoke-free” facilities-smoking (as well as chewing tobacco and using snuff) are prohibited for staff and clients alike. Staff at four RTCs acknowledged that their tobacco cessation programs are incomplete as is reflected in the below average ratings for RTCs #3 (mean=2.7), #6 (mean=2.8), #7 (mean=2.9), and #9 (mean=2.0).

**Client Follow-up After Discharge.** This study found that most RTCs had not systematically followed-up clients after discharge. Staff ratings of this program component indicate that the staff are aware of this problem. Six RTCs were rated below average. The only RTCs rated as above average were #1 (mean=3.6), #7 (mean=4.1), and #8 (mean=3.6).

**Composite Measure of Staff Program Ratings.** Staff rated their RTC on a variety of program components using the 5-point scales. An average score across all program component ratings was computed for each staff respondent. Like the other staff ratings, scores on the composite rating ranged from poor (1) to excellent (5). Scores across the composite staff treatment program ratings varied from a low of 2.8 to a high of 4.0; this variation was highly significant (multiple  $R=0.21$ ,  $F=4.0$ ,  $df=8,122$ ,  $p<.001$ ). Only one RTC, #9 (mean=2.8) had a rating of below average on this composite measure.

## H. Additional Research Questions

This study was tasked to provide information on seven research questions pertaining to variables thought to affect adolescent A/SA prevention and treatment. These questions and the study findings pertaining to these questions are presented below.

**1. The Effect of Positive and Negative RTC Staff Role Modeling.** Interviews of RTC Directors and staff included questions concerning the effects of staff behavior on treatment processes and outcomes. Where possible, related information was extracted from the client charts. There was a consensus that role modeling has great impact on the RTC clients. Examples of staff comments include: “They watch us and how we interact with each other.” ■ “If the staff is cohesive, the kids do great; if there is staff dissension, the community doesn’t do well.” . “Negative role modeling

will contaminate other staff members. ■ “When staff have problems, such as anger management, it affects the kids” . “When some staff members are unclear on their boundaries, the kids get confused.” ■ “Rids read a situation well and play it to their advantage.”

Many staff noted the importance and value of positive staff role modeling especially for clients that grew up in problem family situations. One respondent stated that “...in some cases, these kids have never seen polite, respectful social interaction and support.” In addition, there seemed to be a consensus that having counselors “in recovery” from alcoholism and substance abuse often serves as powerful models for the clients.

**1.1. Divisiveness and Conflict Among RTC Staff.** The RTC Directors’ characterizations of staff relations ranged from “very cohesive, tight knit group” to “have been dysfunctional-we are now dealing with hard staff issues and allowing the staff to verbalize concerns.” Another characterization was that “there was a time when the staff were not talking to each other.” Staff at some **RTCs** reported conflict between some staff advocating use of the “confrontation adult model” versus other staff advocating the “adolescent model.” Such dissension was seen as damaging to the therapeutic milieu.

Staff cohesiveness was sometimes viewed differently by the RTC Director and other staff. In two **RTCs**, directors characterized staff relations as harmonious; in contrast, some staff complained of divisiveness between management and the other staff and among staff cliques. There was a consensus that staff dissension hinders quality client treatment.

Staff divisiveness seemed to be associated with such issues as management styles, perceived favoritism by managers, perceived lack of management flexibility, different treatment approaches or orientations. Many staff indicated that divisiveness tended to expand and shrink as a function of stress and anxiety associated with treatment of difficult (i.e., assaultive, suicidal, anti-social, psychotic) clients.

**2. Effects of a Problem Family Situation on the RTC Clients.** A problem family situation is defined as including alcoholism or substance abuse by adult family members, physical or sexual abuse, and neglect of dependents. There was a consensus among the staff interviewed that the family is critical to the effectiveness of substance abuse treatment. One informant said “addiction is a family disease and, consequently, the family needs to be actively engaged in treatment and follow-up.” The adolescent cannot obtain the structure, consistency, security, and attention needed in a problem family situation. On the contrary, families experiencing adult alcoholism or substance abuse, child abuse or neglect tend to be immobilized, inconsistent, and to subvert the adolescent’s attempts to effect change.

Four areas associated with problem family situations emerged from the staff interviews: 1) general aspects, 2) diagnoses, 3) treatment, and 4) outcome. Each category is discussed below.

**2.1. Treatment.** Staff indicated clients who grew up in problem family situations require additional resources and staff time for treatment. Clients from such families are more likely to behave in challenging ways—have more conduct disorders, more problems with control issues and anger management. Such clients tend to be unstable or explosive and require more treatment.

**2.2. Treatment Outcomes.** Staff suggested that clients from problem families are more likely to fail to complete treatment. Aftercare planning is difficult-requiring the utilization of scarce foster care or group homes often in the face of opposition by the family.

Clients who are discharged to a family environment with many problems face a particularly challenging situation. Post-discharge follow-up revealed incidents in which former clients were ridiculed by family members for not drinking, were shunned by their friends and some family members. There were numerous examples of anti-social or subversive behavior by family members who abused alcohol or other drugs. In one example, family members “participated” in the RTC family day/week. The client’s stepfather provided her with cigarettes and beer while the client was on a day pass from the RTC. Subsequently, the client was discharged for a rule violation.

Another example involved a family therapy session at the RTC. The client had made progress on issues surrounding sexual abuse by family members. When the client confronted her parents about this trauma, the parents became angry, repudiated her allegations, and stormed out of the session.

**3. The Top Trends/Changes Likely to Affect the RTCs in the Next Year, in 5 Years, in 10 Years.** Interviews of the RTC Directors and other staff revealed the following six trends: 1) lack of sufficient funds, 2) a movement in Congress to defund Indian programs, 3) growth-expansion in the treatment population, 4) increased tribal compacting with associated decrease in MS funding and resources, 5) increasing need for RTC services, and 6) increasing severity of client addiction and mental health problems. Figure 15 shows the distribution of the staff judgments of trends likely to affect the RTCs over the next 5 to 10 years.

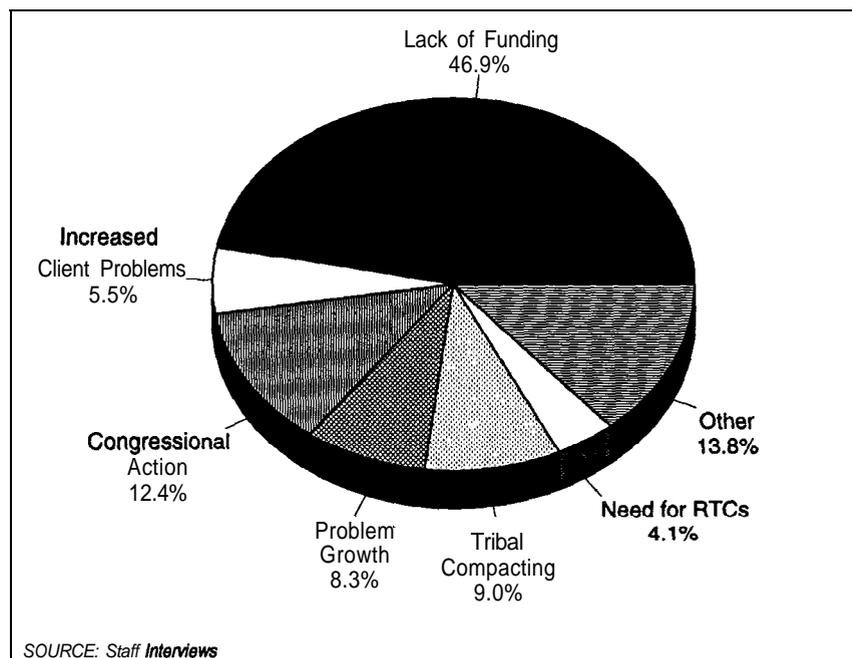


Figure 15. Trends Affecting RTCs During the Next 5-10 Years

**3.1. Lack of Sufficient Funds.** Concern was expressed about reductions in the Federal budget in general and the MS budget in particular. The principal concern was that funding problems will be exacerbated by developments in managed care and IHS restructuring associated with tribal compacting. There was a consensus that decreasing resources will continue into the foreseeable future. This issue underlies many of the management issues faced by the RTCs including hiring and training staff, enhancement of treatment programs (e.g., adding components such as art therapy), expansion of facilities, and number of clients treated.

The impact of funding limitations varies across the RTCs. For example, staff at one MS-operated RTC expressed concern that it will eventually be replaced by an intensive outpatient treatment program if the funding level is not increased. The current level of funding for this RTC has resulted in elimination of one staff position each year for the last 3 years.

**3.2. Congressional Defunding of Indian Programs.** This position is a variation on the concern about perceived decreasing Federal spending but with the particular concern that Congress intends to defund Federal Indian programs.

**3.3. Growth/Expansion of the RTC Treatment Population.** Many RTC staff indicated that adolescent alcohol and drug abuse seems to be increasing and that there will be a increasing need for RTC services for the foreseeable future.

**3.4. Increase in Tribal Compacting.** Several staff expressed concern that increases in tribal compacting will leave the MS with fewer resources with the possible result that programs that serve many tribes, such as the RTCs, will have increasing difficulty in obtaining funds.

**3.5. Increase in Numbers and Severity of Client Problems.** Many staff reported an increase in clients with dual diagnoses, FAS, FAE, and inhalant abusers. The general consensus was that this trend will continue over the next 5 to 10 years. An increase in the numbers of clients who are members of gangs was also reported. The increase in number and severity of client problems is expected to increase demand on staff resources. One RTC Director indicated that only one inhalant abuser at a time is admitted because of the extraordinary demands such clients place on staff resources. Inhalant abusers were said to behave like a 2-year old child-walking into the street without looking, or leaning over the side of a boat and falling into the water.

**3.6. Other Trends.** Staff interviews revealed other trends that do not fit into the categories discussed above. Examples of such miscellaneous trends include concerns about new designer drugs, increases in substance abuse associated with gaming on reservations, etc.

**4. External Conditions Affecting Success/Failure of the RTCs.** Different external factors seem to affect the RTCs operated by the MS and those operated by tribes. For those RTCs operated by the MS, Federal policies and procedures were cited as causing staff recruitment and hiring to be a slow and cumbersome process. A position description has to be approved, posted, applicants interviewed and rated, etc. Meanwhile, the RTC must continue to provide services with less than a full complement of staff. This results in staff becoming overworked with a possible reduction in the quality of service—less time available for counseling clients.

At tribally-operated **RTCs**, some staff expressed frustration at the “extra level of bureaucracy” imposed by the tribe. Others said that the tribe or tribal consortium has been a source of support and a factor in the success of the RTC.

**5. How to Improve Success of RTCs.** Based on staff interviews and site visits to the **RTCs**, four areas of improvement were identified; these areas are described below.

**5.1. Staff Training.** In general, RTC staff are eager for additional training to improve the effectiveness of the program. Barriers to additional training include busy schedules and heavy workloads, remote location from training resources, and the cost of training. MS can help make needed training available by taking such actions as:

- Helping to establish relationships between the **RTCs** and tribally-controlled and other colleges;
- Drawing on its internal resources in mental health, adolescent medicine, evaluation, and A/SA treatment to provide needed training;
- Facilitating collaboration between **RTCs** and other Federal agencies such as the Center for Substance Abuse Treatment (CSAT);
- Facilitating RTC acquisition and utilization of distance learning technologies and the Internet for skill acquisition; and,
- Helping the **RTCs** to identify and share model successful practices.

Increases in the number and severity of client problems is a current trend affecting the **RTCs**, and is anticipated to continue to be a problem during the next 5 to 10 years. The training should be incorporate components to deal with changes in client problems including dual diagnoses, **FAS/FAE**, inhalant abusers, and coping with violent clients.

**5.2. Improve Aftercare/Follow-up Coordination.** Based on the results of this study, it appears that it is easy for an RTC client to “disappear between the cracks” after he or she leaves the RTC. The RTC can provide the best care available anywhere, but if the client does not obtain coordinated and reliable aftercare, the positive benefits of RTC care are likely to be lost.

Improved coordination and tracking of aftercare will require better collaboration and commitment of resources by various groups and organizations including:

- CI MS staff and organizational components
  - . ASAPB
  - Service Units
  - Community Health Representatives (**CHRs**)
  - . Public Health Nurses (**PHNs**)
  - Mental Health staff
  - Office of Tribal Activities (OTA) and Office of Planning, Evaluation, and Legislation (OPEL) staff
- !J Tribal staff and organizational components
  - A/SA outpatient programs
  - Social service programs
  - Head Start
  - Schools

- Health and behavioral health programs
  - Law enforcement and judiciary
- BIA staff and organizational components
  - BIA-operated schools and Office of Indian Education Programs
  - Social services
  - . Law enforcement
- Other Federal agencies
  - Centers for Substance Abuse Prevention and Treatment, CSAP and CSAT
  - Administration of Native Americans (ANA), DHHS
  - Administration for Children and Families (ACF), DHHS.

5.3. **Improve Treatment Methods.** Many staff identified “improvement of the treatment program” as a key to improving the success of RTCs. Specific suggestions for accomplishing this are as follows:

**Improve team approach.** Staff at some RTCs complained about a lack of coordinated teamwork among the staff. Improving coordination and cooperation among the staff is likely to improve morale as well as the care provided. At some RTCs, teamwork and client care might be improved by means of improving staffing and case management activities, and consistency in treatment across shifts. Some RTCs do not hold regular, client status meetings to review client goals, progress, critical incidents, and effective approaches for specific clients. Such team meetings should include teachers, a member of the night staff, and adjunct therapists.

**Increase family involvement.** There are many barriers to the involvement of family in treatment at the RTCs. For example, many of the RTCs serve vast geographic areas, and are subject to extremes in weather making travel difficult. In addition, seven of the nine RTCs reported serving clients outside their MS Area. Consequently, post-discharge follow-up and family involvement can be difficult and expensive. Nevertheless, greater family involvement could be facilitated through closer coordination among the RTCs and referring agencies, aftercare providers, schools, tribes, and IHS service units. For example, the technology exists that would permit each RTC to have Internet-based video teleconference capability. Parents and other family could access similar video conference facilities at a local school, service unit, etc. Using Internet-based video, audio, or even electronic mail, family members could maintain contact with RTC clients and staff, obtain progress reports on client progress, and educational materials at little cost.

Family involvement in aftercare planning and treatment could be improved through closer collaboration and coordination between the RTC, the aftercare providers and other resources such as the CHR program. The IHS could develop a post-discharge follow-up protocol involving family visits by the CHR, community health nurse, or other outreach staff. Managed care providers are finding that such post-discharge follow-up activities (e.g., patient education, compliance with prescribed medical regimen, changes in diet and behavior) are both necessary and cost-efficient ways to promote patient compliance, especially with cases involving chronic diseases; and, alcoholism can be viewed as a chronic disease.

**Improve facilities at some RTCs.** Some RTCs are housed in facilities designed for residential treatment of adolescents; other RTCs occupy converted facilities originally designed to serve as an

administrative building, school dormitory, or other use. Residential treatment facilities for adolescents, especially those located in remote areas, need capacities, resources and capabilities lacking at some of the RTCs; examples of facilities some RTCs lack include:

- Laundry facilities to accommodate client personal clothing as well as RTC materials such as bedclothes
- Reliable supply of potable water
- One-way observation rooms
- Audio-video recording equipment
- Kitchen facilities
- Indoor and outdoor recreational facilities such as a basketball court and playing field
- Secure, semi-private areas where families can visit clients
- Secure, semi private areas where staff and clients can “recoup” after stressful encounters
- Adequate and secure storage space
- Sound-proofed individual and group therapy rooms
- Sufficient meeting rooms to accommodate simultaneous “client staffing” by a group of staff, a group meeting involving most of the clients, and a family therapy session
- A room big enough and with adequate seating for all the RTC staff and clients.

An example of the special facility needs of the RTCs is secure storage for any material containing solvents including nail polish and polish remover, floor waxes, laundry products, gasoline, kerosine, foods and flavorings containing alcohol such as vanilla **extract**—all these materials must be stored under lock and key in order to prevent use by chemically dependent adolescents.

**Expand use of mental health professionals.** The United States has a history of some conflict and competition among 1) proponents of self-help groups and professional health care providers in the area of addictions (e.g., AA vs psychiatry), and 2) different disciplines or specialties treating addictions (e.g., psychologists vs psychiatrists vs alcohol counselors). There is an “old saw”-“we may be drunks but we’re not crazy.” Some vestiges of these conflicts and perceptions may exist in the RTCs. Nevertheless, the RTCs are receiving increasing numbers of alcohol and substance abusing clients who also have mental health problems, and the staff are seeking effective approaches for treatment of such clients. Most RTCs could benefit from regular consultation and services from psychiatrists, clinical and developmental psychologists, social workers and others with expertise in adolescent treatment for alcohol and substance abuse, behavioral, and psychological problems.

5.4. Improve **RTC Management Practices.** RTC management practices can often be improved by:

- Support services to staff (e.g., AA counseling for those staff in recovery)
- Stress/burnout prevention (provide counseling, meetings, discussions, review of training sessions to accommodate needs of staff)
- Staff meetings for discussion/problem solving
- Clear direction for treatment and management
- Incorporate families into treatment, and
- Program (overall or individual component) review and evaluation.

6. **Impact of Increased IHS Funding on the Success of the RTCs.** The directors and staff were asked to estimate the impact of increased MS funding. Respondents cited the following positive effects of such increases:

- Enable the hiring of more staff
- Provide recreational and physical education facilities such as basketball courts
- Increase staff training
- Hire staff and consultants with mental health expertise
- Expand aftercare programs
- Fund activities related to family therapy and involvement
- Purchase clothing and personal items (e.g., toothbrush, hair brush) for clients who arrive with “nothing but the clothes on their back”
- Develop or improve transitional housing for clients after discharge.

**7. Impact of Increased IHS Influence on the Success of the RTCs.** RTC staff were asked if increased influence by the IHS would be of benefit to the programs; 36 (27%) of the staff interviewed thought that increased MS influence would be helpful. Sixty two (47.0%) indicated that increased MS influence would not be helpful, and **34 (26%)** were unsure.

## IV. Conclusions

Based on the findings of this study, there are seven conclusions concerning the MS-funded RTCs:

**1. Effectiveness of the RTCs.** The RTCs have developed effective adolescent A/SA programs. The outcomes (treatment completion and subsequent sobriety) achieved by the RTCs are similar to those achieved by other adolescent RTCs in the United States. There is reason to commend the RTC staff, the MS, and tribes who contributed to this achievement.

The evidence of post-discharge sobriety of RTC clients is weak; until better client follow-up is implemented, the post-discharge status of many RTC clients cannot be determined. The needed data include the frequency of use, the number of drugs (including alcohol and tobacco) used, and the pattern of use before and after treatment.

**2. Variability in Effectiveness Across RTCs.** Of the 9 RTCs, 2 have consistently high levels of productivity and performance and 2 have relatively low levels of performance and productivity.

**3. Continuity of Care/Aftercare is the Biggest Problem.** Much is unknown about the care and status of RTC clients after discharge. This lack of information may reflect a lack of services to these former RTC clients. There is little coordination among the RTCs, MS service units, tribal health programs, referral sources, and aftercare programs. This lack of coordination retards effective and efficient delivery of A/SA treatment services. The responsibility and accountability for aftercare requires a network of providers, and coordination and commitment among the MS, tribes, and providers.

**4. RTCs Need Additional Mental Health Staff Resources.** Increasing numbers and percentages of clients with substance abuse, mental health, and behavioral problems require staff with expertise in mental health and developmental psychology. Most RTCs lack adequate mental health resources-both alcohol/substance abuse and mental health care providers at the RTCs need cross-training.

**5. Identification of Clients at Risk of Treatment Failure.** Correlates of treatment completion reported in this study (e.g., severity of life stressors, severity of A/SA, age at admission, client satisfaction, treatment progress, and poor quality charts) can serve as markers for targeting clients at risk of dropping out of treatment. Individualized assessment and treatment planning should include each of the identified correlates of treatment completion.

**6. Client Charting Improvements Needed.** At most RTCs, critical information was missing from client charts. Examples of missing critical information include individual treatment plans, critical incidents in treatment, and discharge plans.

**7. Innovative Ways to Increase Family and Community Involvement Are Needed.** Improved alcoholism and substance abuse treatment strategies for adolescents, their siblings, their families, and communities need immediate implementation. It is impractical for many families to

travel great distances to visit RTC clients and to participate in family therapy, discharge planning, etc. Innovative ways to enable families to participate in these activities are needed.

## V. Recommendations

Based on the study findings, three sets of recommendations are presented.

### A. Improve Continuum of Care for Adolescents with Alcohol and Other Substance Abuse Problems.

The RTCs are an important component, but only one component in the continuum of care needed by alcohol and substance abusing AI/AN youth. Achievement of this end will require a series of initiatives and efforts.

#### 1. Improve A/SA Screening and Case Finding for Children by Health Care Providers.

This study and others show that A/SA began in pre-teen years for almost one-half of the youth served by the RTCs. Screening for A/SA should be incorporated into the health care provided by IHS and the tribes. Sample verbal screens like the “AMP” developed by Bergmann et al. (1980), can be used economically and efficiently. The number of referrals to RTCs from MS/tribal health care providers should rival those received from schools. The early detection and prevention of A/SA can be remarkably cost-efficient when compared to the costs associated with addiction caused by long term A/SA.

A/SA screening at IHS service units should be conducted systematically on most outpatient encounters of children (starting at age 7) and of adolescents. Identification of parental A/SA should trigger efforts to monitor children living at home as being at risk of A/SA. Screening of children for A/SA should become standard operating procedure at schools in response to discipline or academic problems, at courts in response to arrest, and in response to finding parental A/SA.

#### 2. Evaluation, Diagnosis, and Referral of Alcohol and Substance Abusing Adolescents.

As shown in Figure 16, detection of evidence of A/SA during screening should be followed up by evaluation, diagnosis, and referral for the appropriate level of care. Appropriate evaluation and diagnosis was usually found in this study; however, the RTCs need training and support to better serve alcohol/substance abusing adolescents with severe emotional problems.

#### 3. Levels of Alcoholism and Substance Abuse Treatment.

The determination of the degree to which the five levels of A/SA treatment shown in Figure 16 are available was beyond the scope of this study. At a minimum, it is clear that better coordination and communication are needed between the RTCs and the next level of care.

#### 4. Post-Discharge Client Care.

The care needed by RTC clients after discharge is shown at Level IV in Figure 16. As a rule, each of the six components of this level of care are needed:

1. A domicile structured to promote client sobriety. This domicile can be a recovery or half-way house, boarding school, the client’s home, or an independent living arrangement such as an apartment. Whatever the post-discharge living arrangement, it is critically important that the environment be prepared to support the client’s sobriety. The RTCs are forced to discharge clients to return to residing with their family despite the family’s

failure to participate in the client's discharge plan. Special care is needed when there are active alcohol/substance abusers in the home and when the client has a history of physical and/or sexual abuse.

This study revealed major efforts are needed to improve the patient discharge plans and client follow-up after discharge from the RTC.

2. Family education and therapy. Even when the client is discharged to a living arrangement other than with his or her family, the discharge plan should include family involvement, education and, if needed, therapy. Education in A/SA effects and prevention should focus on ways to promote the client's sobriety and to prevent A/SA by the client's siblings.

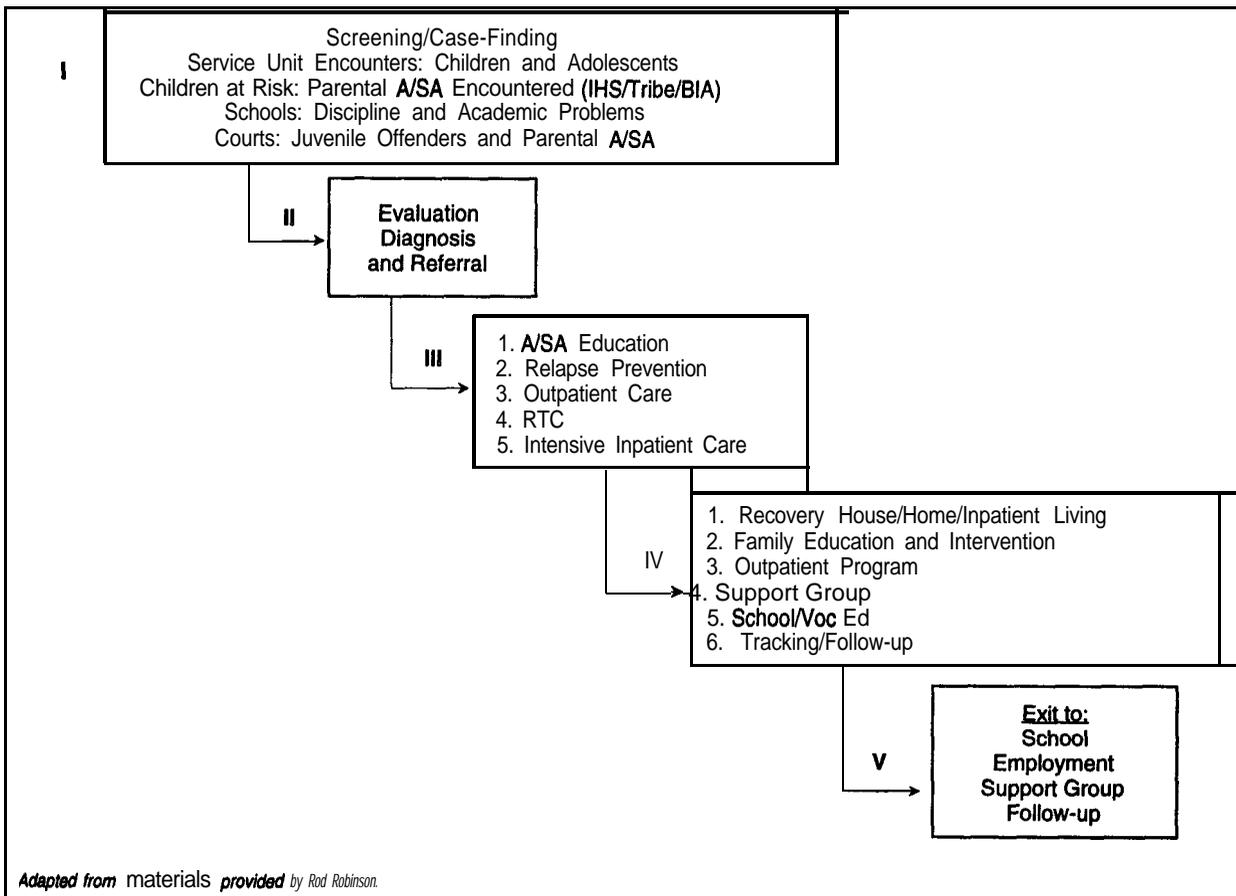
While difficult issues of patient confidentiality are involved, the RTCs should consider providing parents with a videotape suggesting ways of coping with issues identified in the client's treatment and strategies to promote the client's efforts to maintain sobriety after discharge.

3. Outpatient program support group. Sometimes there will be separate outpatient treatment and relapse-prevention support groups; sometimes outpatient treatment and support groups are combined. In any event, mechanisms and procedures are needed to sustain regular communication and collaboration between the RTC and the client's outpatient program.
4. School/vocational education. Most RTC clients have not completed high school. The aftercare plan should include return to school, vocational education, or job placement with continuing education. For such plans to be effective, they should involve communication among the RTC, the client, the client's family and the school, training program or employer. This study was unable to evaluate the educational process in place at the RTCs. The RTCs should systematically incorporate educational data in the client charts so that it can be used by RTC staff and be included in future evaluations. Anecdotal information suggested significant educational progress for youth in treatment including GED completion, admission to college, and returning to school with a positive view of school.
5. Client tracking/follow-up. Only 3 RTCs reported staff positions of either 1) Aftercare or Continuing Care Specialists, and/or 2) Community Outreach Specialists. Such a position is critical in building a base of networking and community outreach to follow-up the clients. Better procedures are needed to follow-up RTC clients for 24 months after discharge. Examples of approaches RTCs could consider include:

- Giving clients a toll-free (800/888) telephone number to use when needing support for sobriety maintenance, and providing staffing needed to support the telephone. Include quarterly calls to the RTC as part of the discharge plan signed by the client.

- Using client tracking or scheduling software to prompt follow-up calls, and letters to former clients.
  - Mailing the RTC clients postage-paid, self-addressed postcards with **easy-to-use** responses describing post-discharge sobriety as well as a request that the client use the toll free number.
  - Systematically contacting parents, aftercare providers (or other contacts provided by the client) of clients who fail to make quarterly contacts after discharge.
  - Post-discharge follow-up should include questions about the frequency and amount of alcohol and substance abuse.
6. Parental Alcoholism and Substance Abuse. If the alcoholic or substance abusing parent is in recovery, he or she can enhance the adolescent's recovery by attending support groups and active involvement in the youth's **A/SA** treatment. Conversely, if a parent is an active alcoholic or substance abuser, the youth's chances of recovery are greatly diminished. Information obtained by the **RTCs** can be helpful in the discharge planning and coordination with treatment programs in the youth's home community. **MS** and the tribes need to develop ways to facilitate discharge planning.

Over 25 percent of the RTC clients are physically **and/or** sexually abused. The **IHS** and tribes should develop ways to ensure the safety of **AI/AN** youth after discharge from the **RTCs**.



**Figure 16. Continuity of Care for Adolescent Alcohol/Substance Abusers**

## B. Improve RTC Effectiveness and Efficiency

The study revealed significant variation in RTC effectiveness and efficiency. It appears that many of the barriers to improved efficiency are associated with insufficient resources and with poor management practices. Because most of the RTCs are operated by tribes or tribal consortia, the impetus for improved management practices must come from the tribes as well as the MS.

**1. Organizational Structure and Communication.** Planned and unplanned, formal and informal communication is critical in a stressful work environment such as an adolescent alcohol and drug treatment program. It is important for staff members to perceive that their views are solicited and respected by management. Some of the RTCs that appeared to be most productive promoted communication and support by:

- Giving staff meetings high priority
- Calling special meetings to deal with challenging problems
- Delaying admission of new clients to permit staff to cope with especially difficult clients
- Conducting a period of review and internal evaluation after each treatment cohort finishes
- Fostering a sense that management is accessible and open to staff suggestions, and

Cl Avoiding unnecessary organizational hierarchy.

2. **Staff Morale.** Those RTCs that appeared to be relatively inefficient and ineffective tended to have low staff morale. Dissatisfied staff complained of favoritism-that some staff were consistently assigned more desirable tasks and schedules, received training, and were treated with greater respect.

3. **Organization of Work.** Some RTCs have started to admit single gender client cohorts, accepting only boys or girls for a particular treatment session. Other RTCs take a break by delaying the acceptance of new clients so that the staff can recover from traumatic events such as a client suicide attempt or physical attack on staff. Each RTC was developed in response to the needs of youth in their area and continue to evolve to better match the needs of adolescents with resources and staff capabilities. Creative solutions should be encouraged and individualized at each RTC based on evaluation findings and integrated into quality improvement efforts.

4. **Screening Clients for Special Problems.** Some RTCs reported that clients with major inhalant abuse problems and FAS clients present especially challenging problems, and that limiting the number of such clients at any given time decreases disruption to the program and improved treatment for other clients. Each RTC should screen for inhalant abuse and FAS/FAE as part of the client intake process. The IHS should conduct a special review of the treatment provided to and the progress made by FAS/FAE clients. This special review should include a recommendation concerning the referral of such clients to other facilities or to an RTC specializing in the care of FAS/FAE clients.

Intake screening should identify clients with the greatest risk of dropping out prior to treatment completion-clients with the most severe A/SA problems. This screening should be supplemented by regular chart reviews to identify clients with the other drop-out risk factors-clients who fail to make progress, dissatisfied clients, and clients with incomplete charts.

5. **Staff Training.** Across all RTCs, staff expressed a desire for more training, acknowledging the need for special training in areas such as dealing with physically or sexually abused clients, clients with acute emotional or psychiatric problems, and violent clients. Additional training in these areas could increase staff confidence, reduce anxiety, and improve the quality of care provided. The description and review of successful RTC practices could be a valuable component of the training program.

6. **Better Case Management.** On a regular basis, not less than every 7 days, staff should review the status of each client. These reviews should include input from the teacher, night staff, and adjunct therapists (art, occupational, recreational, etc.), and others with needed information. These status reviews should include evaluation of the client's risk of dropping out of treatment and short term plans and goals, and should be kept in the client chart.

The client status reviews should include discussion of critical incidents (e.g., suicide attempts, premature discharge-a discharge followed by prompt re-admission, client AWOL, etc.) that occurred during the review period. Review of critical incidents should focus on improving understanding of the factors that gave rise to the incident.

**7. Assist in Securing Transitional Housing.** Upon discharge from the RTCs, some clients return to a problem family setting which offers little or no support for maintaining sobriety. The provision of transitional housing integrated with the aftercare plan could benefit the client, his/her family, and community. This housing could be jointly provided by the IHS and the tribe, or by the tribe in conjunction with other programs designed to strengthen families. Group homes/transitional living facility services could also be coordinated with Job Corps, vocational training, and other services.

If the alcoholic or substance abusing parent is in recovery, he or she can enhance the adolescent's recovery by attending support groups and active involvement in the youth's substance abuse treatment. Conversely, if a parent is an active substance abuser, the youth's chances of recovery are greatly diminished. Information obtained by the RTCs can be helpful in the discharge planning and coordination with treatment programs in the youth's home community. IHS and the tribes need to develop ways to facilitate discharge planning.

Over 25 percent of the RTC clients were physically and/or sexually abused. The IHS and tribes should develop ways to ensure the safety of AI/AN youth after discharge from the RTCs.

**8. Provide Technical Assistance to RTCs with Poor Performance and Productivity.** The RTCs with low percentages of clients completing treatment, poor client charting, and other problems should receive additional assistance--the nature of the problems should be identified and plans for remediation developed. It is acknowledged that this retrospective study reflects client data more than 2 years old. Any improvements made as result of evaluations of individual RTCs or other initiatives cannot be reflected in the client data analyzed and presented in this study.

**9. Improve Client Charting.** At the time period studied (1/1/93 - 5/30/95), the quality of charting was in need of significant improvement, especially at four RTCs. At a minimum, these RTCs should review their policies, procedures, and forms related to charting with emphasis on effective description of the client's treatment progress, performance in school, satisfaction with the program, and A/SA after discharge. IHS emphasis on counselor certification and clinical supervision should address these charting issues.

**10. Increase Promotion of Family Involvement in Client Treatment.** This evaluation revealed that family involvement was associated with treatment completion, LOS, and quality of charting. The positive effects of family involvement occurred even when such involvement was restricted to telephone contact. The RTCs can further facilitate family involvement by providing toll free telephone numbers to the client's family and by providing access to teleconferencing and videoconferencing through the Internet in collaboration with the tribes and IHS service units. *IHS staff felt this to be one of the most important recommendations of this study.*

**11. Utilize Successful Approaches.** Those RTCs in need of T/TA for improved effectiveness could benefit from reviewing successful practices developed by other RTCs.

One RTC in this study (#7) was found to have a significantly higher treatment completion rate combined with a short LOS, good charting, client progress, and client satisfaction. IHS should consider the degree to which the approaches used by this RTC and other RTCs can and should be

adapted by other programs. RTC Directors repudiated the focus on this single program on several grounds including the unique nature of each program. In general, **IHS** should consider promoting successful practices developed by any RTC in ways similar to the “model schools” program developed by the U.S. Department of Education.

**12. Improve Screening and Treatment of Abused Children and Adolescents.** Special efforts are needed to identify physically and/or sexually abused youth and to provide the special therapeutic services needed by these youth. The MS should maintain and expand efforts to coordinate efforts with the tribes and the **BIA** in serving abused children and adolescents.

## **C. Improve RTC Self-Evaluation**

The more efficient and effective **RTCs** systematically collect and use client satisfaction, post-discharge, and peer-evaluation data. Some RTC staff seemed to be skeptical about the ability of adolescent alcohol and substance abusers to give unbiased and reasonable evaluations of the RTC programs and staff. Nevertheless, soliciting such information from clients can be part of the therapeutic process. Assessment of client satisfaction and improvement of client satisfaction are central to the improvement of the performance of organizations in the public and private sectors. There is no reason for **RTCs** to be excluded from these initiatives.

By radically improving the systematic collection of post-discharge information on client sobriety, employment status, educational attainment and plans, the **RTCs** can obtain feedback on what seems to work and what does not. Equally important, such information collection and exchange can be part of a systematic improvement in the coordination and collaboration among the stakeholders in youth **A/SA** treatment and prevention in Indian Country.

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## Appendix 1. Composite Variables

This Appendix describes the six composite variables that were computed for each of the 407 RTC clients in the analysis database. Each of the composites was assigned an initial value of 10; this initial score was modified as described below. Table A1 presents measures of central tendency (e.g., mean, median) and dispersion for each of the composite variables.

**1, Treatment Progress Composite.** The composite measure of treatment progress is based on the following computations:

- Participated in development of treatment plan (Client Guide item 29).** If the client was reported as participating in his/her treatment plan, 1 point was added to the treatment progress composite.
- Problems reported in chart (Client Guide item 34).** If the chart indicated the client had a problem with discipline, aggression, peer relations, or other areas, points **were** subtracted from the treatment progress composite-1 point was subtracted for a low level problem, 2 points for a moderate level problem, and 3 points for a severe problem. If no problems were reported in the chart, then no points were subtracted from the treatment progress composite. A maximum of 12 points could be subtracted for problems reported (4 types of problem with a severity level of 3 each).
- A/SA detected at RTC (Client Guide item 38).** If no A/SA was reported, the treatment progress was increased by 1 point; if A/SA was reported, the composite was decreased by 1.
- Type of Discharge (Client Guide item 43).** If the chart indicated the client completed treatment and all treatment goals were achieved, 2 points were added to the composite; if the client completed treatment with partial achievement of treatment goals, 1 point was added. If the client withdrew **ASA**, went AWOL or was discharged for rule violation, 2 points were subtracted from the composite.

Treatment progress scores ranged from -1 to 14 with a mean of 8.2. It is important to note that the treatment progress composite does not indicate the timing of a client's progress (or the behaviors indicating a lack of progress). For example, it is possible for two clients to have the same or similar scores on treatment progress, but one client could manifest problems near the beginning of treatment, and the other client could manifest problems near the end of treatment.

**2. Severity of Life Stressors Composite.** One point was added to this composite for each of the 15 life stress components in item 16 of the Client Guide. Examples of life stress components include family substance abuse, physical abuse, sexual abuse, death of a parent, etc. Severity of life stressors scores ranged from 10 to 21 with a mean of 13.8.

**3. Severity of Alcohol/Substance Abuse Composite.** Item 20 of the Client Guide lists 11 types of substances commonly abused (e.g., alcohol, marijuana, tobacco, etc.), 4 levels of frequency of use (episodic, monthly, weekly, daily), and 3 levels of intensity (highly, mildly, and lightly intoxicated). For each substance used by the client, the severity of substance abuse composite was increased by the product of frequency and intensity. Severity of alcohol/substance abuse scores ranged from 0 to 60 with a mean of 13.4.

**4. School Problems Composite.** This composite variable has 5 components described below. One point was added to this composite if the client record indicated:

- Referral to the RTC was made by client's school (item 9 on Client Guide);
- Cl School disciplinary problem reason for referral (item 10 on Client Guide);
- Academic failure cited as life stressor (item 16 on Client Guide);
- School information (item 26 on Client Guide) indicated that the client had been suspended, expelled, or had other discipline problem;
- Clients academic performance was reported as "mostly Ds and Fs (item 27 on Client Guide).

**5. Physical Health Problems Composite.** One point was added to this composite when the following components were reported in the Client Guide:

- A medical problem at admission was reported on item 13 (1 point each);
- Miscarriage reported as a life stressor;
- If a general medical condition was reported on Axis III of the DSM-III in 'item 6.

**6. Quality of Charting Composite.** One point was subtracted from this variable for each key item missing from the client's chart:

- Cl Missing forms/data in the client chart—1 point was subtracted for each of the 15 items (e.g., application, intake form, history, etc) as reported on item 11;
- Reason for referral not charted (item 10) resulted in subtraction of 1 point;
- Self-identification of A/SA problems (item 12);
- Cl History of substance abuse (item 20);
- Information on the treatment plan (item 28);
- Relationship among problems identified and treatment plan (item 30);
- Cl Poor quality of chart data (item 3 1);
- Cl Treatment information (item 32);
- Primary counselor assignment missing or unrelated to client needs (item 36);
- Individualized educational plan late or missing (item 39);
- Post-discharge sobriety missing/not charted (item 43).

It is important to note that scores on this composite can easily be negative. Low scores indicate that key data is missing from the client's chart; the lower the score, the more key data are missing. Whether the missing data indicate poor quality of care, poor charting, or both is unclear.

**Table A-I. Overview of Statistics on Composite Measures**

Statistic	Composite Measure					
	Treatment Progress	Severity of Life Stressors	Severity of Substance Abuse	School Problems	Physical Health Problems	Quality of Charting
Minimum	-1.0	10.0	0.0	10.0	10.0	-17.0
Maximum	14.0	21.0	60.0	16.0	14.0	10.0
Median	9.0	13.0	12.0	12.0	10.0	0.0
Mean	8.2	13.8	13.4	12.0	10.6	-0.2
SD	3.8	2.1	12.8	1.5	0.8	5.6

*SOURCE: Client Charts*

## Appendix 2. RTC Profiles

This Appendix presents a brief summary of each of the nine RTCs involved in this study. The summaries are a compilation of 1) information from the RTC Directors, 2) secondary information provided by the RTCs, and 3) information from the teleconference summaries conducted early in the study. For simplicity, the RTCs are arranged alphabetically and **do not** correspond to the numerically assigned numbers for the RTCs in the body of this report. The profiles reflect data collected during, and prior to, the site visits and do not reflect changes made by individual RTCs since that time.

### 1. Desert Visions

**A. Mission.** Desert Visions is dedicated to breaking the cycle of addiction and restoring hope and wellness to AI/AN adolescents. It is designed to meet the spiritual, cultural, physical, and emotional needs of the chemically dependent AI/AN adolescents admitted for treatment.

**B. Treatment Philosophy.** Desert Visions views chemical dependency as a disease. The treatment program is based on a holistic, multidisciplinary approach which utilizes **12-step** AA and adventure based counseling. Each client is provided individualized treatment in a culturally sensitive context. Every effort is made to incorporate the cultural needs of the 45 tribes served by the RTC.

**C. Background.** Located in Sacaton, AZ, this RTC was established in 1994 and is located on the Gila River Reservation, near Phoenix. When this study began, this RTC was operating under a different name-Phoenix/Tucson RTC-and was undergoing difficulties which resulted in the temporary closing of the facility. It reopened in 1995 under the name of Desert Visions, at the same location, with some turnover in staff. The facility is a renovated college.

The client sample for the study was drawn from the client population that received treatment under the previous name and administration. Desert Visions is operated by the **IHS** in cooperation with the Intertribal Council (ITC) of Arizona.

**D. Treatment Program.** The treatment program is a culturally-based 12 step approach which operates in accordance with MS Chapter 18. Gender specific cohorts are scheduled in separate **8-week** cycles. Program components include individual and group therapy, family therapy, and cultural/traditional activities. Individual treatment plans are developed to meet the needs of the adolescents served. Desert Visions operates a 60 day treatment in a 24 bed facility for AI/AN youth aged 12 to 18.

**E. Staff.** At the time of the site visit, the Director has been on the job for only a few days; the previous Director was unavailable for interview. There were 25 staff on board, 8 of whom were interviewed. The staff positions at the time include:

- CI Program Director
- Budget Analyst
- CI Secretary

- Receptionist
- Treatment Supervisor
- Teacher
- Art Therapist
- Counselor Technician (5)
- Nurses (3)
- Medical Records Clerks (2)
- Cook (2)
- Food Service Worker
- Maintenance Supervisor
- Maintenance Helper
- Housekeepers (2)
- Security Guard.

**F. Special Circumstances.** During the first months after opening in 1994, there were staffing problems; some of the staff positions were adapted to meet the mental health and special needs of the adolescents. In addition, meeting staffing needs for week-ends and night coverage has been difficult. Staff turnover has been a problem.

Family involvement in treatment is difficult to achieve because of the wide geographic area and number of tribes (45) served. It is difficult for family to travel to participate in treatment. Because of the diversity of the tribes served, the cultural component has been challenging.

## 2. Four Corners

**A. Mission.** The mission of the Four Corners RTC is to provide a blend of western and culturally relevant services to Native American youth and their families by promoting a holistic, drug free life style. Enrolled Navajo youth have priority in admissions.

**B. Treatment Philosophy.** Four Corners uses the biopsychosocial approach to treatment. The program provides services utilizing a holistic approach, with integration of Navajo and Native American traditional values and ceremonies. The mental, social, emotional, physical, and spiritual aspects of the clients are addressed, and a strong emphasis is placed on family involvement.

**C. Background.** Located in Shiprock, NM, Four Corners was established in 1989. Four Corners operates the RTC under contract to the Navajo Nation, which receives the funding from the MS. The RTC primarily serves the MS Navajo Area. The Four Corners RTC is a non-profit organization with a 501(c)(3) status under the IRS, and it is accredited by JCAHO. In 1993, the treatment program was extended from 60 to 90 days.

**D. Treatment Program.** Four Corners operates a 90 day treatment program in a 24 bed facility for Native Americans in the age range of 12 - 19. The treatment program has a variety of components including dependency treatment; chemical dependency education; academic services; health education; counseling (individual, group, and family); life skills development, assessment & evaluation; cultural awareness education; **aftercare/recovery** planning; adventure based/ropes course,

etc. Treatment services include the integration of Native American cultural activities to meet relevant cultural needs of the target population being served.

**E. Staff.** At the time of the evaluation site-visit, the Four Corners RTC reported the following staffing positions:

- Chief Executive Officer
- Bookkeeper
- Clinical Director
- Senior Counselor
- Primary Counselors (5)
- Education Specialist
- CI Executive Secretary
- CI Secretary
- CI ABC Counselor
- CI Counselor Aide (9)
- Night Attendant (4)
- Housekeeping
- Maintenance
- Intake
- Nurse.

**F. Special Circumstances.** The RTC is located on the Navajo Reservation. Some respondents indicated that at admissions, referral sources sometimes “dump on” the RTC, making inappropriate referrals, such as psychiatric patients.

### 3. Graf Healing Place-FNA

**A. Mission.** The overall goal of the Graf Healing Place is to assist AI/AN youth who are chemically dependent, addicted, or abusing, and to learn a set of skills which will enable them to remain drug and alcohol free. In addition, the youth are assisted in learning to better manage their emotional and behavioral responses to life’s problems.

**B. Treatment Philosophy.** Graf Healing Place believes that individuals initially become involved with drugs or alcohol for a variety of reasons: To escape painful family environments; to be accepted by peers; as a form of rebellion; or as a response to personal feelings of inadequacy. As the dependency on mood altering substances develops, the individual and family have to cope with a series of failures brought about by the substance involvement. The program believes that to effectively intervene in the progressive deterioration of the individual and family, it is necessary to treat the entire family, providing each member with the knowledge of how substance abuse affects family relationships. This is accomplished through providing examples and strategies developed by other families.

**C. Background.** The Graf Healing Place is governed by the Fairbanks Native Association. Rehabilitation services are provided for youth ages 12 to 18 years, serving equal numbers of males and females. Ninety percent of the youth are Alaska Native and the other ten percent are white or

black. This is the result of a funding arrangement with the State of Alaska in which the RTC accepts a restricted number of State referrals. Seventy percent of the youth come from outside the Greater Fairbanks area, many from remote villages. The facility is a new 10,000 square foot building located in Fairbanks designed to serve as an adolescent RTC. It is designed for 24 beds in a co-ed setting.

**D. Treatment Program.** The Graf Healing Place program is based upon the 12-step model of recovery. All residents are expected to participate in the treatment components of individual and group counseling; recreation; physical exercise; arts and crafts; education assistance; cultural awareness; specialty groups (e.g., grief, loss, anger management, family dynamics); and life skills development. The treatment program ranges from **30- 120** days.

**E. Staff.** At the time of the site visit, the staff positions included:

- Cl Director of Youth Services
- Cl Administrative Assistant
- Clerk Typist I/Receptionist (2)
- Cl Clinical Supervisor
- Intake Coordinator
- !J Counselor II
- Counselors I(2)
- Counselor Trainee
- Youth Care Worker Supervisor
- Youth Care Workers (8)
- Resource Teacher
- Cook II's (2)
- Cl Maintenance.

**F. Special Circumstances.** Graf Healing Place is one of the two **RTCs** in the Alaska Area. The vast geographic area served brings a unique set of challenges to the RTC. For example, family involvement is difficult due to the expense of travel and long distances from the RTC to many villages.

#### **4. Healing Lodge of the Seven Nations (ITC Spokane)**

**A. Mission.** The Healing Lodge of the Seven Nations utilizes a holistic and traditional American Indian approach for treatment of chemically dependent youth. The treatment module provides paths by which youth are empowered to make choices that will assist them to become more productive members of society. The Healing Lodge utilizes a strong team approach which includes positive “role modeling” and provides a caring environment in which youth are able to recover in a spirit that comes from the heart.

**B. Treatment Philosophy.** The Healing Lodge follows the **12-step** approach to treatment. Youth are expected to fully participate in chemical dependency lectures, group therapy, self-enhancement groups, relapse prevention groups, recreational development, school, cultural and spiritual activities and many other treatment related activities. To the degree possible, the Healing Lodge also tries to address other issues related to chemical dependency such as anger management, behavioral and

abuse issues. The program invites and encourages family members to participate in their child's treatment as much as possible. Housing is provided on site for families when visiting and participating in the program.

**C. Background.** The Healing Lodge of the Seven Nations is governed by seven tribes east of the Cascade Mountains: Colville, Kalispel, and Spokane Tribes in Washington; Nez Perce, Kootenai and Coeur d' Alene Tribes in Idaho; and the Umatilla Confederated Tribe of Oregon. Primary funding is provided by the MS, with additional funding provided by the State of Washington Department of Alcohol and Substance Abuse. Formerly known as the "Inland Tribal Consortium," the Healing Lodge recently relocated to a newly constructed treatment facility located on the outskirts of Spokane.

**D. Treatment Program.** The Healing Lodge is a 45 bed facility for AI/AN adolescents. Male and female adolescents in the age range of 13 to 17 years old are served through a 60 to 90 day treatment program. The focus of the program is to provide AI/AN adolescents with an inpatient treatment process and establish aftercare planning for the patients and their families. The Healing Lodge provides a family therapy component which enables families to join their child for 5 to 7 days during the treatment process. The program is based on the 12-step principles of recovery as well as a cultural component. The Healing Lodge is also a nicotine-free facility.

While at the Healing Lodge, AI/AN youth engage in the following treatment components: chemical dependency lectures; group and individual therapy; educational activities; life skills instruction; recreational therapy; family therapy; cultural relevant therapy; parenting skills; and, aftercare planning.

**E. Staff.** At the time of the site visit, the staff positions included:

- Administrative Director
- Administrative Assistant
- Lead Accountant
- Accountant
- Receptionist
- Treatment Coordinator
- Admission/Discharge
- Secretary/Data Entry
- Recreation/Physical Education
- Education Specialist
- Nursing Service Director
- Assistant Nurse
- Counselors (7)
- Patient Aides (25)
- Food Services Coordinator
- Food Service Worker (4)
- Housekeeping Supervisor
- Housekeeping (2)
- Plant Engineer
- Lead Mechanic.

**F. Special Circumstances.** The Healing Lodge of the Seven Nations recently relocated to a newly constructed facility built by the MS through special appropriations from Congress. This new facility was designed specifically for inpatient treatment of **Indian** adolescents.

## 5. Jack Brown

**A. Mission.** The mission of the Jack Brown RTC is to serve Native American youth with substance abuse problems by providing opportunities for education, and/or mental, spiritual, emotional and physical growth through treatment. The Jack Brown RTC strives to provides youth with a sense of cultural identity; a safe environment while building their self-confidence and enhancing their life skills; and support for communities in their efforts to prevent substance abuse in future generations.

**B. Treatment Philosophy.** Jack Brown views chemical dependency as a family disorder requiring a holistic approach to treatment; family participation is required. Dual diagnosis is addressed as part of treatment. Jack Brown RTC believes that adolescents are capable of having a primary, progressive and chronic disease such as alcoholism, but they do not treat their residents as “little adults;” they have developed a program that includes family and parental involvement, education, recreation, and cultural activities.

**C. Background.** The Jack Brown RTC is funded by the MS and is administered by the Cherokee Nation. The goal of the RTC is “to provide a comprehensive and educational program designed to produce healthier, self-management outcomes in prevention, stress reduction, and abstinence from chemical abuse and dependency among American Indian Youth.” Established in 1988, it is named in honor of the former Sequoyah Boarding School Superintendent and benefactor, Mr. Jack Brown. The RTC is located adjacent to the Sequoyah Boarding School, in buildings on the school campus.

Clients at Jack Brown are integrated into the Sequoyah regular school system. The sample of clients from Jack Brown represented 13 different states, **5** of which were outside the Oklahoma Area. Many youth are dual diagnoses and require highly trained and certified staff. It has been hard to hire and maintain enough staff to meet the needs of the clients at Jack Brown.

**D. Treatment Program.** Jack Brown RTC provides a self-contained program of chemical dependency education and counseling, academic, recreational, psychological, and cultural treatment approaches and components. In addition, art therapy has proven to be an effective treatment approach. The program is designed to assist adolescents in developing lifestyles which will allow them to grow into healthy, well-functioning citizens. Individualized treatment plans are developed through a collective treatment planning process implemented by members of a multidisciplinary team.

The Jack Brown RTC is a 20 bed, co-educational facility which serves adolescents in the age range 13 to 21. The average length of stay is 120 days.

**E. Staff,** During the period of the site-visit, the following staffing positions were reported at Jack Brown:

CI Program Director

- Assistant Director/Treatment Coordinator
- Residential Manager
- Administrative Assistant
- Secretary
- Clerk Typist II
- Custodian
- Lead Substance Abuse Counselor
- Substance Abuse Counselor II
- Substance Abuse Counselor I
- Behavioral Health Clinician
- Art Therapist
- Recreation Specialist
- Outreach Coordinator
- Aftercare Coordinator
- Nurse (25%)
- Teacher (50%)
- Lead** Substance Abuse Technicians (3)
- Substance Abuse Technicians (18).

**F. Special Circumstances.** The location of the Jack Brown RTC on the Sequoyah School campus provides unique dynamics for adolescents at this RTC; they are incorporated into the general student population for their academic program. Many students from outside the Oklahoma City area continue as boarding students at Sequoyah after completing treatment at the RTC. The facility is located in converted administrative buildings not designed to house an adolescent RTC.

## 6. Nanitch Sahallie

**A. Mission.** Nanitch Saballie is dedicated to providing quality treatment for chemically dependent AI/AN youth and their families.

**B. Treatment Philosophy.** The treatment philosophy of **Nanitch** Sahallie is based on Native American traditions and focuses on healing the individual through a holistic approach. This approach empowers youth to make choices that will allow them to lead happy, healthy, productive lives and maintain sobriety. These services are provided through team unity, dedication, and the strength of their multidisciplinary staff.

**C. Background.** **Nanitch** Sahallie, in the Chinook dialect means “to look upward.” The program began in 1989 by serving AI/AN youth referred through the II-IS Portland Area Office. **Nanitch** Sahallie is a division of the Confederated Tribes of Grand Ronde which operates a tribal contract from the IHS. The RTC director is a Division Manager under the tribe and is responsible for the day to day management of the program.

The Confederated Tribes of Grand Ronde is comprised of over 5 tribal bands from the western Oregon and northern California areas. The tribe was “terminated” in 1954 under the Termination Act and spent the next 30 years seeking to re-establish Federal recognition and to maintain tribal

communities. In 1983, the Grand Ronde Restoration Act restored tribal status and recognized the tribal confederacy. In 1988, lands were restored for the tribe. Today, there are 2,700 people enrolled in the Confederated Tribes of Grand Ronde Indians.

The **Nanitch Sahallie** program is housed in an attractive building, formerly a nursing home, located on a busy street in Keizer, Oregon. The program has achieved accreditation from CARF. The program has served a large number of youth since its inception, and has evolved to meet the needs of Indian adolescents,

**D. Treatment Program.** The **Nanitch Sahallie** program recently changed its treatment approach from one which served co-ed groups with rolling admissions, to one which now treats gender specific cohorts, alternating between male and female groups. Overall, the staff at **Nanitch Sahallie** praise this latest change and report fewer problems as a result of the gender-specific approach. Treatment sessions are 8 weeks each, with time in between each session for staff debriefing and training. All admissions occur at the same time and the adolescents move through the treatment program as a group. The treatment is individualized, and the clients are encouraged to come back to treatment if needed.

The program is based upon a 12-step approach to recovery; youth are expected to complete the first 5 steps. Treatment services include group therapy, one-to-one counseling, family week, support groups, recreation, cultural, and educational components. Clients are also introduced to anger management, relationships, smoking cessation, and other life skills necessary to a productive and happy life. While the facility is licensed to accept 20 residents at a time, the staff have set a limit of 20 adolescents as the maximum number which can be served adequately with existing staffing levels.

**E. Staff.** At the time of the site visit, the staff positions included:

- Division Manager (RTC Director)
- Treatment Coordinator
- Quality Care Coordinator/Intake
- Administrative Assistant
- Division Secretary
- Maintenance/Housekeeper
- Housekeeper
- Education Coordinator
- Education Assistant
- Food Services Coordinator
- Food Services Assistant
- Cooks(2)
- CD Counselors (5)
- Counselor Technicians (8)
- Cultural Specialist
- Native American Elders (2), proposed
- Psychologist (on contract)
- Psychiatrist (on contract).

**F. Special Circumstances.** The location of the facility has been identified as a constant problem, as the busy street provides many distractions and opportunities for negative behavior for the youth served. Plans are underway to examine options to relocate the facility to a more remote, natural, setting.

## 7. New Sunrise

**A. Mission.** New Sunrise recognizes that substance abuse is a treatable illness and a social problem. The Center provides quality care through a range of culturally relevant multidisciplinary services for Native American adolescents who require a more structured level of care than that found on an outpatient basis. New Sunrise is a part of a continuum of care and a system of service providers within communities, tribes, MS, and the State. It provides a family and community coordinated treatment approach, focusing on discharge planning and relapse prevention throughout the course of treatment.

New Sunrise is committed to the physical, emotional, mental, and spiritual health of the communities and works in partnership with the community-based and tribal agencies in promoting and advocating for the well-being of Native American adolescents.

**B. Treatment Philosophy.** New Sunrise has adopted the biopsychosocial model of addiction. They provide a holistic treatment approach for adolescents and their families, embracing the 12-step philosophy of recovery. Residents are involved in support groups and engage in AA step work while in treatment. Chemical dependency services include topics on survival and maladaptive behaviors, the disease concept and process of addiction, addictive personality, social skills enhancement, problem solving, decision making, and relapse prevention. Family involvement is emphasized and on-site residences are available for short family stays to encourage participation in the treatment program. Family education focuses on roles, rules, communication, and interaction of family members. Other topics include assertiveness, co-dependency, and child of alcoholics (COA) concepts.

**C. Background.** Located in San Fidel, NM, New Sunrise is a division of the Acoma-Canoncito-Laguna IHS Hospital. As such, this program is MS-operated. New Sunrise is accredited by JCAHO. The program occupies two residential buildings on the IHS Service Unit campus. The building for males includes two units with a total of 14 beds; one unit has 8 beds, including a **handicapped-accessible** room. Food services are provided at A-C-L Hospital by the Dietary Department by a registered **dietician**. Residents receive their meals in the hospital dining room.

**D. Treatment Program.** Upon admission, an initial treatment plan is developed to assist the resident with orientation to the unit; within 72 hours, a preliminary treatment plan is developed. Multidisciplinary assessments are completed, and within 10 days a master treatment plan is developed which addresses the problems identified through assessments and includes problems identified by the adolescent, his/her parents, and the referral source. The plan includes problems identified, goals and objectives, interventions, and estimated time frames; it is reviewed every other week throughout treatment. Interventions include a range of treatment and education services. The treatment components include the following: Assessments, chemical dependency education and counseling, educational services, family therapy and education, recreational/leisure therapy,

psychological counseling and psychotherapy, nursing/medical services, support groups, **cultural-traditional** awareness, social skills and therapeutic community, and aftercare services.

**E. Staff.** At the time of the site visit, the staffing positions at the New Sunrise were reported as follows:

- a Division Director (RTC Director)
- Psychologist
- a Supervisory Social Worker/Family Therapist
- Social Worker
- Chemical Dependency Counselors (2)
- Education Specialists (2)
- a Recreation Specialist
- Supervisory Nurse Specialist
- Nurse specialist (2)
- Licensed Practical Nurses (3)
- a Supervisory Social Services Assistant (2)
- Social Services Assistants/Aides (18)
- Intake/Aftercare**
- Community Intervention Specialist (2)
- Program Secretary
- Clerk/Typist (2)
- Medical Records Clerk
- Data Entry Clerk
- a Housekeepers
- Billing Clerk
- a Psychiatrist (on contract/one day a week).

**F. Special Circumstances.** New Sunrise is administratively affiliated with the **IHS** Service Unit. The clients use the MS hospital cafeteria for meals.

Problems encountered in the achievement of treatment goals include the lack of parent and community involvement. To overcome these problems, the RTC proposes to interface more with community aftercare counselors. The parents are now required to participate in the intake process, and staff can use direct contact with the parents instead of going through the **aftercare** counselor.

### a. **Raven's Way**

**A. Mission.** The mission of Raven's Way is to provide quality, effective treatment and education for Alaska Native youth **with** substance problems, such **that they** gain insight into the nature of their abuse and skills that empower them to achieve sobriety and meet life goals.

**B. Treatment Philosophy.** Raven's Way believes in the biopsychosocial model of addiction. They believe that group treatment is more powerful than individual therapy during substance abuse treatment. Raven's Way believes that there are multiple methods of treatment and that no one

method should be used with Alaska Native youth to the exclusion of all others. They use the multi-modal approach under the belief that adolescents respond differently to treatment approaches.

Raven's Way uses an eclectic blend of traditional and nontraditional treatment components including the 12-step process, individual and group therapy, AA meetings, drug education, and aftercare planning. In addition, Native components such as Talking Circles, sweat lodge, respect for traditional spiritual beliefs, drumming, use of sage and cedar for cleansing, respect for traditional beliefs, and crafts are components of the treatment approach. A vital component of their treatment program includes self-esteem building and experiential education techniques such as ROPES/challenge courses, wilderness expeditions and solo experiences.

**C. Background.** Located in Sitka, AK, Raven's Way was established in 1989; it is funded by the MS and operated under the Southeastern Alaska Native Regional Health Corporation (SEARHC). SEARHC is a non-profit corporation governed by a board composed of 21 members, each elected from the 21 local Native communities. There is a vast geographical service area served by this program. The full board meets just twice per year; however, a number of committees meet more frequently throughout the year. Raven's Way has received accreditation from CARP.

**D. Treatment Program.** The most unique feature of the Raven's Way treatment program is that adolescents are treated in distinct cohorts, moving through the treatment process together for 45-60 days. Approximately 10 adolescents move through the treatment program at a time. The age range for adolescents served is 13 to 18 years of age. While the adolescents share many of the same experiences, each is provided a unique individualized treatment plan. All participants must be involved in group therapy, individual counseling, drug education, academic program, AA meetings, and assigned house chores. Individualized plans will also address outdoor expeditions, cultural activities, crafts, ceremonies and other activities. The outdoor challenge activities are held during the final half of the treatment program and can include group and solo challenges such as a high and low ROPES course in Sitka and Biorka Island, and a wilderness challenge expedition that may involve kayaking, hiking, and climbing.

**E. Staff.** Raven's Way is staffed by 18-20 individuals who are committed to the philosophy and treatment approach of the program. At the time of site visit, the following positions were reported:

- Program Coordinator (Director)
- Support Services Supervisor
- Purchasing/Logistics Coordinator
- Clerical Assistant
- Living Skills Specialists (2)
- Youth Worker Supervisor
- Youth Workers (3)
- Adolescent Therapist
- Acting Social Worker
- Raven's Way Intern/Volunteer
- Wilderness Expedition Specialist
- Wilderness Expedition Supervisor
- Intake Specialist
- Continuing Care Specialist

☐ Behavioral Health Director.

**F. Special Circumstances.** The vastness of the geographic service area cannot be overstated. The program serves Alaska Native youth from all across Alaska and from many remote Alaskan villages. While it is significant to note the difficulty in following-up youth from remote areas, it is also important to point out that Raven’s Way had successfully followed-up **100%** of those youth served by the program who were in the survey sample for this evaluation.

## 9. Unity

**A. Mission.** Unity is dedicated to breaking the cycle of addiction and to restoring hope and wellness to Native American youth.

**B. Treatment Philosophy.** The philosophy of Unity RTC entails the belief that chemical dependency is treated as a disease through a holistic, multidisciplinary approach. Unity builds upon the 12-step approach to addictions, by adding cultural components and adventure based counseling. The adolescent is treated with dignity and respect while receiving individualized treatment in a culturally oriented environment. Unity also believes that chemical addiction is a disease which affects the entire family, and seeks to incorporate family counseling and therapy for each adolescent and his/her family or surrogate family.

**C. Background.** Located in Cherokee, NC, Unity is operated by the MS, and serves primarily the tribes and Indian communities of the Nashville Area of MS. Unity was established in October of 1989, and is currently accredited, “with commendation,” by JCAHO.

**D. Treatment Program.** Unity provides long-term treatment. A minimum of 4 months (120 days) is planned to complete the intensive residential treatment program. Unity also incorporates family involvement as a key component to the treatment program. Regular family weeks for patients and family members are sponsored as a time for education, sharing, personal growth and discharge planning. Unity strives to place the client into an appropriate level of care after treatment, and relapse prevention.

Treatment components include individual and group counseling, CD education, AA **12-step** approach, adventure outings, cultural education and activities, medical assessments and care, and continuing care.

Unity is a 16-bed facility which provides treatment in a co-ed setting, usually serving 8 males and 8 females at a time. A client is eligible for services at Unity if he/she is between the ages of 13 and 18 years of age, and enrolled in a Federally recognized tribe.

Educational support is provided in-house by an Educational Specialist. Staff keep in close contact with the individual instructors from the clients home school and also provide clients the opportunity to meet requirements for the General Educational Development (GED) test and other competency exams. Outdoor adventure and ROPES activities are provided as a component of the treatment program.

**E. Staff.** At the time of the evaluation site-visits, the Unity RTC employed staff in the following positions:

- a RTC Director
- Administrative Officer
- Secretary
- Psychologist
- a Maintenance Mechanic
- a Housekeeper
- Treatment Supervisor
- Management Assistant
- a CD Counselors (2)
- CD Counselor Aide Supervisor
- a CD Counselor Aide Leads (2)
- CD Counselor Aides (7)
- Counselors-in-Training (2)
- Counseling Psychologist
- Mental Health Therapist
- ABC Counselor
- Recreational Aide
- Cultural Intervention
- a **Medical/Aftercare Specialist/RN**
- a Family Therapist
- a CD Nurse/RN
- a CD Nurse/LPN
- a Medical Aftercare Clerk
- Education Specialist.

**F. Special Circumstances.** Unity serves the eastern portion of the U.S. The distances from some tribal locations to Unity make family involvement difficult. The client sample from Unity indicated that Unity also serves adolescents from other IHS Areas including the northwestern and southwestern U.S.