

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672

1417 SCOMM 52. JOINT SPEC. COMMITTEE ON LOCAL OPTION LAWS 1985-86

Of the sample of 103, 52% had committed violent crimes, and 84% reported that they had been drinking at the time of their offense. Among the 54 individuals who had committed violent offenses, 85% report that they had been drinking; among the 49 who had committed nonviolent offenses, 84% had been drinking. The data indicates that alcohol use is equally associated with violent and nonviolent crime; there was virtually no difference between racial groups in terms of either violence or alcohol use. Although the numbers are very small, there is a slight relationship between race and alcohol use on the day violent crimes are committed: 89% of violent crimes committed by Caucasians were accompanied by alcohol use, while 100% of violent crime by Natives and Blacks took place on a day when the offender had been drinking.

In the subgroup of 64 inmates who had answered questions concerning both alcohol and drug use, alcohol had figured in 56% of all offenses, and drug use in 36%. Alcohol use had occurred on the day of 73% of all violent crime, and 39% of nonviolent offenses. Drug use had taken place in only 18% of violent offenses, and in 55% of nonviolent crime. The use of both alcohol and drugs on the day of the offense was equally associated with violent and nonviolent crime. In this group, alcohol tended to be associated with violent crime, and drug use with crimes involving property theft.

The total group of 103 offenders were asked whether or not they had ever had a "serious" drinking problem. Answers were evenly divided, with 50% of the group reporting an alcohol problem. There

were striking racial differences, with 75% of the Natives, 47% of the Caucasians, and 17% of the Blacks reporting that they had had a serious problem.

Of the 64 who answered questions about drug use, 31% reported having experienced a serious problem with drugs. By race, 37% of the Caucasians, 42% of the Blacks and 13% (two individuals) among the Natives reported drug problems.

It is easy to question the veracity of responses to these questions, since the inmates' replies are not validated by other data. The racial differences, however, seem to confirm that the answers are truthful. Alcohol is much more available than drugs within the Native population of the state, and drinking is more socially acceptable than drug use. Further, alcoholism programming, education and interest has tended to focus on the highly visible Native alcoholic, with less impact on Caucasians and Blacks. On the other hand, drug use is more socially acceptable in the Black culture; as a Black inmate says, "It's considered cool to be on drugs."

In summary, our data supports the following conclusions concerning Alaskan offenders:

1. As expected, there is a strong relationship between alcohol use and crime.
2. The proportion of Native offenders in the correctional system far exceeds their presence in the general population of the state. The proportion decreases, however, in groups composed of those with progressively longer sentences. Natives are, thus, more involved in minor offenses than in more serious crime.

3. The major impact of the Uniform Alcoholism Act has been in reducing numbers of those with alcohol-related offenses serving sentences of ten days or longer. Corrections still plays a major role in detoxification, and in housing nuisance offenders.

4. When releases (of those with sentences of ten days or longer) are compared for the years 1971 through 1974, there is a striking decrease in proportion of Natives to Caucasians. Although this is partly due to the effects of the Uniform Act, the major cause can be attributed to a sharp rise in number of Caucasians.

5. In a sample of offenders with sentences of six months or longer, alcohol use was associated with 84% of all offenses, 85% of violent crime, and 84% of nonviolent crime. The relationship between drinking and violence did not differ among racial groups.

6. There are striking differences among racial groups in response to the question, "Have you ever had a serious alcohol problem?" Seventy-five percent of the Natives, 47% of Caucasians, and 17% of the Blacks reported a problem. In contrast, 42% of the Blacks, 37% of Caucasians and 13% of Natives reported having had a drug problem.

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CP-303

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19 V

THIS IS A DRAFT

CASE,

VILLAGE LAW

PROPOSALS

Prepared by: David S. Case
Staff Director
Bush Justice Implementation
Committee

Prepared for: Judge Roy Madsen
Judge Nora Guinn
Magistrate Sadie
Neakok
Magistrate Roswell
Schaeffer

Date: 1 July 1976

INTRODUCTION

On June 4, 1976, Judge Roy Madsen, Judge Nora Guinn and Magistrate Ross Schaeffer met in the chambers of the Alaska State Judicial Council for a conference on village law. The purpose of the conference was to develop proposals for administrative, judicial and legislative changes which would enable village governments to better enforce their own ordinances without unnecessary reliance on "outside" services. The conference was sponsored by the Bush Justice Implementation Committee of the Alaska Federation of Natives and grew out of a discussion members of the committee staff had early in 1976 with Robert Boocheever, Chief Justice of the Alaska Supreme Court. The conference was funded by a grant from the Alaska Humanities Forum.

The conferees met in the chambers of the Alaska Judicial Council in Anchorage, Alaska during the morning and afternoon of June 4, 1976. During the course of these discussions, the conferees covered a wide range of subjects including treatment of juveniles in the bush, development of local village ordinances, development of local alternatives to usual court processes, village recommendations on sentencing, establishment of municipal judges and a trial court administrator for rural areas. Specific proposals were developed for (1) Binding arbitration as an alternative to court process (2) Involvement of the village council in sentencing decisions (3) Development of municipal judge-ships in areas which are not served by magistrates and (4) Establishing a trial court administrator for rural courts. The conferees requested that these proposals be reworked in written form for their further consideration. That is the purpose of this paper.

I VILLAGE LEVEL ARBITRATION

This proposal is based on the Alaska Uniform Arbitration Act (AS 9.43.030) and would make binding arbitration an alternative to a court trial for violation of state misdemeanors or city ordinances.

Under this proposal, arbitration would occur after arrests for misdemeanors or violations of a city ordinance. The defendant would have to be brought before a magistrate or other judicial officer and advised of his rights--including the right to arbitration. If the defendant and the victim would both sign a consent to arbitration of the dispute, and if the local district attorney would also consent to the arbitration, then the defendant and the victim could arbitrate their dispute. If arbitration was available, up to three people could be selected (preferably from the village where the dispute arose) to arbitrate the problem. It was suggested that the arbitrators could also be members of a conciliation board.

After arbitration was complete, the arbitrator's decision would be referred back to the magistrate for approval and filing with the court. It was also suggested that the arbitrator could be appointed as a special master to the court with a magistrate or other judicial officer reviewing the arbitration finding much as is done in Superior Court today.

The arbitration could specify restitution or any of a wide variety of requirements for the victim and the defendant. Since the finding would be filed with court and become the subject of a court order, any violation of the arbitration agreement would be a violation of a court order. If the defendant repeated his conduct, the court would have a record of the previous arbitration and would be able to take that fact into consideration in future adjudication.

A. Rationale: The conferees see arbitration as a step between conciliation and full court proceedings. Conciliation (as in the court's conciliation board project) occurs prior to arrest and therefore there is no need to advise the potential defendant of any constitutional rights. Arbitration would be an alternative both to the conciliation board and full court proceedings. Arbitration would be used in the case of more serious misdemeanors and violations of city ordinances and would occur only after arrest. The conferees concluded that there had to be local alternatives to a full court proceeding after a village defendant was arrested. They also concluded that arbitration would put "more teeth" in the conciliation boards themselves.

B. Implementation: The conferees concluded that village level arbitration could only be implemented after amendments to municipal codes, state laws, and the criminal rules. It is possible that the Uniform Arbitration Act as it now stands is sufficient to permit arbitration as a matter of state law. However, it may be necessary to amend certain judicial jurisdictional statutes to permit magistrates to order binding arbitration. The arbitration process would have to be clarified through more specific court rules than now exist and would also have to be included within municipal statutes for the purposes of arbitrating violations of those local ordinances.

Payment of the arbitrators is another requirement for effective government implementation. It was suggested that either the state or the parties should pay for arbitration. State payment was favored as the conferees thought that arbitration would result in lower court case loads and therefore benefit the state court system.

It was also suggested that the summons or citation system could be used in lieu of arrest in cases where there was no need to take the offender into custody for his own or society's protection.

C. Remaining Questions: Whether or not juvenile matters could be fitted into the arbitration proposal seems to be an open question. The conferees felt there was a need for alternatives such as arbitration in the area of juvenile offenses.

Availability of magistrates might pose another problem. Some areas of the state (near Kotzebue, Kodiak, etc.) have ample numbers of magistrates for effective arbitration proceedings. Other areas (such as the lower Yukon-Kuskokwim) do not have magistrates in many of their villages. Absence of a magistrate means there is no decision making authority to send the case to arbitration even if the defendant and the victim wish it.

II SENTENCING PROPOSAL

Based on their own experiences as judicial officers, the conferees felt a need for more involvement of the village council in sentencing of village offenders. The feasibility of this proposal seems to rest on the wide discretion of a judge where sentencing matters are concerned. Judge Guinn noted that she relies on the village council all the time to make sentence recommendations. Magistrate Schaeffer indicated that one way to involve the council in sentencing was to suspend imposition of sentence contingent on the guilty party following the council's recommendations. It was also suggested that, if the defendant were found guilty by a magistrate or a judge it might be possible to return the defendant to the village council for sentencing.

The conferees concluded that valuable flexibility would be added to the system if a judge (in the absence of a presentence report) could impanel an advisory body to assist in sentence determination. The advisory body could be the village council or some other appropriate group of persons.

A. Implementation: Adoption by court rule of a procedure permitting impaneling of an advisory body to assist in sentence determination in the absence of a presentence report.

III MUNICIPAL JUDGE PROPOSAL

This proposal would create a lower level of judges (below present magistrate) who would hear only cases involving violations of village ordinances. The decisions of the municipal judge would be reviewable by either a district court judge or a magistrate. To satisfy certain due process requirements, the municipal judge's decisions would be reviewable by either a district court judge or a magistrate. To satisfy other due process requirements, the municipal judge would be able to impose only a minimum fine (perhaps limited to \$100) and would have no jurisdiction to impose jail sentences or to withdraw valuable licenses. The municipal judge, as with all state judges, would be required to abide by unified court-system rules, and would in fact be a part of the unified court system. The proposed municipal judgeships would be available to those communities which do not qualify for magistrate services. Alternatively, it was suggested that magistrate posts could be created in small villages wherein the magistrate would have power only to accept guilty pleas for violations of state statutes or to hold hearings on violations of municipal ordinances.

A. Rationale: The conferees thought that the municipal judgeships would fulfill the promise of administrative rule 41(b) which states that magistrates should fill the judicial needs of political subdivisions if no district judge is stationed in or near those subdivisions. The fact is, many of Alaska's second class cities are without any ongoing judicial presence. If these communities do not qualify for state supported magistrates, then the conferees believe the state has an obligation to at least support a local judicial presence in such villages. It was also felt that state recognized, local judicial officers would provide an education in self government to the communities in which they reside. Finally, the presence of a judicial officer to handle violations of local ordinances would save the exorbitant transportation costs now required to arraign people even for misdemeanors committed in remote villages. Judge Madsen recited one recent incident where two defendants were flown from Nulato to Kodiak for an arraignment and then had to be flown back to Nulato again.

B. Implementation: Implementation of the proposal would require an amendment to administrative rule 41 as well as to the statutory jurisdictional statutes in order to create a lower level judgeship. The conferees felt that the municipal judges would not have to be paid but would rather serve the village as council members serve the village. The municipal judge would, however, have certain fringe benefits including court sponsored training and the like. Finally, the conferees concluded that the municipal judge should be appointed only on recommendation of the involved city council to the appropriate presiding judge.

C. Remaining Problems: The power of the proposed municipal judge to handle juvenile matters needs to be more fully explored.

Since the municipal judge would serve only those communities that do not have magistrates, there would be no conflict or inconsistency between arbitration and the municipal judge's activities.

IV RURAL TRIAL COURT ADMINISTRATOR

The conferees recommended that a separate trial court administrator position be established to service only rural courts. The rural court administrator would be responsible for administration and development of all rural courts and would be subordinate to the Administrator of All Courts.

A. Rationale: Conferees believe that the three trial court administrators in Anchorage, Fairbanks and Juneau have their hands full with the problems of their immediate courts. The problems affecting bush courts are unique and demand the special attention of a full time administrator.

B. Implementation: Court administrative policy should be revised to include a position for a rural court administrator and funding sought from the Alaska legislature.

V POSSIBLE FUTURE TOPICS

A. What statutory, court rule or administrative changes must be implemented to permit greater village involvement in the disposition of juvenile matters?

B. What are the judicial service needs of Alaska's unincorporated communities and do these proposals meet those needs?

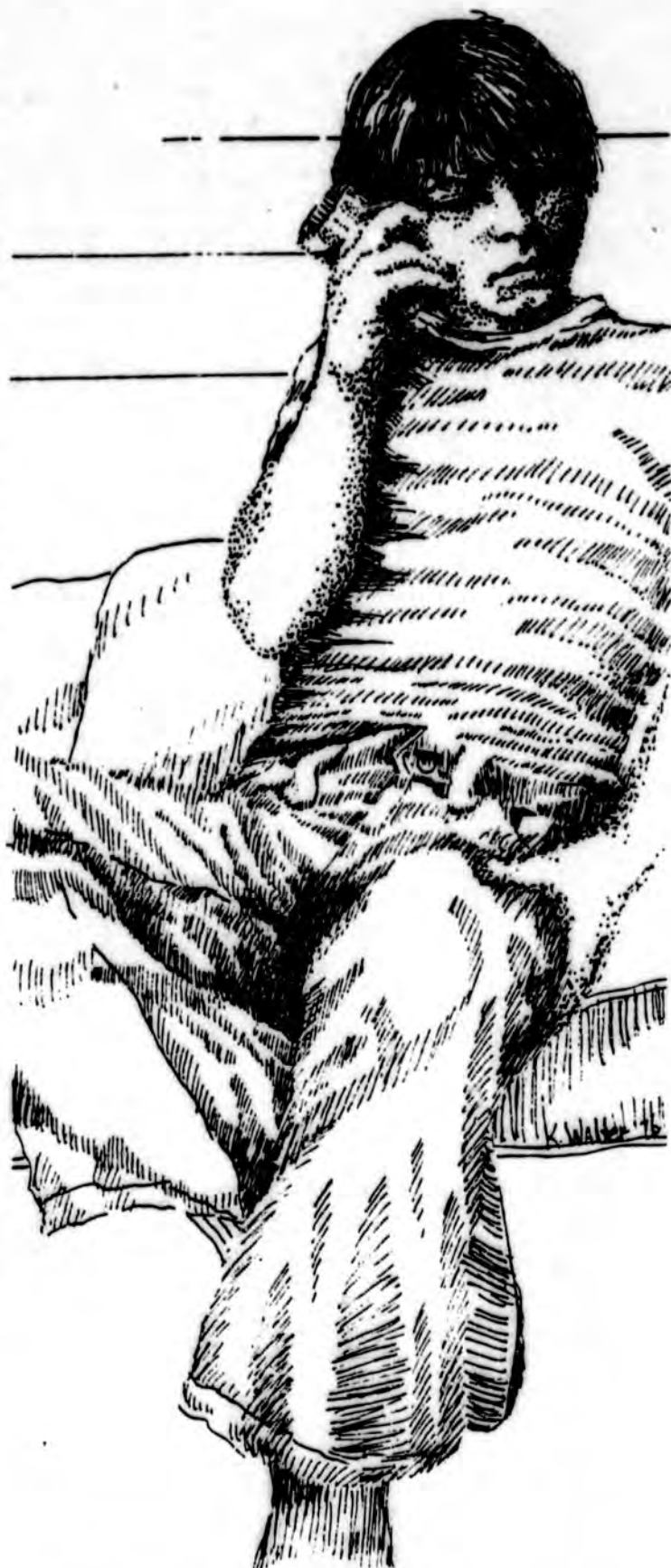
Drinking occurs in homes

Athabascan Drinking

The single largest problem that affects the health and well-being of Alaskans involves the use and abuse of beverage alcohol. In 1972, the per capita consumption for Alaskans 15 years of age or older was 5.06 gallons of distilled spirits, 2.93 gallons of wine and 27.87 gallons of beer. A recent study by the State Office of Alcoholism indicates that in fiscal year 1976 alcohol related costs accounted for \$17,807,200 in expenditures from the General Fund.

In the following article, Mr. Brelsford describes the systemic properties of alcohol distribution and consumption in an Alaskan Athabascan village. In so doing, he focuses on a cultural, as opposed to a medical or psychological, dimension of alcohol use in order to help us understand the social context in which drinking takes place. In most small scale societies or communities the ingestion of chemical substances, like alcohol, is used to expose tensions that grow slowly between individuals who live in close and constant contact. It also provides an occasion around which to establish, affirm, or break off social relationships. This article illustrates aspects of these processes as well as describing the economic network that exists to provide beverage alcohol to a "dry" community.

Gregg Brelsford is currently Health Director of the North Pacific Rim Native Corporation, the non-profit organization serving the Chugach Region Aleut people. Mr. Brelsford is a graduate of the University of Alaska, Anchorage, and is trained in both Community Mental Health and Cultural Anthropology. He trained at Adams County Community Mental Health Center and Fort Logan State Hospital in Denver, Colorado, and has done field work in New Mexico, Arizona, and Alaska. He has resided in Alaska for five years.



ng Behavior:

by Gregg Brelsford

A Preliminary Ethnography

This information was gathered in an Athabascan village in rural Alaska between April 1974 and June 1975. During this time I was employed by this village as a mental health worker, and spent an average of two days and nights per week in the village for the duration of a year.

The identity of the village in this paper will remain anonymous. Toward this end, the descriptive information concerning this village will be kept general, the behavioral information, however, will be specific.

The purpose of this paper is twofold: (1) to demonstrate the cultural dimension of drinking behavior, as illustrated in this particular village, and (2) to partially address what Dorothy Hones, in referring to the attitudes of "white run alcoholic rehabilitation centers," accurately describes as "little awareness of cultural differences in the meaning attributed to drinking... in many Native villages" (Jones 1976:40; see also Kunitz and Levy 1974a: 246). This cultural dimension is to be distinguished from the medical and psychological dimensions, i.e., the disease, and the stress-coping models of drinking behavior. This is not to repudiate the medical or psychological models, but rather to demonstrate the broader context within which they occur.

A quick review of the literature will place this research with the context of similar efforts of this kind. To my knowledge, there are only 3 articles published on the drinking behavior of Alaska Natives generally; none of which directly addresses Alaskan Athabascans. Two of these articles are statistical (Knisley 1972; Foulks and Katz 1973). The third (Berreman 1956) genuinely describes Aleut drinking behavior and dates from 1956. With regard to non-Alaskan Athabascan drinking behavior, Honigsmann and Honigsmann (1945) have written about Canadian Athabascan drinking, and recently, attention has been devoted to Mescalero Apache (Curley 1967), and Navaho (Kunitz 1970; Kunitz and Levy 1975a,b) drinking patterns.

To demonstrate the cultural dimension of drinking behavior, the following definitions will be used throughout this paper. My operational definition of culture is the system of rules by which behavior

is arranged and organized and the rules by which meaning (values and beliefs) is assigned to these arrangements of behavior. Ethnography simply means the description of a culture. A system is "a regularly interacting or interdependent group of items forming a unified whole" (Webster's 7th Collegiate). Drinking behavior is any behavior directly associated with the consumption of alcoholic beverages. This paper, then, will describe the system of drinking behavior present in this rural Alaskan Athabascan village. The three aspects of this system focused on here will be: (1) the source of alcohol; (2) the patterns of consumption, and; (3) the drinking behavior itself.



At the time this information was gathered, Village X had a population of approximately 270, an active Russian Orthodox Church, a K-12 school, a Native store, a community center, a youth recreation hall, and a medical-dental clinic. There was no liquor store or bar, and no police. The village is relatively isolated and can be reached primarily by charter plane. Internally, however, it does contain a number of automobiles and trucks, and a small road system.

Economic activity is primarily seasonal, with most of the village involved in commercial and subsistence fishing. Year round employment is available at a nearby industry to any who desire it, or who can endure the inequitable management practices. A few other jobs are available with the village itself, the recreation center, a community services organization, the store, a day care center, and the school.

It is not known how long alcohol has been present in Village X. The earliest recorded plausible reference I could locate is drawn from the report of the Russian Orthodox Missionary Hieromouk Nikita to Bishop Nestor, Number 7, April 27, 1882:

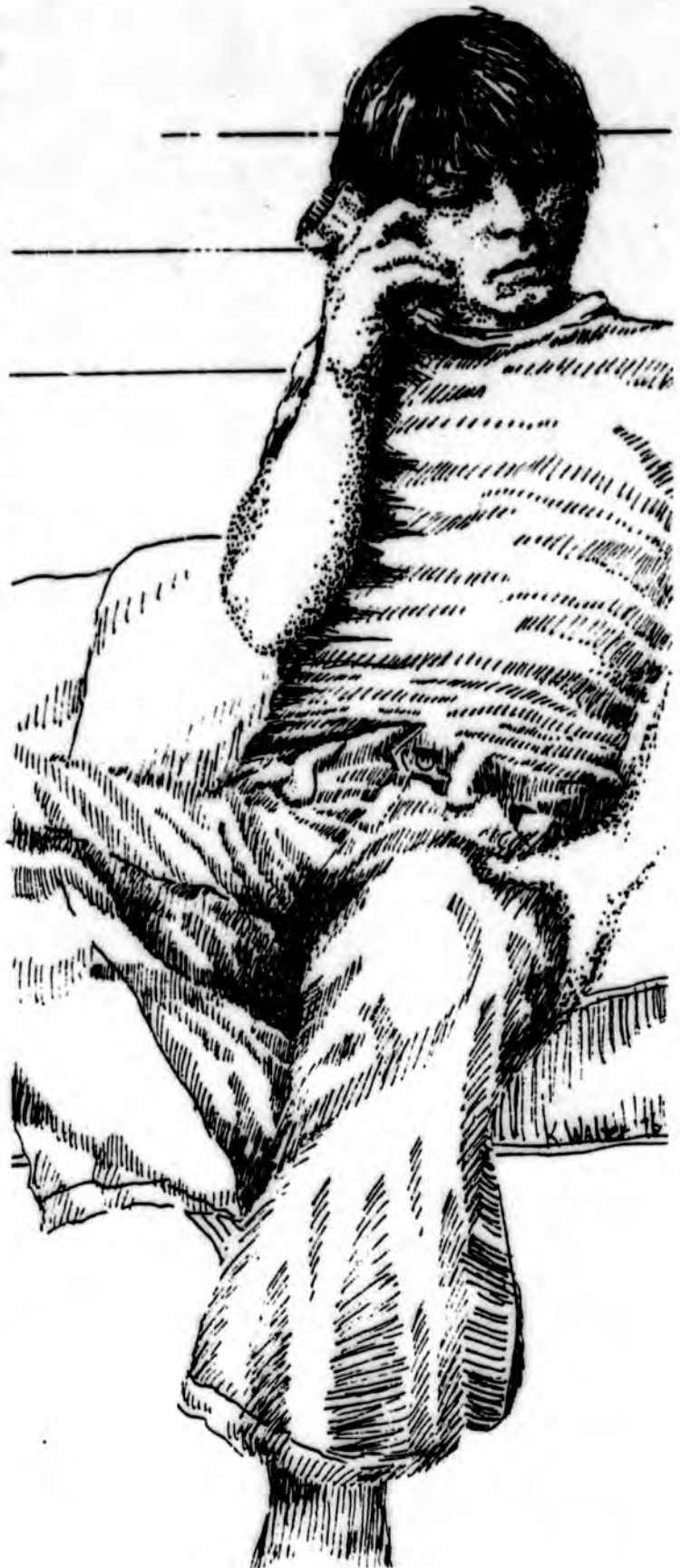
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top: Commissioner of Administration Andrew Warwick, a member of the Governor's Task Force on Corrections, delivering the commencement address.

center: Following the ceremony, the graduates received members of the Academy staff and visitors. There were a lot of smiles in that reception line; bottom left: Officer Michael Wehrer receives special awards for physical fitness and academic excellence from Director William Huston; bottom right: And yes, there was a party that night.



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At the time this information was gathered, Village X had a population of approximately 270, an active Russian Orthodox Church, a K-12 school, a Native store, a community center, a youth recreation hall, and a medical-dental clinic. There was no liquor store or bar, and no police. The village is relatively isolated and can be reached primarily by charter plane. Internally, however, it does contain a number of automobiles and trucks, and a small road system.

Economic activity is primarily seasonal, with most of the village involved in commercial and subsistence fishing. Year round employment is available at a nearby industry to any who desire it, or who can endure the inequitable management practices. A few other jobs are available with the village itself, the recreation center, a community services organization, the store, a day care center, and the school.

It is not known how long alcohol has been present in Village X. The earliest recorded plausible reference I could locate is drawn from the report of the Russian Orthodox Missionary Hieromouk Nikita to Bishop Nestor, Number 7, April 27, 1882:

"Drunkenness is the chief vice of the aborigines. Because of the lack of good grain alcohol, they make their liquor from flour fermented with sugar in stills made of gasoline tins and distill it through a rusty gun barrel. The smell of such a drink is repelling." (Townsend 1974:13)

I am certain, however, that alcohol was present at least by the time of the first Russian contact over 100 years earlier (informant: 7-17-74).

Source of Alcohol

Because the village is legally dry, and relatively isolated, there are no commercial liquor outlets present or nearby. "Home brew" is virtually nonexistent. Only two elderly men brew their own, in spite of the fact that it is vastly cheaper. This means almost exclusively that alcohol arrives on the small planes that serve the village.

The primary air service serving Village X estimates that it transports minimally the following amounts of alcohol to the village every month (quantities shown are correlated with their costs as priced at an Anchorage retail liquor store): 15 cases of liquor (12 fifths per case; Calvert whiskey at \$63.48 per case), \$952.00; 4 cases Port Wine (12 fifths per case; Italian Swiss Colony Red Port at \$18.60 per case), \$75.00; and 10 cases of beer (Olympia, 12 ounces, at \$8.55 per case), \$85.00. This is a total of \$1,112.00 per month. These are minimal figures and are utilized merely to provide a point of reference. It is my impression, and that of many villagers, that alcohol consumption fluctuates in terms of this reference point at different times of the year (end of fishing season, Christmas, etc.). Also, in addition to the above carrier, there are three others that regularly serve Village X, and it must be assumed that they are also transporting alcohol to this village.

The act of flying to a liquor outlet and returning to the village with alcohol is known in the village as a "round trip" or "R.T." The air fare alone for this is \$72.00 total. Though I do not know the amount of alcohol generally purchased on a "round

trip", I have personally helped unload five cases of beer and two cases of whiskey from one "round trip" and had the impression that this was a large run.

"Round trips" tend to be spontaneous rather than planned or organized. A run is generally made only for enough liquor to satisfy immediate desires, requiring another run, plus air fare, when that supply is consumed. One individual made a "round trip" on three consecutive days. He purchased a total of \$216.00 in air fare, for a total expenditure of \$407.00. I do not imply that this individual drank all of this himself, or that this reflects the normal drinking pattern in this village. It does, however, indicate somewhat the degree of expenditure occasionally made.

It is easy to see why the primary air carrier for the village is just that, the primary carrier. Not only is its attitude regarding carrying alcohol very liberal, but it allows the air fare to be charged on account. The only cash required for a round trip, therefore, is money for the cab and the price of the liquor. For example, the cash required for the above mentioned three day expenditure was closer to \$190.00, rather than the entire amount of \$407.00. This is a key factor in this system. This "charge account" arrangement implicitly supports and maintains the system of drinking in this village by maintaining relatively easy access to alcohol. It also probably maintains the spontaneous nature of the "round trip" because the additional costs of plane fares are not immediately experienced in connection with the purchase and consumption of the liquor.

Patterns of Consumption

We turn now to the second element of the drinking system in Village X, the patterns of consumption. This discussion will include descriptions of the patterns themselves, the drinking group, and frequency and duration of consumption.

Description of Patterns

Once the alcohol arrives in the village, it is loaded

into cars or pick-ups. Rarely is it left to sit at the airstrip. This seems to be more due to concern for protecting one's goods than concern for getting caught.

The patterns of consumption of alcohol appear to be functions of 4 elements, and the relations between them. These elements are: (1) location; (2) time of day; (3) age; and (4) sex.

Alcohol consumption in Village X is essentially private in nature. It occurs primarily in private homes or private vehicles such as cars or trucks. No drinking was observed in fishing boats or on snow machines.

Drinking in vehicles occurs as early as late afternoon, but primarily in the evening and night. The vehicle may be parked in an isolated area, but for the most part is done while driving along the village roads, talking and listening to the radio. This is practiced only by the teenagers and young adults up to approximately age 30.

In private homes, drinking may occur during any time of the day or night. The kitchen and living room seem to be the location of most drinking activity (reinforcing the idea of the "social" nature of drinking in this system), with some drinking also occurring in bedrooms. All age groups engage in drinking in private homes. The pre-adolescents and early and middle teenagers drink covertly, as they are not explicitly allowed to drink by the adults. This restriction appeared not to be an issue of legality or morality, but an economic one, i.e., not "wasting" a valuable commodity on someone not likely to (be able to) reciprocate.

Age, therefore, is apparently a significant factor in determining the location of where alcohol is consumed. The young adults and late teens drink both in homes and vehicles, whereas the adults (approximately 30 years plus), middle-aged, and elderly drink exclusively in private homes.

As noted above, drinking activity is essentially private in nature. Alcohol is never consumed, as part of the group activity, at public gatherings, whether business or recreational. People may attend while intoxicated, withdraw temporarily to

drink and return, or occasionally even take quick, hidden, pulls on a bottle, but none of this is done as part of the group activity. The one exception to this which I observed was a religious activity—starring. Starring is a Russian Orthodox custom at Christmas in which the village gathers together (in this case, mostly small children up to older teenagers) and visits each house singing Christmas songs and prayers. As the group arrives at each house in turn, the host offers them refreshments, including alcoholic beverages. This is done in an atmosphere of festivity and celebration. Even the youngsters are allowed to participate in the drinking, though somewhat ambivalently, by the adults.

Another exception to the essentially private nature of drinking here, is the minor degree of drinking which occurs openly while the person is walking on the streets in the village. This is done only by the young men, approximately 19-27 years old. Walking the village streets while intoxicated (walking, but not consuming alcohol) occurs with low to moderate frequency, and is also done only by males. Someone will occasionally pass out on the side of the street, although this is very rare. This person is generally left where he is if he is in no danger. This also occurs only with males and is apparently nonexistent in winter.

The Drinking Group

Drinking in Village X is a social activity. It is the only time that as many people get together, as often as they do, for as long as they do. I did not hear of, or observe, a single instance of substantive drinking in isolation. Whether it occurs in a home or vehicle, whether the age of the person is 8 or 80, and whether the number of companions is one or ten, drinking occurs only with other people.

In the drinking group, no restrictions are placed on the amount of alcohol a person may consume, except as conditioned by the quantity available, and the person's credit. When the supply and credit are unlimited, so is the freedom, and expectation, to consume. Under these conditions, even persons known to become violent are allowed unlimited access to alcohol.

Though not documented, it appeared that membership in a specific drinking group was determined either by kinship or an individual's ability to reciprocate and contribute to the alcohol supply of the group. This reciprocity could extend over a long period of time and was not necessarily limited to the immediate moment. This is supported by my observation of the exclusion of some adults on the basis that they were consuming more than their share (3-14-74). This perspective would also explain the exclusion of children on an economic basis rather than a moral or legal one. The costs involved in obtaining liquor have already been demonstrated; it simply is not economically sensible to sacrifice your alcohol to someone who has little potential for, or history of, reciprocity.

Frequency and Duration

Though I have no empirical statistics in this area, I do have many references to individual drinking activity in my notes. These references cluster together in two ways: days of the month and months of the year. The first cluster occurs primarily between the 4th and 14th day of each month. This corresponds roughly with the arrival of various agency support checks. The second cluster occurs in June, July, and August, 1974, and January, February, and March, 1975. The summer cluster corresponds very roughly with fishing season, and the latter cluster included Russian Christmas, as well as the coldest months of the year. Drinking activity was high in May, 1975. This corresponds with Russian Easter (5-5-75) and tax refund checks.

Drinking is intense when it occurs but the duration is irregular. An individual may drink for one evening or for three weeks. The same person may evidence both of these extremes at different times, and apparently alcohol supply is not the only factor determining this range in duration.

Drinking Behavior

Drinking behavior itself is the third element in the drinking system of Village X. This discussion will include a description of concrete drinking behavior, intervention into this behavior, and the role of the young in the system of drinking behavior.

Description of Drinking Behavior

Drinking is a process of consuming cumulatively increasing amounts of alcohol. This results in an increasing degree of intoxication. The process of intoxication in Village X may best be conceptually represented by a continuum. This continuum ranges from sober to extremely or profoundly intoxicated. Movement along this continuum may be measured behaviorally, rather than chemically.

When sober, the person is circumspect. He or she is quiet, reserved and contained. He may be distantly friendly, polite, or cold, depending upon his relationship with you. Joking and card playing occur, but with indirectness and restraint. Personal appearance and home interiors are orderly and well kept.

When mildly to moderately intoxicated, composure "relaxes". The person may become warm, jovial, generous, affectionate, talkative, and expressive. People are quick to joke and laugh, and motor activity may become heightened; often there is much card playing, or walking or riding around the village. Homes and personal appearance are left unattended and become somewhat disheveled.

Extreme intoxication may be represented by violent, destructive, hostile, aggressive, or belligerent behavior. Threats and challenges may be exchanged. Withdrawal may substitute for violence or aggression in middle-aged to elderly males. Eventually, in every one, cognitive and motor ability becomes reduced, movement and speech become slow, and thoughts are difficult to organize. Personal appearance becomes very disheveled and home interiors become very disorderly and unkept.

Perhaps most characteristic of the Village X drinking process is that once begun, this process of intoxication is pursued to its full completion. Once drinking has started, it is not terminated until the person has moved through the entirety of the drinking behavior continuum, or the supply is exhausted. I have often observed people support another person's progress along this continuum

knowing that the outcome not only would be violence and aggression, but that they, themselves, may be the target.

Intervention

Intervention occurs into the drinking behavior as distinguished from the process of intoxication. Intervention was avoided and withheld as long as possible, and occurred only in the face of physical danger (this is consistent with the traditional Athabascan respect for the independence of the individual). When intervention did occur, the violent behavior was the focus of the intervention, not the drinking. Physical aggression was restricted, but not the drinking which preceded it. Even after a violent episode, once the violent person had calmed down, he was allowed to continue or resume drinking, until such time as he presented another unavoidable threat.

Intervention would occur when a person became so aggressive as to present an apparent serious threat either to his own safety or that of others. The form that this intervention took seemed to be determined by sex roles. Women would attempt to intervene if overt, physical aggression appeared imminent, but had not yet occurred (The aggressor referred to here is always a male. With the exception of two teenage girls, I never observed active physical aggression on the part of women.). Female intervention would take the form of reasoning, persuading, physical restraining efforts, and threats, both joking and serious. A male could respond to female intervention without losing face; whereas male intervention of this type would merely intensify the aggression, or cause the male intervenor to appear feminine. Males would intervene if actual physical aggression, beyond the limits tolerated by the group, was occurring. Male intervention took the form of physically separating the combatants and trying to persuade them to cool down. This type of intervention was the last resort and used only when a safety issue was involved; the degree to which safety was an issue determined the degree of intervention. Females, primarily, but males also, would remove the potential weapons (knives, guns, scissors, etc.) when it appeared that the safety of the individual or the group was at risk.

Role of the Young

Children are a significant factor in the drinking system in Village X. When the parent may become incapacitated through intoxication, the children maintain and manage the household. Older siblings feed, clothe, and care for younger siblings, protecting them from neglect. They possibly take care of the helpless parent (s), and occasionally protect the family from the violent outbursts of the drinking parent. Under drastic conditions the children may leave the home and stay with relatives or friends temporarily.

Children also occasionally assist with the preparations for drinking. I observed three boys, ages 10, 14, and 14, loading and unloading alcohol from a car trunk to a kitchen, and heard the owner instructing them as to where and how to hide and protect the liquor. Having assisted with, or observed, the preparations for a party, the youngsters then wait for the drinking activity to begin. When alcohol is left unattended, or the adults are too intoxicated to care, they take full advantage of their opportunity to indulge. When the party (and hang overs) is finished, the children also assist in the clean up of the house. This assistance is rendered whether or not the youngsters engaged in the drinking.

Effects of Drinking

While it is difficult to demonstrate cause-effect relationships between drinking and certain events, a number of correlations may be identified in which alcohol is a present factor. These correlations include employee turn over, family discord, aggression, and deaths.

Of the villagers that are employed, employee turn-over in which alcohol is believed to be a present factor is 80%. This figure is the estimate of various members of the village council and other members of the village. With regard to marital and family discord, I am aware of two young women, each having one child, who have left their husbands because of their drinking. There are other cases of family breakdown in the village in which alcohol is present.

Aggression was not always present with alcohol, but alcohol was always present with aggression. The only fighting among men that I observed always included the presence of alcohol, as did the one instance of fighting among two teenage girls.

As determined from conversations with two members of the village, alcohol is believed to be present in the majority of deaths occurring in the village. This particularly holds true for violent deaths, such as shootings, drownings or snowmobile accidents. Approximately 10% of the village population (about 27 people) have died in the past 13 years. Of these, 40% were violent and were known or strongly believed to have alcohol as a present factor. If the cases of violent death in which the presence of alcohol is questionable are included, the figure becomes 60%.

Conclusion

This paper has described social systemic aspects of drinking behavior in one rural Athabascan village in Alaska. It has shown that drinking behavior is patterned systemically; and that implicit rules (and values) prescribe how alcohol arrives, how it is managed, and when, where, and by whom it is consumed. Though touched on only slightly here, economic, social, and religious factors in the drinking system were also identified.

This system of drinking behavior is powerful and pervasive. It ranges from the socialization of children to expressions of what it means to be a man or woman in this village at this time. Additionally, this system is supported by economic, social, and religious factors. All of these aspects together constitute what I call the cultural dimension of drinking behavior. This cultural dimension must be acknowledged; particularly by alcohol rehabilitation programs that aspire to be seriously effective. And not only is acknowledgement necessary, but also integration of this perspective with the medical and psychological models of drinking if we are to achieve a genuinely adequate understanding of drinking behavior.

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DESCRIPTIVE ANALYSIS OF THE IMPACT OF ALCOHOLISM AND
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(FIVE VOLUMES)

Volume I

THE ECONOMIC IMPACT OF ALCOHOLISM AND ALCOHOL ABUSE
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Final Report

January, 1977

Prepared by

Analysis of Alcohol Problems Project
Dennis Kelso, Ph.D.
Project Director

Prepared for

State Office of Alcoholism
Robert L. Cole, Coordinator
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- Volume III Alcoholism and Alcohol Abuse Programs, Services
 Delivery Systems, Alaska, 1975
- Volume IV Social Systems Indicators of Alcoholism and Alcohol
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- Volume V Executive Summary: Descriptive Analysis of the Impact
 of Alcoholism and Alcohol Abuse in Alaska, 1975

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FOREWORD

There is no topic in Alaska more familiar, more controversial, and simultaneously more opaque than alcoholism. Almost as if the problems and concerns associated with it were an intrinsic part of the Alaskan experience, everyone seems to have something to say about it. Newspaper articles and radio talk shows debate public drunkenness. Political campaigns are waged, promising greater priorities for the alcohol problem. Even the national wire services carry stories dubbing alcoholism "the bane of Alaska." From the person on the street, to merchants and city councils, to the most specialized of government and health officials--everyone seems to agree that alcoholism and alcohol abuse constitute the greatest human problem facing the state.

In short, there is no shortage of opinion in Alaska about alcoholism and alcohol abuse. In point of fact, however, there is precious little else except opinion. Theories abound as to the causes of problem drinking. Definitions of the very nature of the "problem" are as numerous as the dozens of State agencies, officials, organizations, and interest groups created (or simply compelled) to deal with it. Concerning what to do about it, feelings range all the way from simple apathy, to lip-service, to honest concern, to almost ideological fervor operating at the limits of reason. This is not to say that the public concern is in error: it is not. It is instead to say that, without foundation, not much can be done to seriously respond to that concern.

For so volatile and perduring a problem, there has been in Alaska virtually no significant statewide research to date. What research has

been conducted, has been fragmentary and poorly disseminated. Most often, as well, it has largely been based on concepts and models transplanted from other, inapplicable regions of the country. In all cases, such research has confined itself to a single problem or single aspect of a problem. Never, in other words, has an attempt been made to comprehensively conceptualize the problem in terms of all its major manifestations and attendant effects. By no means is this a denigration of any prior research efforts anywhere, for such was not their ambition. The time has simply come for a particular kind of undertaking: an integrated information and data base capable of addressing Alaska's alcoholism and alcohol abuse problems in all their important interrelationships.

The Analysis of Alcohol Problems Research Project, organized in September of 1975, began just such an undertaking. In response to the question of what (in its entirety) constitutes the problem of alcoholism and alcohol abuse in Alaska, the Project assumed as its province the full context of the intended and unintended consequences of the sale, distribution, and consumption of beverage alcohol in the state. Formally stated, the mission of the Project became the systematic collection of valid and reliable information for implementation of Alaska's Uniform Alcoholism and Intoxication Treatment Act. (The adoption of this act in 1972 essentially established policy for the State by decriminalizing public drunkenness and defining alcoholism as a public health problem.)

Throughout the Project, the nature of the research process was considerably less difficult to specify than the nature of the topic. With the health and medical services community exhibiting as much variance within its own ranks as between itself and the law enforcement or educational communities, little agreement existed as to how "alcoholism" and "alcohol abuse" should be defined. Considerable agreement existed, however, on the

fact that alcoholism and alcohol abuse impact the general public and the social system in a variety of ways. Alcoholism program client loads, child abuse, automobile accidents, alcohol-related crime, etc.--all became, from this perspective, equally valid and interconnected ways of looking at alcohol's impact on Alaskan society. In the same sense, they also thereby provided a composite basis for relating the many extant definitions of the problem (e.g., as a public health problem, mental health problem, criminal justice problem, child welfare problem, etc.).

For this reason, the Project took as its focus the measurable indicators of alcohol's impact on Alaska's social system, and on selected specific sub-systems: the economy, health and medical services delivery system, criminal justice system, et al.. The intention was not to be exhaustive, for such was impossible given the limitations of resources and time available for conduct of the study. Nor was the intention to be definitive, as the general paucity of useful information which plagues research efforts in Alaska made such a goal unrealistic. (In many cases, even basic information is not systematically reported or collected, nor kept in summary fashion.) Rather, the ambition was to develop a research methodology capable of being implemented at once, but also capable of being elaborated and refined on a continuing basis. Such an instrumentality, it was hoped, would serve the dual purpose of linking for the first time the several major areas (e.g., economic, legislative, programmatic, social, et al.) related to alcohol affairs in Alaska, and of constellating and grounding future alcohol-related research efforts in the state.

It should be said that such concentration on the collective effects of alcoholism and alcohol abuse was not intended to preclude genuine concern for the health and well being of individual alcohol abusers and their families. From the perspective taken, and because of the limitations

mentioned, it was not possible to address such highly relevant questions as whether alcoholism is a disease, addiction, defensive coping mechanism, etc.; or whether it derives from genetic transmission, learned behavior, cultural assimilation, or--in Alaska's case--a set of environmental factors so pervasive but elusive of description that it might quite unjokingly be called the "Arctic Factor". These remain, nonetheless, serious questions, and their omission had only to do with the fact that a need for the multiple-definition approach described above was considered more pressing.

The beginnings of this kind of multiple-definition approach are contained in the present report, Descriptive Analysis of the Impact of Alcoholism and Alcohol Abuse in Alaska, 1975. The title is preceded by the term "Working Papers" because this is the first time that alcohol-related information of this scope has been collected and put to use, and because a great deal more information is still missing. For these reasons, reaction to the content of the report is not only seriously invited, but regarded as indispensable. Only by such review and response, it is felt, will the efforts initiated by this project and report yield more complete and comprehensive information about the impact of alcoholism and alcohol abuse upon Alaskan society.

The five volumes of the report are described below:

VOLUME I : The Economic Impact of Alcoholism and Alcohol Abuse in Alaska, 1975

Volume I investigates and describes the economic impact on Alaska of alcoholism and alcohol abuse. Major goals of the volume include the identification and estimation of financial benefits deriving from the sale and consumption of beverage alcohol, and determination of the economic cost of alcoholism and alcohol abuse for the state as a whole. Findings and methodologies for each of the cost categories utilized are presented. Further, the absolute and relative magnitude of economic costs for each category are analyzed, then compared with corresponding estimates based on national findings. Finally, a separate part of the volume examines the fiscal revenues and expenditures for State government which are directly attributable to the sale and consumption of beverage alcohol.

VOLUME II : An Analysis of State Legislation Pertaining to Regulation and Control of Beverage Alcohol and Alcoholism and Alcohol Abuse, Alaska, 1975

Volume II identifies and analyzes all Alaskan legislative statutes and administrative codes which are in any way concerned with the sale and consumption of beverage alcohol, or with alcoholism or alcohol abuse problems. Analysis includes internal examination of all the statutes and codes, resulting in presentation of detailed summaries of each of the major provisions within a categorical structure developed in the process. (No such categorical listing or cross-reference system for alcohol-related legislation existed, previously.) Additionally, all identified statutes and codes are discussed and analyzed with respect to their consistency or inconsistency with policies and provisions set forth in the Uniform Alcoholism and Intoxication Treatment Act, the only available source of legislative policy for alcoholism and alcohol abuse. Throughout, analysis of the statutes and codes is cast within the context of existing, relevant federal legislation.

VOLUME III : Alcoholism and Alcohol Abuse Programs, Services Delivery System, Alaska, 1975

Volume III presents the findings of an analysis of the major elements of the alcohol services delivery system in Alaska. Based on a modified systems approach, the analysis employs nationally established alcohol program components promulgated by the Joint Committee on Accreditation of Hospitals for development of the concept of an appropriate statewide alcohol services delivery system. Statewide organizations providing direct and indirect alcoholism services are described with respect to their various administrative and programmatic dimensions. Local alcohol programs are similarly described and compared with respect to their various treatment or program components. Additionally, all organizations and programs are analyzed with regard to their participation in an emergent, comprehensive services delivery system at both the statewide and regional levels. Throughout, the focus of analysis is the nature of the overall delivery system itself (components, allocations, comprehensiveness, etc.), and not comparison or evaluation of individual programs.

VOLUME IV : Social Systems Indicators of Alcoholism and Alcohol Abuse in Alaska, 1975

Volume IV assembles and discusses a range of current data and information regarding the social impact on Alaska of alcoholism and alcohol abuse. The data compiled are regarded as conventional social system indicators, and discussed accordingly. Each part of the volume concentrates on a specific set of such indicators, with primary attention given to the prevalence of alcoholism in Alaska, the consumption of beverage alcohol, related mortalities, crime, and highway safety. A number of other, related indicators are also reviewed. Wherever possible, information is analyzed historically and compared with corresponding national (and, where applicable, international) information and research findings.

Volume V : Executive Summary: Descriptive Analysis of the Impact of
Alcoholism and Alcohol Abuse in Alaska, 1975

As an executive summary, Volume V synoptically treats the findings contained in the four primary volumes preceding it. Additionally, it integrates various portions of these findings to provide alternative descriptions of the impact on Alaska of alcoholism and alcohol abuse. The descriptions are not viewed as competitive, but as demonstrative of the various perspectives and approaches possible for description and analysis of the associated problems. Finally, overall policy-level recommendations extrapolated from the study's findings are suggested for more effective implementation of Alaska's Uniform Alcoholism and Intoxication Treatment Act.

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VOLUME I

THE ECONOMIC IMPACT OF ALCOHOLISM AND ALCOHOL ABUSE IN ALASKA, 1975

PART I. SUMMARY: INTRODUCTION AND OVERVIEW--THE ECONOMIC IMPACT OF
ALCOHOLISM AND ALCOHOL ABUSE, 1975

INTRODUCTION

That Alaskans drink a lot of beverage alcohol appears to be common knowledge within the State. Available consumption information supports this notion.* A frequent companion thought to this notion is that Alaska has a serious "alcohol problem". Most generally, the term, "alcohol problem", seems to refer to the prevalence of alcoholism and alcohol abuse. These terms themselves are elusive and confusing but generally serve as catch-all phrases for adverse personal or social events linked with alcohol consumption. Nearly everyone can recall and recite such unpleasant or undesired events related to alcohol consumption as auto/boating accidents, arrests, broken families, child abuse/neglect, mental anguish, work not done, jobs lost, personal degradation, and more. There is a common awareness that alcoholism and alcohol abuse are both pervasive and significant. This feeling seems particularly strong in Alaska but also characterizes national and international thought.

Although it is impossible to conclusively link alcohol to a certain portion of adverse personal or social events, association can often be inferred.** Many of these possible adverse social consequences also have economic consequences. The following Parts of this Volume examine the economic consequences of alcohol-related adverse events as well as the economic bene-

*See Volume IV for a detailed description and analysis of beverage alcohol consumption in Alaska.

**See Volumes IV and V for a detailed description and analysis of alcohol-related adverse events.

fits of the sale of beverage alcohol.

Particularly in view of the widespread societal feeling about the pervasiveness and significance of alcoholism and alcohol abuse, the economic magnitude of the cost of related adverse personal and social events provides an important point of reference from the standpoint of public policy.

STATEMENT OF PROBLEM

The intent of this volume is to provide an economic analysis of the sale and consumption of beverage alcohol in the state of Alaska. The analysis includes the determination of the economic benefit of the sale and consumption of beverage alcohol, as well as the economic cost associated with alcoholism and alcohol abuse. Further, the economic cost of alcoholism and alcohol abuse is compared with corresponding national findings for analysis of a possible differential configuration of the economic impact of alcoholism and alcohol abuse in Alaska.

In addition, a separate part of the investigation contains an examination of the impact of the sale and consumption of beverage alcohol on state government revenues and expenditures. Although these two areas are clearly interrelated, they logically and theoretically approach the subject from different perspectives. The extraction of state government expenditures and revenues from overall societal costs and benefits represents a more limited perspective, but one of direct interest for state government policy determination and budgeting and planning activities.

METHODOLOGY

The report for the National Institute on Alcohol Abuse and Alcoholism, DHEW, entitled, The Economic Cost of Alcohol Abuse and Alcoholism, 1971, March 1974, provided a general and constant reference for the basic design

and elements of this analysis. In the absence of any other comprehensive documents regarding the subject, this report provided both the prototype and also national results for purposes of comparisons. Certain adaptations and modifications were required due to problems of access and availability of data in Alaska. Each Part of this Volume will discuss the specific methodology used in arriving at cost and benefit estimates.*

SUMMARIES OF COST AND BENEFIT CATEGORIES AND MAJOR FINDINGS

A brief outline of cost estimation procedure and the results of the estimation of costs and benefits for each category considered is provided below.

PART II. Economic Benefit of Sale and Consumption of Beverage Alcohol

The estimation of economic benefit of the sale of beverage alcohol in the State of Alaska was calculated through the value added approach; that is, through determination of the total value added to state production by the beverage alcohol industry. This was approximated by the difference between sale (at both the wholesale and retail level) and the costs of the intermediate products. The estimated wholesale value added was computed to be \$8.7 million and the retail value added was \$83.0 million, for a total value added to state production of \$91.7 million in 1975.

Certain federal dollars that come into the state as a result of the sale and consumption of beverage alcohol may also be viewed as a benefit to the state. These funds totaled \$2.4 million in 1975. Thus the total economic benefit of the sale and consumption of beverage alcohol amounted to \$94.1 million in 1975.

*A general design and framework for estimation of economic costs and benefits was also suggested by economists Dona Lehr, Ph.D. and Ronald Lehr, Ph.D. However, all responsibility for methodology, data collection, and accuracy resides with the authors.

PART III. Economic Cost of Lost Production

The economic cost of production lost due to alcoholism and alcohol abuse was examined within three major considerations: (1) the diminished productivity of alcohol-troubled workers which results from the loss of efficiency and absenteeism due to alcohol; (2) the labor lost as a result of occupational injuries; and (3) the work not performed (foregone earnings) due to the premature death of the alcohol abuser.

Reduced productivity for men was determined through use of national sample studies on the effect on family income of alcohol abusers. Available data allowed the particularization of economic cost estimation according to male head of households, income differentials and prevalence of alcoholism/alcohol abuse by age groupings. The results were adjusted for inflation to produce a net loss of \$47.8 million in 1975 for reduced productivity for male alcohol abusers.

Reduced productivity for women was approached differently in that no similar study as that for males was available for analysis of female loss of income due to excess drinking. The prevalence of female alcohol abusers was determined by the Marden* procedure and a diminished productivity figure of 25% was used, as suggested by the National Council on Alcoholism. An economic cost of \$9.69 million was determined for diminished productivity for females in the 1975 work force in Alaska.

The economic cost of lost production due to occupational injuries resulting from alcohol abuse was determined by the analysis of costs incurred by the three plans providing compensation to employed workers in the state. This economic loss was estimated to be \$4.3 million after the costs due to mortality were excluded.

*A procedure for estimating prevalence of problem drinkers for a given population group developed by Parker G. Marden, Ph.D. See "A Procedure For Estimating the Potential Clientele of Alcoholism Service Programs", by Parker G. Marden. Reprint by National Institute on Alcohol Abuse and Alcoholism.

The economic cost of lost production due to excess mortality attributable to alcoholism and alcohol abuse was estimated separately for males and females. The estimation was based on national sampling information and applied within the income, age and sex differentials in Alaska. The economic cost was found to be \$2.8 million for females and \$21.8 million for males.

The total economic cost of lost production attributable to alcoholism and alcohol abuse is summarized in the chart below according to the major categories employed for analysis.

Diminished Productivity	-	\$ 57.5 million
Females--\$9.7 million		
Males--\$47.8 million		
Occupational Injuries	-	4.3 million
Excess Mortality	-	24.6 million
Females--\$2.8 million		
Males--\$21.8 million		
Total		\$ 86.4 million

PART IV. Economic Costs of Alcohol-Related Motor Vehicle Accidents

Alcohol abuse is often associated with traffic accidents; however, automobile accidents would occur even without alcohol abuse. The estimation of economic costs thus involved determination of excess costs, not just a percentage of total motor vehicle accident costs. Three types of accidents (fatalities, injuries, and property damage) were considered separately since costs differ substantially according to accident type. Excess economic cost for all accidents attributable to alcohol abuse amounted to \$19.7 million in 1975. In order to provide an economic cost figure not redundant with any other category of costs, the cost associated with loss of future earnings--\$10.7 million--was calculated and extracted to yield a fi-

gure of \$9.0 million.

PART V. The Economic Cost of Alcoholism and Alcohol Abuse to the Criminal Justice System

The overall economic cost of alcoholism and alcohol abuse for the criminal justice system was calculated for different categories of crime and for the separate components of the system--enforcement, courts, rehabilitation and "other" (essentially planning and support services). This cost estimate concerns the cost to the system rather than social cost of criminal acts to victims. In this economic sense, the resources used for alcohol-related crimes could have been utilized in alternative ways had these acts not taken place.

Total economic costs for all components of the system for all categories of offences amounted to \$15.3 million. Separate system component costs were: enforcement--\$7.95 million; court costs--\$1.97 million; corrections costs--\$3.78 million; and, other costs--\$1.56 million.

PART VI. Economic Costs of Health and Medical Care Associated with Alcoholism and Alcohol Abuse

In this Part, an estimate was made of the economic cost of the impact of alcoholism and alcohol abuse on the health and medical care system. Here again the estimated economic costs refer to system costs, the cost of providing the services to consumers. The primary interest was in estimation of excess economic costs, cost of services due to alcoholism and alcohol abuse that would not have been necessary without alcoholics or alcohol abusers.

Economic cost estimates were made for a variety of categories of health and medical care--hospital services, physicians' services, nursing care, drugs and other professional services.

In addition, non-institutional costs--administration and planning, health

care administration, research and training--were determined and discussed as much as available data would allow.

The total estimated economic cost for health and medical care services for alcoholics and alcohol abusers totalled \$13.3 million. Indirect costs associated with health and medical care users such as illness, disability and premature death attributable to alcoholism and alcohol abuse were estimated and reported in the part on Lost Production.

PART VII. Economic Cost of Alcoholism and Alcohol Abuse and Social Services and Public Assistance

Part of the pervasiveness of alcoholism and alcohol abuse includes generation of adverse individual and social events beyond the individual alcoholic and alcohol abuser. The economic consequence of this is the possible additional cost of public and private social services and assistance to others in addition to alcoholics and alcohol abusers, including foster care, daycare, homemaker services and social work services.

Economic cost estimates, based on actual expenditures, were made for provision of public social services and assistance attributable to alcoholism and alcohol abuse. The estimated economic cost for alcohol-related social services was found to be about \$3.5 million. In addition, public assistance payments, or alcohol-related transfer payments for AFDC, AD and Medicaid cases totaled \$3.1 million. In economic terms, the cost of social services is a true economic cost, but transfer payments are not. However, transfer payments do represent a transfer of part of the burden of reduced income due to alcoholism from the alcoholic and family to the taxpayer.

PART VIII. Economic Cost of Direct Program Services for Alcoholism and Alcohol Abuse

A variety of statewide administrative organizations in Alaska provide for direct alcoholism and alcohol services such as prevention, treatment, rehabilitation, training and research, as well as planning, coordination

and administration. Financial information regarding the operation of eleven primary statewide organizations was obtained and expenditures were analyzed for all alcohol-related components. The total cost for all programs for all alcohol-related components totaled almost \$3.7 million in 1975. This cost is independent of the costs in any other economic cost category considered. The program expenditures were distributed as follows: Treatment-rehabilitation--55%; prevention--32%; administration--7%; training--6%; and research--1%.

PART IX. Impact of Alcoholism and Alcohol Abuse on State Government Revenues and Expenditures

This Part of the Volume examined the expenditures and revenues of state government and identified amounts attributable to the sale and consumption of beverage alcohol and alcoholism and alcohol abuse. Revenues and expenditures were delineated by use and source of funds in order to more clearly separate the inflow and outflow of alcohol-related dollars.

Total state government expenditures attributable to alcoholism and alcohol abuse totaled about \$24.8 million in 1975. Total state government revenues amounted to about \$10.4 million.

PART X. Conclusion

This Part provided a summary of the total economic cost attributable to alcoholism and alcohol abuse for each category considered, and the total economic benefit for the entire state of Alaska. The absolute and relative magnitude of the economic cost for each and all categories was reviewed and compared with corresponding national information.

The total economic cost attributable to alcoholism and alcohol abuse amounted to \$131.2 million for the state of Alaska during 1975. The largest percentage of the total economic cost, 65 percent, was derived

from lost production due to alcoholism and alcohol abuse. This category itself is rather broad and includes costs associated with diminished productivity, occupational accidents and foregone earnings due to premature deaths.

Alcohol-related costs to the criminal justice system accounted for about 12 percent of the total and alcohol-related health and medical care costs contributed about 10 percent of the total cost. Motor vehicle accidents (excluding excess mortality costs) represented 7 percent of the total and social services and direct alcohol service programs each accounted for less than 3 percent of the total.

The total economic benefit to the state was calculated to be \$94.1 million.

In comparison with national findings, the total economic cost attributable to alcoholism and alcohol abuse, \$131.2 million for the state, was found to be 65 percent greater than a corresponding adjusted national estimate. The finding that the actual economic cost for alcoholism and alcohol abuse was greater than might be projected from national findings was not surprising, as discussed in this Part, but the magnitude of the difference is dramatic.

Further comparison of the distribution of the findings of this study with corresponding national findings for each of the categories studied indicated additional distinguishing characteristics of the economic cost of alcoholism and alcohol abuse in the state of Alaska. When adjusted for the overall difference in total economic cost, the categories of lost production and the criminal justice system contributed a disproportionately greater percentage of the total cost, compared to national findings. In addition, health and medical care costs and motor vehicle accidents were relatively less important in overall contribution to the total cost.

A summary of the total economic cost attributable to alcoholism and alcohol abuse for the state of Alaska in 1975 is provided below:

ECONOMIC COST OF ALCOHOLISM AND ALCOHOL ABUSE, 1975

Lost Production	\$ 86.4 million
Criminal Justice System	15.3 million
Health and Medical Care	13.3 million
Motor Vehicle Accidents (excluding mortality costs)	9.0 million
Direct Alcohol Services	3.7 million
Social Services	<u>3.5 million</u>
Total Cost	\$ 131.2 million

COMMENT

The final estimate of total cost of \$131.2 million is probably conservative. The estimate may contain some double counting, but if so, the effects are minimal. Also, as with most types of descriptive statistics, the total cost estimate is more reliable than any of the separate elements.

However, the conservative nature of the total estimate is primarily due to the inability to include all that could possibly be considered in this investigation, because of the lack of reliable data.

In addition, future estimates of the economic cost of alcoholism and alcohol abuse will probably increase considerably as more becomes known about the relationship of alcohol and human behavior and its physiological effects on the body. This will open additional areas of consideration and also allow development and refinement of estimation procedures.

ECONOMIC BASIS FOR SOCIAL COST AND BENEFIT ANALYSIS

Efficient use of resources in producing private goods may be obtained

through the workings of the market system, provided certain conditions are met. If all conditions of the free market system are fulfilled, the private price system (i.e., without interference by government) can yield socially optimal results in production and consumption of private goods. Output will be expanded until the production of one more unit of a good would add more to cost than it would add to the benefit of the consumer. If the cost of the additional production of goods exceeds the additional benefit, then the net contribution to well-being is negative. If fewer units than optimal were produced, the contribution to benefit by the last unit would be greater than its contribution to cost. In this case, production of more units would add a net positive benefit to society, increasing the overall level of well-being. The automatic workings of the price system assure that production is carried to the optimal level, thus assuring maximum benefits to society. One of the conditions necessary for this proper automatic functioning of the market system requires that all costs and all benefits associated with a good (i.e., resulting from production and consumption) be taken into consideration by those individuals affecting output and consumption decisions.

There are, however, goods and services produced in our economy where all the relevant costs or benefits are not felt or internalized by the producers. Since all the information necessary for the socially optimal decision is not taken into account, either over- or under-production may result. The classic case where costs may fail to be considered by producers is that of industrial pollution--for example, where wastes are dumped into a nearby river. Since the producer is not charged for using the river as a waste receptacle, no cost for this use is considered in arriving at production levels. There are, of course, costs associated with the waste dumpage--e.g. loss of fish and/or other members of the food chain; loss of

property value, drinking water, recreational opportunities by those living downstream; visual pollution. These results of the production process represent costs to society, but not necessarily to the producer. Since these costs are external to the production decision, they are referred to as externalities. The existence of such negative externalities tends to cause a level of production greater than socially optimal. The socially optimal quantity may be exceeded by the private producer, if only private (internal) costs are counted while external costs are ignored. To assure that the socially optimal result is obtained, all costs and benefits, both internal and external, must be evaluated.

A similar analysis is applicable to the output and consumption decisions made regarding beverage alcohol. This case differs slightly from that of industrial pollution, for, in the case of beverage alcohol, externalities are generated in the consumption process rather than in the production of the product. However, the general framework of analysis developed above is applicable. For an appropriate outcome to be assured in the market system, all costs and benefits, whether associated with production or consumption, must be taken into account. There are several types of negative externalities which can be associated with "excess" consumption of beverage alcohol--alcoholism or alcohol abuse. For example, costs such as motor vehicle injuries and deaths, increased crime, increased susceptibility to disease, may be related to alcohol abuse. These problems represent a cost to society as well as to the individual alcohol abuser.

The meaning of "economic cost" should be clearly understood in this context. Economists define costs in terms of possible alternative uses of resources. Since total amount of resources (land, labor, and capital) available to a society are limited, and all desires or wants cannot be satisfied with these limited resources, the provision of one type of good

or service necessitates the giving up of some other good or service. The value of what is lost or given up represents the cost associated with a given use of resources. This economic cost is referred to as the alternative or opportunity cost. The cost of a decision to utilize limited resources in a specific way is the same as the value of the opportunities foregone. Thus, the use of resources to care for individuals injured as the result of alcohol abuse represents an economic cost to society associated with alcohol consumption. Were it not for alcohol abuse, these resources would be available for use elsewhere in the economy. Costs of this nature, as well as private costs and benefits, must be taken into account when evaluating the impact of sale and consumption of a commodity on society.

The sale and consumption of beverage alcohol also represents an economic enterprise that contributes to the overall production within a society. The production of beverage alcohol as well as all the related activities of the wholesale and retail sale and distribution of the commodity also results in an economic impact that is considered an economic benefit for society.

The intention of this investigation is to comprehensively consider the economic cost and the economic benefit of the sale and consumption of beverage alcohol in Alaska. In some instances, methodological and data difficulties have placed serious restrictions on the ability to precisely estimate dollar values for all relevant categories of costs and benefits. However, conservative estimates are made for the several important categories, while remaining categories are delineated and discussed.

PART II. ECONOMIC BENEFITS OF SALE AND CONSUMPTION OF BEVERAGE
ALCOHOL

STATEMENT OF PROBLEM

The purpose of this section of the report is to estimate the economic benefits to the state of Alaska made by the sale and consumption of beverage alcohol.

Two major conventional sources of economic benefits exist for analysis: (A) the value added to state production by the beverage alcohol industry in the state; and, (B) the expenditure of federal dollars that come into the state as a result of alcohol sale and consumption.

METHODOLOGY

A. VALUE ADDED TO STATE PRODUCTION

The value added to state production represents the amount of productive activity that has occurred as measured in dollar value. Value added may be computed either by summing the dollar values of the returns to all factors of the production process,* or by directly measuring the dollar value of the output.

Determination of the value added by the factors-of-production approach would require a great amount of information. It would be necessary to aggregate the gross dollar value of wages, rents, interest, depreciation, indirect business taxes (such as alcohol excise tax), etc., for all the factors of all the business activity involved with sale and consumption of beverage alcohol in the state. Because of the severe limitations imposed by the lack of availability and access to the information

*Examples of factors of production are land, labor, capital, etc.

required for this method, the alternate procedure--direct measurement of output--was utilized. Use of either of the methods should yield the same results.

The most direct procedure to determine the total dollar value added would be to subtract the value of intermediate products from the total sales. In this case the value of intermediate products would be the cost of all alcohol imports to the state, and also wholesale purchases by Alaskan retailers, from Alaskan wholesalers. Thus:

Total Value Added = (retail value added) + (wholesale value added)
where,

Retail Value Added = (total gross retail sales) - (total wholesale purchases by Alaskan retailers)

and,

Wholesale Value Added = (total gross wholesale sales by Alaskan wholesalers) - (total wholesale costs by Alaskan wholesalers)

However, all required information was not able to be obtained for the above computations.* Therefore, an alternate estimation procedure was derived (see below).

ESTIMATION PROCEDURE--TOTAL VALUE ADDED

Given the constraints of unobtainable information, the general formulae used to derive the desired estimates are given below.

The formula for total value added remains the same as stated above, but is now estimated. Thus,

Total Value Added = (estimated retail value added) + (estimated wholesale value added)

*Actual Retail sales information or tax information for beverage alcohol is not maintained in any form by Departments of Revenue, Commerce, and Labor, or any other agency.

and,

Estimated
Retail Value Added = (estimated total gross wholesale sales + estimated retail mark-up) - (estimated total gross wholesale sales)

and,

Estimated
Wholesale Value Added = (estimated gross wholesale sales) - (estimated wholesale costs)

Retail Value Added. An estimate of the total value added by retail sales was made using the volume (gallonage) of wholesale sales to retail outlets by type of beverage, wholesale cost per case by type of beverage, distribution by type of beverage and retail outlet (on-premise and off-premise consumption), and retail mark-up by type of beverage.

The individual items of information needed for the estimate and the required arithmetic computations are shown in Tables II-1 and II-2. The total retail sales for all types of beverage alcohol were estimated to be \$140.8 million (Table II-2). Approximately \$66.7 million was derived from sale of liquor, \$14.9 million from sale of wine and \$59.2 million from sale of beer, at the retail level. Approximately \$95.6 million of sales of all types of beverage alcohol occurred in retail establishments licensed for on-premise consumption. About half that amount, or \$45.2 million of retail sales, occurred at outlets licensed for off-premise consumption.

The aggregated total retailer's cost (wholesale sales) for all types of beverage alcohol was computed to be \$57.8 million (Table II-1). This estimation procedure appeared to be reasonably accurate in relation to the actual total wholesale gross sales dollar volume of \$58.2 (as reported by the Alcohol Beverage Control Division, Alaska Department of Revenue). That actual total figure, however, was not able to be subtotaled

TABLE II-1

ESTIMATED TOTAL WHOLESALE SALES OF LIQUOR,
WINE AND BEER FOR 1975

Beverage Alcohol	1 Total Gallonage	2 Number of Cases	3 Average Cost Per Case	4 Total Wholesale Sales (\$ Millions)
Liquor	1,236,976	458,139	60.00	27.5
Wine	801,665	296,913	20.00	5.9
Beer	8,451,841	3,756,374	6.50	24.4
Total				<u>\$57.8</u>

- Column 1 Computed from the Alaska Department of Revenue monthly "Report of Alcoholic Beverages Distributed or Sold in Alaska".
- Column 2 The number of cases of liquor and wine was determined by dividing the gallonage by a factor 2.7; for beer, the gallonage was divided by 2.25 to get the number of cases.
- Column 3 Cost per case was determined from cost estimates provided by major wholesale distributors.
- Column 4 Total wholesale sales per beverage is the product of Column 2 and Column 3.

TABLE II-2

ESTIMATED WHOLESALE AND RETAIL SALES OF BEVERAGE ALCOHOL
BY TYPE AND RETAIL OUTLET, IN DOLLARS FOR 1975

Beverage Alcohol	Wholesale Sales ¹ (\$ millions)			Retail Sales ² (\$ millions)		
	Total	On- Premise	Off- Premise	Total	On- Premise	Off- Premise
Liquor	27.5	11.3	16.2	66.7	45.1	21.6
Wine	5.9	2.6	3.3	14.9	10.5	4.4
Beer	24.4	10.0	14.4	59.2	40.0	19.2
Total	\$57.8	\$23.9	\$33.9	\$140.8	\$95.6	\$45.2

1. Estimated percentage distribution of wholesale sales to on-premise and off-premise retail outlet determined by correspondence with major distributors. For liquor and beer, approximately 41 percent sales to on-premise retail outlets, 59 percent to off-premise outlets. For wine, the corresponding figures are 44 and 56 percent.

2. Retail Sales computed by estimated mark-up provided by correspondence with major distributors. On-premise retail mark-up established at 300 percent. Off-premise retail mark-up established at 33 percent.

for liquor, wine and beer separately.

The estimated retail value added amounts to \$83.0 million (\$140.8 million minus \$57.8 million) for retail sale of all types of beverage alcohol at retail establishments licensed for on-premise and off-premise consumption.

Wholesale Value Added. The estimated amount of total gross wholesale sales was computed in Table II-1 as about \$57.8 million. The costs of beverage alcohol distribution in Alaska to wholesalers was estimated as 85% of the gross wholesale sales,* or about \$49.1 million. The wholesale value added amount is thus \$8.7 million (\$57.8 million minus \$49.1 million).

Preliminary Results. Given the findings of the above estimation procedures for retail and wholesale value added, the total value added to state production by sale of beverage alcohol in Alaska can be estimated.

The estimated total value added is equal to the sum of the retail and wholesale value added. Thus, \$83.0 million plus \$8.7 million sums to \$91.7 million.

B. FEDERAL FUNDS IN ALASKA

Certain federal dollars that come into the state as the result of the sale and consumption of beverage alcohol may also be viewed as a benefit to the state. In a sense these should be netted out against increased federal taxes as a result of federal alcohol programs, but this would be extremely difficult to do.

The federal funds that may be viewed as an economic benefit for the state are funds expended for services which are attributable to

*This percentage figure estimated by major distributors---as a conventional, "rule of thumb" proportion.

alcoholism and alcohol abuse. Certain funds are available from federal sources only if they are tied to certain "alcohol-related" activities, such as direct alcohol service programs or other programs where eligibility for financial assistance is attributable to alcoholism or alcohol abuse (e.g. transfer payments for public assistance and medical care). For convenience, these funds can be grouped and called "tied" federal funds; i.e., they are tied to particular types of expenditures. These funds would not come to the state were it not for problems associated with alcoholism and alcohol abuse. They are used to pay part of the costs of the external effects of alcohol consumption, but they constitute an economic benefit for the state because the funds are additional resources. Hence, production (services) based on these resources does not represent an opportunity cost to Alaskan citizens (although it would for the nation as a whole).

The determination and computation of the dollar amount of economic benefit from "tied" federal funds is presented and discussed in Part IX of the Volume, concerned with state government expenditures and revenues. As shown in Tables IX-2 and IX-3 of Part IX, the value of "tied" federal funds amounted to about \$2.4 million in 1975.

RESULTS

Given the findings of the estimation procedures for the different sources of economic benefits to the state as a result of the sale and consumption of beverage alcohol, the total economic benefit can be estimated.

The estimated total value added to state production is equal to the sum of the retail and wholesale value added, which amounted to \$91.7. In addition, the economic benefit of "tied" federal funds amounted to

\$2.4 million. Together, the amount of \$94.1 million is the best estimate available for the total economic benefit from the sale and consumption of beverage alcohol in the state of Alaska in 1975.

PART III. ECONOMIC COST OF LOST PRODUCTION DUE TO ALCOHOLISM
AND ALCOHOL ABUSE

STATEMENT OF PROBLEM

Abusive consumption of alcohol by workers in the labor force is generally considered to cause diminished productivity. These workers are considered to produce less because of the combined effects of alcohol abuse and absenteeism, increased injury rates, premature death and associated industrial costs. Since these workers produce less than they can (because of alcohol), society suffers as a result of fewer goods being produced (and hence, consumed). Ideally, this lost production would be measured by computing the reduced number of units produced as a result of alcohol abuse, and multiplying this by the price of these goods in order to get the dollar value of lost production. This type of information is not available, however, and therefore an alternative estimation procedure was used to compute the economic cost of lost production related to alcohol abuse.

Economic costs were computed using three main categories for estimation: (A) diminished productivity of male and female alcohol-abuser-workers (due to reduced efficiency and excessive absenteeism), (B) loss of production due to alcohol-related occupational injuries and, (C) loss of production due to alcohol-related premature death.

METHODOLOGY

A. DIMINISHED PRODUCTIVITY

1. ESTIMATION PROCEDURE--MALES

The estimation procedure is based on the assumption that workers

are paid according to their productivity, and less productivity means proportionately lower wages. Thus, the basis of measurement of productivity is workers' incomes rather than actual production units. For example, this procedure assumes that if a worker produces ten percent less than his comparable co-workers, he will be paid ten percent less.

The simplest way of computing this differential would be to compare median incomes of non-abusers and those of abusers within the labor force. However, this information obviously is not available since the abusers are not an identifiable population group. Further, an overall percentage estimate of the proportion of the population that might be abusers based only on median income census figures would ignore the possibility that abusers may have a different demographic profile than non-abusers and that other factors (age, sex, race, etc.) may also influence differences in income. Complete information regarding basic demographic characteristics of abusers and non-abusers is also not available; however, enough information does exist to stratify median income by age groups.

The median family income for heads of households for all Alaska residents by age groups is presented in Table III-1, column 1. The information was obtained from the 1970 census information. It is considered as the median income for non-abusers, although the information includes incomes for all Alaska families including the reduced incomes attributed to alcohol-abuser-workers.

The estimated percentage reduction in income by age group, due to alcohol, determined in a national study,* is presented in column 2

*The Economic Cost of Alcohol Abuse and Alcoholism, 1971, Final Report, HSM, 42-73-114 (NIA) March, 1974, p. 47. Prepared for National Institute on Alcohol Abuse and Alcoholism by Policy Analysis, Inc., Boston, Mass. Hereafter, this report will be referred to as Economic Cost.

TABLE III-1
MEDIAN INCOME DIFFERENTIAL BY AGE GROUPINGS
FOR ALCOHOL ABUSERS AND NON-ABUSERS
IN ALASKA, 1970

Age	1 Family Median Income Non-Abusers	2 % Decrease in Income Due to Alcohol Abuse	3 Decrease in Income Due to Alcohol Abuse
20-29	\$ 9,400	11.25	\$1,058
30-39	13,200	17.35	2,290
40-49	15,000	22.85	3,428
50-59	15,800	15.48	2,446

Column 1 Computed from Table 202, Alaska, U.S. Department of Commerce, Bureau of Census 1970.

Column 2 Results are from National Probability Samples of Social Research Group, School of Public Health, University of California, Berkeley, 1974 (unpublished paper), cited in Economic Cost, p. 47.

Table III-1.

Given the information in columns 1 and 2, the decrease in income due to alcohol abuse according to age group can be estimated by multiplying the two columns for each age group. Thus, column 3, Table III-1, shows the decrease in median incomes attributed to alcohol abuse for the different age groupings presented.

The information in Table III-1 reflects the differential characteristics of median incomes adjusted for age for the Alaska population and the estimated differential income characteristics of alcohol abusers by age applied to the Alaska population.

In order to compute the absolute difference in income due to alcohol abuse it was necessary to establish the number of families that have an alcohol-abusing head. Table III-2, column 1 shows the distribution and number of families by age groupings of family heads, taken from the 1970 census figures for Alaska. Estimation of the percentage of families with alcohol-abusing family heads became limited to male heads of families due to available data. Therefore, in order to calculate the number of families with an alcohol-abusing male, the percentage of all families with a male head is shown in column 2, Table III-2, by age group. Column 3 of the same table shows the estimate from a national study* of the percentage of families with an alcohol-abusing male head by age group. Finally, in column 4, Table III-2, the cross multiplication of columns 1, 2, and 3 yields estimates of the number of families with an alcohol-abusing head for each of the age groups shown.

Given the information regarding the decrease in median income due to alcohol abuse (Table III-1) and the estimated number of families

*Ibid., p. 48.

TABLE III-2
NUMBER OF FAMILIES WITH AN ALCOHOL ABUSING MALE AS HEAD,
ADJUSTED FOR 1975

Age of Head	1 Estimated Number of Families	2 Percent of Families with Male Head	3 Percent of Families with Alcohol-Abusing Male	4 Estimated Number of Families with Alcohol-Abusing Male (1 x 2 x 3)
20-29	28,815	93.9	21	5,682
30-39	36,808	93.9	13	4,493
40-49	28,814	93.9	12	3,248
50-59	17,530	93.9	11	1,811

Column 1 From Table 202 in correlation with Table 174, Alaska, U.S. Department of Commerce, Bureau of Census, 1970. A determination was made as to the number of families per age group by graphing the information provided in the tables and readjusting the data for difference in age groupings, and population projections between 1970 and 1975.

Column 2 From Table 200, Alaska, Census 1970.

Column 3 Economic Cost, p. 47.

with an alcohol-abusing male head, adjusted for age and the Alaska population (Table III-2), it is possible to calculate an estimate of the total lost income due to alcohol abuse for each age group and for the Alaska population as a total group.

Preliminary Results. The decrease in income due to alcohol abuse as computed in Table III-1, multiplied by the total number of families with an alcohol-abusing male head as determined in Table III-2, produces an estimate of total lost income, by age group, due to alcohol abuse. These results are presented in Table III-3. The unadjusted estimate of total income lost due to alcohol abuse amounts to approximately 31.86 million dollars. This figure needs to be adjusted for value in 1975 dollars since income figures were based on 1969 census information. To adjust the \$31.86 million total for inflation, the total amount was multiplied by the percentage increase in the consumer price index in Alaska between 1970 and 1975, which amounted to 50 per cent. This works out to a factor of 1.50, multiplied times the \$31.86 million, to yield an estimated adjusted total of \$47.79 million as the estimate of total lost income for males due to lowered productivity as a result of alcohol abuse.

2. ESTIMATION PROCEDURE--FEMALES

The reduced productivity of the female alcoholic was approached by utilizing two estimates regarding the prevalence of female alcoholics and the production market value of female workers. The estimates are certainly conservative, and subject to considerable debate.

The prevalence of female alcohol abusers in Alaska in 1975 was estimated by the Marden procedure* which allows estimations based on age

*Marden, Parker G., A Procedure for Estimating the Potential Clientele of Alcoholism Service Programs, Prepared for NIAAA, 1974.

TABLE III-3

LOST PRODUCTION COSTS AMONG FAMILIES WITH ALCOHOL ABUSING MALE HEADS
BY AGE GROUPS AND TOTAL POPULATION

Age Group	1	2	3
	Decrease in Median Income Due to Alcohol Abuse of Male Head of Household (1969 dollar values)	Estimated Number of Families With Alcohol-Abusing Male Head	Estimate of Total Lost Income (millions)
20-29	\$1,058	5,681	\$ 6.01
30-39	2,290	4,493	10.29
40-49	3,428	3,248	11.13
50-59	2,446	1,811	4.43
Total		15,233	\$31.86 million
Adjustment for 1975 dollar value			\$47.79 million

Column 1 From Table 1, Column 3.

Column 2 From Table 2, Column 4.

Column 3 To adjust the \$31.86 million total for inflation (since it was derived from 1969 dollar values) it was multiplied by the percentage increase in the Consumer Price Index, 50 percent, established by the Alaska Department of Labor.

groupings. This procedure however, treats females as a separate aggregated occupational category, independent of the occupational categories used to estimate prevalence of alcohol abuse among males. This procedure thus assumes that females cut across all occupational categories in unknown ways and also considers "housework" as a generalized occupational category for females eligible for the labor market by virtue of age.

The Social Security Administration recently released figures estimating the value of household services to be \$7,500 per year.* Although this estimated "value" would be questioned by many, the determination is too equivocal to argue that it is too low. However, diminished activity clearly represents a lowering of living standards for the family whether her job is away from home or in the home. Suffice it to say that the exactitude of the unit dollar value of the economic loss of women is not the present issue but rather a description of the ramifications of alcoholism as an economic problem which reflects contemporary socio-economic differentiations among females and males.

Preliminary Findings. The Marden procedure yielded an estimate of 5,625 female alcohol abusers among the drinking age population in 1975. Of this number, 5,170 were estimated in the 20-59 age group.

Accepting the \$7,500 per year average income value, regardless of age or employment, and regarding diminished productivity to be about 25 percent,** a total cost can be approximated. The average annual income per female, multiplied by the estimated number of female alcohol abusers, multiplied by the estimated proportion of diminished productivity, provides

*Bell, Carolyn Shaw, "Woman's Work and the GNP," The Boston Globe, December 25, 1975.

**Estimate provided in Report to the Special Subcommittee on Alcoholism and Narcotics, of the Committee on Labor and Public Welfare, U.S. Senate, "Substantial Cost Savings From Establishment of Alcoholism Program For Federal Civilian Employees".

a crude measure of the loss. Thus, $(\$7,500) \times (5,170) \times (.25) = \$9.69$ million.

B. LOST PRODUCTION--OCCUPATIONAL INJURIES

ESTIMATION PROCEDURE

It is impossible to actually determine payments made for alcohol-related occupational injuries. State laws preclude eligibility for payment if it is solely attributable to intoxication; however, such identification has occurred only once in approximately 14,000 claims. Occupational accidents are generally considered to occur more frequently for alcohol abusers than non-abusers. Some proportion of disability and death benefit payments are for alcohol abusers.

Financial payments for job-related injuries and deaths are provided each year by programs that provide disability and death benefits for workers in the Alaskan labor force. Most of the labor force, excepting military personnel, is insured by three main plans: (1) Workman's Compensation, (2) Federal Employees Compensation and, (3) Northwest Marine Welfare. Respectively these plans cover 142,057, 18,199, and 2,030, for a total of 162,286 workers (FY75).

The total cost of excess payments due to alcohol-related occupational injuries can be estimated by applying an approximate percentage of alcohol-related occupational injuries to the total payments made under all plans, including payments for death benefits. (Mortality costs will be included in the next section.) Close estimates of total costs for injury and death benefits were made for 1975, by Workman's Compensation and by the Federal Employees Compensation. Northwest Marine Welfare could not provide an estimate of loss; so, on the basis of membership numbers, a proportionate estimate of their losses was made, assuming that their cost would be comparable to Workman's Compensation and the

Federal Employees Compensation. These estimates are shown below:

Workmen's Compensation (losses)	\$33,772,000
(Administration & Support)	720,000
Federal Employees Compensation	
(Losses & Administration)	2,268,000
Northwest Marine Welfare	
(Losses & Administration)	253,000
Total Costs.....	\$37,013,000

No reliable evidence exists on the percentage of excess injuries which are attributable to alcohol abuse, although a wide range of guesses are available, which range as high as 26 percent. A conservative estimate of fifteen percent was adopted for estimating excess alcohol-related losses.

Preliminary Results. The three plans accounted for a total of \$37 million in providing disability and death benefits for slightly more than 162,000 workers. Of this total dollar value, 23 percent or \$8.5 million was deducted as an estimate of the amount paid out for death benefits. Against the balance of \$28.5 millions the estimated percentage of excess injuries for alcohol-abusers--15%--was applied to yield an amount of \$4.3 million.

Therefore, it is estimated that, of the total disabilities payments of \$28.5 million, \$4.3 million was paid out as excess due to alcohol abuse.

C. LOST PRODUCTION--EXCESS MORTALITY

The loss of production due to premature death must be considered a cost to society. In economic terms, the future production of the deceased is denied to the community. This section will provide a cost estimate of lost production for excess deaths related to alcohol abuse and alcoholism. Separate estimates will be made for males and females.

1. ESTIMATION PROCEDURE--MALES

Available information regarding mortality within the state does not accurately include alcohol involvement within causes of death and contributing factors. Thus in order to obtain an estimate of excess mortality for males, and therefore, foregone earnings, within the constructs of available data, a number of factors must be determined: excess number of deaths attributable to alcohol abuse, and age and time of death; foregone earnings for the above persons; and, an appropriate discount rate.

The number of male excess deaths estimated to be attributable to alcoholism is shown in Table III-4, along with the computational procedure. Total deaths for males, obtained from the State Bureau of Vital Statistics for 1974 (most recent available information), are shown in column 1, grouped by age categories. The percent of excess deaths attributable to alcohol (column 2) is adapted from similar material presented in the national study.*

The results of the determination of the number of person-years of lost production for premature deaths, by age categories, and up to the age of 64, are shown in Table III-5. The calculations assume that the alcohol abuser would have behaved in a statistical manner similar to persons of his age category in the general male population. The cell entries show the excess person-

*Economic Cost, p. 51.

TABLE III-4

EXCESS MALE DEATHS ATTRIBUTABLE TO ALCOHOLISM AND ALCOHOL ABUSE

Age Group	1	2	3
	Total Deaths	Percent Excess Deaths	Excess Deaths
20-24	106	19	20
25-34	103	20	21
35-44	112	40	45
45-54	118	19.5	23
55-64	163	12.3	20

Sources:

Column 1. Alaska Bureau of Vital Statistics.

Column 2. Economic Cost of Alcohol Abuse and Alcoholism, 1971,
HMS 42-73-114, NIAAA, March 31, 1974, pg. 51.

Column 3. Column 1 multiplied by column 2

TABLE III-5
PERSON-YEARS LOST DUE TO EXCESS DEATHS DUE TO ALCOHOLISM AND
ALCOHOL ABUSE FOR MALES

Age Group of Death	Age Group When Years Lost				
	20-24	25-34	35-44	45-54	55-64
20-24	49.84	196.96	191.36	179.04	153.28
25-34		102.34	200.56	187.38	160.18
35-44			222.12	421.56	360.00
45-54				112.42	189.35
55-64					93.12

years of lost production for premature deaths during the year intervals shown and for each category.

The next item needed is the income the deceaseds would have earned if they had not died. Median total income by designated age groupings for the entire Alaskan population is presented below in Table III-6.

TABLE III-6
MEDIAN TOTAL INCOME BY
AGE FOR 1970

Age Group	Median Total Income*
20-24	7,088
25-34	12,154
35-44	14,420
45-54	16,082
55-64	13,275

The results of the calculation of the undiscounted value of lost production in dollar terms is shown in Table III-7. The figures were produced by multiplying excess lost person-years (Table III-5) against median annual income at time of death (Table III-6).

At this point the present dollar value of the cost of lost production may be determined by discounting the values in Table III-7. A discount rate of seven percent was chosen as a conservative rate. The present day value of the cost of lost production related to excess mortality due to alcoholism is

*Source: Alaska Census, U.S. Department of Commerce

TABLE III-7

UNDISCOUNTED COST OF LOST PRODUCTION DUE TO EXCESS
MORTALITY ATTRIBUTABLE TO ALCOHOL ABUSE AND
ALCOHOLISM FOR MALES (millions of dollars)

Age at Death	20-24	25-34	35-44	45-54	55-64
20-24	.353	2.394	2.759	2.879	2.035
25-34		1.244	2.892	2.013	2.126
35-44			3.203	6.780	4.779
45-54				1.808	2.633
55-64					1.236

shown in Table III-8.

Preliminary Results. As indicated in the last column, the total cost for all age groups amounts to \$21.76 million. This figure includes discounted future wages that are not lost within one year. The corresponding costs attributable to 1974 only would be \$2.502 million, based on excess deaths of alcohol abusers in 1974. (Computed by multiplication of excess deaths--Table III-4--by age adjusted median income Table III-6.) Of course, this figure for only 1974 costs excludes considerations of the lost wages due to excess deaths of alcohol abusers in past years that would technically be counted in 1974. Thus, the \$21.76 million stands as the best estimate.

2. ESTIMATION PROCEDURE--FEMALES

The procedure used in estimating the cost of lost production of males as a result of excess mortality attributable to alcoholism was followed in developing comparable cost figures for lost production attributable to excess mortality due to alcoholism of females. Application of this procedure for females involved many more judgments and assumptions than was true for males. The percentage of excess deaths of females may not be the same as for males; even less data is available for females. In addition annual income for females involved many assumptions (as mentioned previously) and amounted to an almost arbitrary choice. The object of this evaluation was to produce an estimate of the economic impact upon society of the excess deaths of females due to alcoholism. It should be noted that the mortality rate is lower for women than for men, so a different mortality rate factor was used in the "years lost" calculation (Table III-10); otherwise, the procedure was identical to that used in the calculation of the present day value of the costs of lost production of excess mortality for males.

Preliminary Results. The information and procedure used in estimating costs are presented in the Tables III-9, -10, -11 and -12 on the following pages.

TABLE III-8

THE PRESENT VALUE* OF COSTS OF LOST PRODUCTION DUE TO
EXCESS MORTALITY OF ALCOHOL ABUSERS--1974
(millions of dollars)

Age at Death	20-24	25-34	35-44	45-54	55-64	Total
20-24	0.30	1.48	0.87	0.46	0.16	3.27
25-34		0.92	1.09	0.58	0.21	2.80
35-44			2.36	2.54	0.91	5.81
45-54				1.33	0.99	2.32
55-64					0.91	0.91
Total**						\$ 15.11
Adjusted Total***						\$ 21.76

*Discount Rate of 7%

**1969 dollar value

***Adjustment from 1969 to 1974 dollar value based on 44% increase in
Consumer Price Index

The sequence is the same as the previous section for males. Table III-9 shows the number of excess deaths attributable to alcoholism and annual income. Table III-10 shows the person-years lost. Undiscounted costs of lost production are presented in Table III-11, and finally, Table III-12 shows that the present day value of lost production due to excess mortality for women amounts to slightly more than \$2,829 million.

TABLE III-9
EXCESS FEMALE DEATHS AND ESTIMATED
ANNUAL INCOME--1974

Age Group	1 Total Deaths	2 Percent Excess Deaths	3 Excess Deaths	4 Annual Median Income
20-24	19	20	3.6	\$ 7,500
25-34	23	20	4.6	7,500
35-44	43	40	17.2	7,500
45-54	71	19.5	13.8	7,500
55-64	66	12.3	8.1	7,500

Sources:

Column 1. Alaska Bureau of Vital Statistics

Column 2. Economic Cost, pg. 51

Column 3. Column 1 multiplied by column 2.

Column 4. Estimate of Social Security Administration, 1974.