

HOW DOES IHS RELATE ADMINISTRATIVELY TO THE HIGH ALCOHOLISM MORTALITY RATE?

Thomas R. Burns, Ph.D.

Abstract: From 1969 to 1990 the alcoholism mortality rate for American Indians/Alaska Natives (AI/AN) has been steadily decreasing. Compared to the U.S. All Races overall rate decrease of 7.8% in that time period, the AI/AN rate has decreased 33.6%, a remarkable fourfold decrease in the mortality rate due to alcoholism. In the decade from 1978 to 1988 the rate decreased from 64.5/100,000 in 1978 to 37.3/100,000 in 1988, a decrease of 42.2%. The comparable figures for U.S. All Races were 8.1/100,000 in 1978 and 7.0/100,000 in 1988, a decrease of 13.6%. During this decade (1978 to 1988) the Indian Health Service (IHS) embarked upon a major effort to assimilate and to expand alcoholism programs then transferred from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) by incorporating those programs into the IHS health delivery system. The number of programs has more than doubled (158/400) since the transfer was completed in 1983. Funds, moreover, have quadrupled (\$20/\$82.3 million in 1993). The actual funds expended by IHS from Fiscal Year (FY) 1981 through FY 1993 were \$559,916,000. Despite the dramatic increase in numbers of programs and total funds applied to the reduction of alcoholism mortality, available data reveal an increase in alcoholism mortality of 40.3% from 1986 to 1990. This article reviews and questions the relationship of allocations, per capita expenditures, and service components available to reduce alcoholism mortality by IHS Areas in light of the increase in the mortality rate and the fourfold increase in the budget. The data appear to show little relationship of mortality rate with allocations, the number of service components available, or per capita expenditures.

Background

American Indians and Alaska Natives (AI/AN) continue to encounter major problems with alcoholism and substance abuse as indicated by high mortality rates. To counteract this severe health problem

Indian Health Service (IHS) has adopted the Healthy People 2000 goals for the nation. The Alcoholism and Substance Abuse Program Branch (ASAPB), and administrative unit of the Office of Health Programs (OHP) of IHS, is committed to reducing alcoholism mortality by addressing goals related to alcoholism, especially goal 4.2 of the national plan (below).

- 4.2 Reduce cirrhosis deaths to no more than 6 per 100,000 people. (Age-Adjusted baseline 9.1 per 100,000 in 1987.)
- 4.2b American Indian and Alaska Native men 1987 Baseline: 26.9. 2000 Target: 13.

This article presents IHS data which does not support the potential for achieving the adjusted target for AI/ANs. A review of alcoholism mortality data in relationship to allocations, per capita expenditures, availability of service components, and size of population to be served, indicates an apparent absence of a rationale for dealing with this high priority health problem.

The IHS ASAPB embarked upon significant developmental efforts in response to the Anti-Drug Abuse Act of 1986 (Public Law 99-570) and the Omnibus Drug Bill Amendments of 1988 (Public Law 100-690). These included goals of constructing one youth regional treatment center in each IHS Area, placing an aftercare worker in each IHS service unit (local health service delivery area), providing community education and training activities for care giving staff, establishing urban treatment

ALCOHOLISM MORTALITY RATES American Indian & Alaska Natives

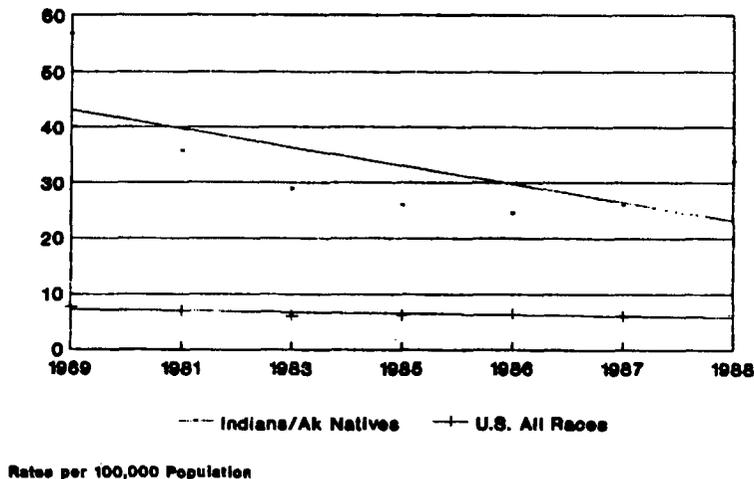


Figure 1
Alcoholism Moratlity Rates — American & Alaska Natives.

and prevention programs, and treatment for adult family members of youth in treatment centers.

The support IHS has received to combat its number one health problem, alcoholism and substance abuse, has grown more than four times since 1983 when funds were received for adult treatment only. The budget has risen from \$20.2 million in 1983 to over \$82.3 million in FY 1993 with the increase in resources for youth treatment, community education and training, aftercare services, urban substance abuse and prevention programs, and treatment for family members of youth in treatment (see Appendix A).

Yet, IHS has stated, "In 1989–1991, the age-adjusted alcoholism mortality rate for the IHS service area population was 37.6. When the 3 IHS Areas (Oklahoma, California, and Portland) with apparent problems in underreporting of Indian race on death certificates are excluded, the rate is 51.8. This is 630% higher than the U.S. All Races rate of 7.1 for 1990. The Aberdeen Area rate of 95.6 was 13.5 times the U.S. rate." (Chart 4.22, Age-Adjusted Alcoholism Mortality Rates, Calendar Years 1989–1991. Regional Differences in Indian Health, 1994).

Table 1
Alcoholism Mortality Rates by IHS Area (CY 1989–1991)

IHS Area	Rate per 100,000 Population**	Ascribed Rank
*Oklahoma	9.3	1
*California	20.0	2
Nashville	22.4	3
Bemidji	30.6	4
*Portland	41.0	5
Alaska	43.2	6
Phoenix	50.6	7
Tucson	52.2	8
Albuquerque	53.3	9
Navejo	53.7	10
Billings	61.7	11
Aberdeen	95.6	12
U.S. (1990)	7.1	
IHS total (all areas)	37.6	
IHS total (9 areas)	51.8	

* IHS Areas with underreported alcoholism mortality.

**Source: Table 4.22, Age-Adjusted Alcoholism Mortality Rate, IHS, Regional Differences in Indian Health, 1994.

Current IHS strategies designed to decrease mortality associated with alcoholism do not appear to be working as successfully as hoped for. Those strategies include basic contracting for such services as alcoholism counseling, primary residential treatment, halfway house, limited educational services in school systems, residential treatment centers for youth and other youth prevention activities by IHS Area Offices with tribes and urban programs as well as relying upon additional resources from other federal entities such as the National Center for Substance Abuse Prevention (NCSAP) and Treatment (NCSAT) for specialized interventions. Since 1969, the alcoholism mortality rate has been going down, yet observation indicates that the rate has been accelerating since 1986 (see Table 2 below).

Table 2
Chart 1 - AI Alcoholism Mortality Rate

Calendar Year	Indian & Alaska Native		U.S. All Races		Footnote
	Number	Rate	Number	Rate	
CY 1989-91	1,079	37.6	19,587	7.1	(1)
CY 1987-89	1,006	37.3	18,715	7.0	(2)
CY 1986-88	742	29.3	15,909	6.0	(3)
1986	216	26.8	15,525	6.4	(4)
1985	228	28.4	15,844	6.2	
1984	231	31.7	15,706	6.2	
1983	246	34.5	15,424	6.1	
1982	242	38.6	15,596	6.4	
1981	282	43.8	16,745	7.0	
1980	323	50.6	17,742	7.5	
1979	338	57.7	17,064	7.4	
1978	354	64.5	18,490	8.1	
1977	353	70.1	18,437	8.3	
1976	337	72.7	18,484	8.6	
1975	326	76.6	18,190	8.6	
1974	338	80.5	18,530	8.6	
1973	312	79.6	17,791	8.6	
1972	241		17,484		
1971	334	62.9	16,891	8.4	(5)
1970	272	56.2	16,180	8.1	
1969	267	56.6	15,138	7.7	

Observation of the table above indicates that the alcoholism mortality rate has dropped from 56.6 in 1969 to 26.8 in 1986, an overall decrease of 52.7% despite an apparent increase of 43% from 1969 to 1974. Following a period of decrease from 1974 to 1985, the alcoholism mortality rate has since increased 40.3% from 1986 to 1990. (However, it should be noted IHS had not administered an alcoholism activity from 1969 to 1977. Responsibility had been vested in the Office of Economic Opportunity [OEO] until 1971 and thereafter in the NIAAA to 1978.)

Several factors (not the subject of this article) may contribute to the increasing rate including lack of service components available or, at least, a lack of an appropriate mix of service components, trained and certified staff to deal with the problem, wage and working conditions (lack of licensed facilities) low per capita expenditures for treatment, insufficient aftercare services, and the non-prioritization for expenditure of resources among other administrative problems.

In an effort to better understand this phenomenon, the author collected and ranked the data related to the allocation of federal funds and breadth of program components available throughout the ASAPB using budgetary, service population, and mortality data available for each Area.

Procedure

Data were collected from a service components list published by the ASAPB for each IHS Area, the ASAPB budget document for 1993 listing alcoholism and substance abuse allocations to each IHS Area, the IHS service population as published in *Table 2.1, IHS Service Population by Area, 1990–2000, Trends in Indian Health, 1992*, and mortality data from *Table 4.22, Age-Adjusted Alcoholism Mortality Rates, Regional Differences in Indian Health, 1994*.

Service components are those “parts” of tribal or urban alcoholism and substance abuse program funded by IHS as separate entities. For instance, a tribal program may provide several components of a total care delivery system, e.g., outpatient counseling, primary residential treatment, youth prevention services among others. Each component has its own source of funding such as from the Indian Health Care Improvement Act (Public Law 94–437) or the Anti-Drug Abuse Act of 1986 (P.L. 100–690) which provides personnel and operational support.

The author calculated the per capita expenditures by dividing the allocation to each IHS Area by the service population. The IHS Area with the highest per capita expenditure was ranked number 12; the second highest was ranked number 11, and so on until the ranking was complete. A similar procedure was used for mortality rate rank order, service population rank order, allocation rank order, and service components rank order. The data were then regressed with a stepwise multiple regression analysis to predict the mortality rate rank in a first analysis. Independent

variables included population, allocation, total service components available for treatment, and per capita expenditures.

Results

In ordering the IHS Areas by mortality rate order with services population, per capita expenditures and service components available, the author found that Aberdeen Area was first in mortality rate, third in per capita expenditures, fourth in service components available and seventh in services population. Aberdeen Area is the fourth highest in IHS allocations of alcoholism and substance abuse funds.

Billings was second in mortality rate, first in per capita expenditures, seventh in allocations, and tenth in both services population and service components available. Navajo Area was third in mortality rate, first in allocations, second in services population, and eleventh in both per capita expenditures and service components available.

Please refer to Table 3 (Rank Order of Mortality with Other Factors) for complete listing of IHS Areas. Of all the IHS Areas, Tucson (fifth), Portland (eighth), and Oklahoma (twelfth) were the only Areas where the mortality rate rank matched the per capita expenditures. Data for the elements of Table 3 including service population by IHS Area, FY 1993 allocations, per capita calculations by IHS Area, and service components listed by Area are found in Appendices A, B, C, and D following this report.

Table 3
Rank Order of Mortality with Other Factors

Area	Mortality Rank	Ranking of Other Factors			
		Svc Pop	Alloc	Per Cap	Svcs Avail
Aberdeen	12	6	9	10	9
Billings	11	3	6	12	3
Navajo	10	11	12	2	2
Albuquerque	9	5	7	11	5
Tucson	8	1	1	8	1
Phoenix	7	9	8	3	12
Alaska	6	7	10	7	4
*Portland	5	10	11	5	10
Bemidji	4	4	3	6	6
Nashville	3	2	2	9	7
*California	2	8	5	4	11
*Oklahoma	1	12	4	1	8

The regression analysis (Statpac Gold Statistical Analysis Package) yielded the following results. To predict mortality rank order (dependent variable) neither service population, allocation, service components, nor per capita expenditure rank order met the significance level for entry.

With all variables forced the following simple correlation matrix was formed in Table 4.

Table 4
All Variables Forced

	DV	IV1	IV2	IV3
IV1 Service pop. rank order	-.2378			
IV2 Allocation rank order	0.4266	0.6224		
IV3 Service compon. rank order	-.4196	0.4336	0.1189	
IV4 Per cap. exp. rank order	0.5315	-.7972	-.1888	-.3427

The F-ratio was 3.3984 with 4 and 7 degrees of freedom. The probability of chance was 0.0759. Regression coefficients are listed in Table 5.

Table 5
Regression Coefficients

Constant = 3.1735					
Variable	Coeff.	Beta	F-Ratio	Prob.	Std. Error
IV1	-0.2760	-0.2760	0.1775	0.6863	0.6549
IV2	0.6961	0.6961	3.2379	0.1129	0.3869
IV3	-0.2616	-0.2616	1.0508	0.3410	0.2552
IV4	0.3533	0.3533	0.5198	0.5006	0.4900

At best, a weak association can be found of allocation and per capita expenditure rank orders with mortality rank order at the zero-order level. One would hope that a sufficient amount of funds would impact the mortality rate. However, given the few observations available, small sample size, and associated low statistical power with 12 cases, this can hardly be stated with assurance.

Observation of the raw data indicate the Area with the highest service population has the lowest mortality and per capita expenditure rates. The Area with the highest allocation also has the next to lowest per capita expenditure and service components available rankings. The Area with the highest mortality rate rank has moderately high per capita expenditure and service components available ranks. One should use caution in interpreting the raw data as well as the results of this review.

Recommendation

It is beyond the scope of this article to review other factors which could contribute to a reduction of the alcoholism mortality rate. Such factors may include the quality of services delivered, the quantity and frequency of aftercare, acceptability and accessibility of those services, and coordination among other service providers.

Among other considerations, the quality of services is determined by training and expertise of staff, salary considerations, facility requirements, numbers of staff, quality of supervision, inservice education, appropriateness of service delivered to the problem presented.

Alcoholism especially is a chronic disease where relapse is the norm. An essential element of any treatment plan to counteract this characteristic is the provision of aftercare service, a combination of active treatment with community support to change a lifestyle. The availability of appropriately trained aftercare personnel and support services is critical to the successful intervention of alcoholism.

If basic services are not acceptable, i.e., the "right" mixture of services provided by trained staff who are at least cognizant of, if not representative of, community cultural standards and beliefs, those requiring services will not seek them. Such services must also be accessible, i.e., available in locations and at times where and when needed. Where elements of the continuum of services are not supplied, coordination among other service providers is a must to close the net around those who would fall through.

A review of these latter elements argues for the need for IHS to develop a services research agenda into the escalating mortality rate as a function of quality assurance activity. IHS should undertake a retrospective study of those who have died from alcoholism related causes to determine those characteristics of the present treatment system which need reinforcement or change.

Such a study would yield valuable information about the integration of the tribal treatment system with the IHS hospital and health clinics program and yield data about whether detoxification services were available, the nature and amount of aftercare given/received, the amount and type of treatment received while alive, in addition to valuable demographic information. Whether IHS has the capacity for such a critical examination is beyond the scope of this review; however, individual tribes would benefit from the data obtained to improve service delivery if such a study were done.

Very difficult choices face IHS. Should the funds made available by Congress for the control of alcoholism be tied to population indices? If so, those tribes with the highest population should receive the greater amount of funds. Or should IHS solely distribute those funds on the basis of years of productive life lost? If so, then those tribes doing whatever they are doing to keep alcoholism mortality low may have funds taken from

them to be reallocated to high mortality areas. Since urban areas are underrepresented in the distribution of funds, should IHS reconsider its allocation process to provide more support in higher population centers?

The issues generated by this inquiry are many. These issues place IHS in the unenviable position of having to balance political correctness with the remediation of its most significant health problem.

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Author Notes

Caution should be used in understanding the figures quoted in the Abstract. The AI rate of 64.5 per 100,000 population was taken from the IHS Trends in Indian Health, 1992, Table 4.24. IHS published a rate of 54.5 per 100,000 for the same year (1978) in 1989 in IHS Trends in Indian Health Table 4.23. Also, the figure of 37.3 per 100,000 in 1988 was taken from IHS Regional Differences in Indian Health, 1993, Chart 4.18, Age-Adjusted Alcoholism Mortality Rates. There are more causes of death due to alcoholism published in the Regional Differences in Indian Health pamphlet than are published in the former Trends publication. Hence, the numbers of deaths are greater in Table 2 (Chart 1 - AI Alcoholism Mortality Rate) for the first three entries.

For *Per Capita Expenditures* of Appendix C, I calculated the per capita expenditures by dividing the allocation to each IHS Area by the service population. The IHS Area with the highest per capita expenditure was ranked number 1; the second highest was ranked number 2, etc..

For Table 2 (Chart 1 - AI Alcoholism Mortality Rate), data were compared for internal consistency among IHS Trends publications. The data should only be taken at face value. An actual comparison of the two IHS Tables, 4.24 and 4.23 respectively revealed inconsistencies across nearly all AI/AN data. A further comparison of data published in IHS Regional Differences in Indian Health, 1994–1993, with the Trends in Indian Health, 1992, for numbers of AI/AN deaths due to alcoholism causes indicate broad differences (1993: 1,006 deaths compared to 1992: 307 deaths).

For instance, for: 1992 Trends, Table 4.24 the following numbers appear:

<i>year</i>	<i>AI number</i>	<i>rate</i>	<i>U.S. number</i>	<i>rate</i>
1983	246	34.5	15,424	6.1
1981	282	43.8	16,745	7.0
1975	326	76.6	18,190	8.6
1972	241		17,484	

for: 1989 Trends, Table 4.23

<i>year</i>	<i>AI number</i>	<i>rate</i>	<i>U.S. number</i>	<i>rate</i>
1983	293	28.9	15,424	6.1
1981	338	35.8	16,745	7.0
1975	403	62.2	18,190	8.6
1972	315	55.0	17,484	8.6

Appendix A*
Alcoholism and Substance Abuse Program
Branch Historical Funding Pattern
(Dollars in Millions)

Fiscal Year	Legislation			Total
	P.L. 94-437	P.L. 99-570	P.L. 100-690	
1981				\$ 15,047
1982	12,290			12,290
1983	20,207			20,207
1984	23,469			23,469
1985	24,607			24,607
1986	26,131			26,131
1987	27,709	\$ 21,700		49,409
1988	29,335	16,200		45,535
1989	31,159	18,700		49,859
1990	33,044	21,577	\$ 11,218	65,839
1991	38,683	21,463	7,212	67,358
1992	47,158.4	22,958.5	7,714.1	77,831
1993	49,849.4	25,189.4	7,295.2	82,334
Grand Total all Years				\$559,916,000

* Note: These sums exclude all other agency contributions such as from the National Centers for Substance Abuse Treatment; Prevention; the National Institute on Alcohol Abuse and Alcoholism; the Department of Labor; among others.

Appendix B*
Service Population (1993)

Area	Population & Ranking		YPLL Rank
Oklahoma	271,382	12	1
Navajo	197,423	11	7
Portland	127,610	10	6
Phoenix	116,420	9	12
California	101,158	8	2
Alaska	93,755	7	5
Aberdeen	85,150	6	9
Albuquerque	70,631	5	10
Bemidji	65,506	4	2
Billings	50,739	3	10
Nashville	55,346	2	4
Tucson	23,550	1	8

* Note: Years of Productive Life Lost (YPLL) are calculated from the year of death for alcohol related causes to age 65. For example, a 40 year old male dying from cirrhosis of the liver would have 25 years of YPLL.

Appendix C
FY 1993 Area Allocations and Per Capita Expenditures

Area	Allocation	Rank	Per Capita Expenditure	Rank
Navajo	\$ 9,370.9	12	\$ 47.466	2
Portland	9,133.0	11	71.570	5
Alaska	7,924.1	10	84.519	7
Aberdeen	\$ 7,599.2	9	\$ 89.245	10
Phoenix	7,179.7	8	61.671	3
Albuquerque	6,809.0	7	96.402	11
Billings	6,677.6	6	131.607	12
California	6,630.6	5	65.547	4
Oklahoma City	5,941.9	4	21.895	1
Bemidji	5,405.0	3	82.512	6
Nashville	4,717.3	2	85.233	9
Tucson	2,006.7	1	85.210	8

Appendix D*
FY 1992 Area Program Components

Area	#of Components	Components			Outpatient Aftercare / Prevent
		Primary Residential Treatment	Halfway Houses		
Aberdeen	54	5	2	33	14
Alaska	34	1	0	30	3
Albuquerque	40	2	0	37	1
Bemidji	45	1	5	28	11
Billings	11	2	0	10	8
California	67	9	0	33	25
Nashville	46	2	0	26	18
Navajo	12	3	0	7	2
Oklahoma	51	6	7	19	19
Phoenix	76	4	0	37	35
Portland	66	5	1	37	23
Tucson	5	0	0	3	2
TOTALS	507	40	15	300	161

* Source: 1992 ASAPB Area Program Service Component List

Notes

1. Data are taken from IHS, Regional Differences in Indian Health, 1994, Chart 4.22. Age-Adjusted Alcoholism Mortality Rates.
2. Data are taken from IHS, Regional Differences in Indian Health, 1993, Chart 4.18. Age-Adjusted Alcoholism Mortality Rates.
3. Data are taken from IHS, Regional Differences in Indian Health, Chart 4.18. Age-Adjusted Alcoholism Mortality Rates.
4. 1986 to 1972 data are taken from IHS Trends in Indian Health, 1992, Table 4.24 Alcoholism Deaths and Mortality Rates.
5. 1971 to 1969 data are taken from IHS Trends in Indian Health, 1989, Table 4.23 Alcoholism Deaths and Mortality Rate. See author's note for further explanations.

Commentary
by Johanna Clevenger, M.D.

The article by Dr. Tom Burns provides an analysis of a highly complex health concern, the continuing impact of alcoholism and substance abuse in American Indian and Alaska Native (AI/AN) communities. Dr. Burns' attempt to correlate allocations, per capita expenditures, and service components available to reduce alcoholism mortality by the Indian Health Service (IHS) Areas demonstrates the complexity of the problem as well as the challenge to the IHS to efficiently distribute limited resources.

The gap between AI/AN alcoholism mortality and that of the wider U.S. population remains significant. While the decrease in mortality between the late 1970s through the mid-1980s, followed by the increase noted by Dr. Burns, is accurate, there are now more current figures. As reported in the *1994 Trends in Indian Health*, there has been a decrease in the mortality rate to 37.6 for 100,000 population for the years 1989-1991.

Alcoholism is a bio-psycho-social and spiritual disease which is chronic, progressive, and prone to relapse. The long term nature of a disease which leads to death and extensive morbidity is not studied effectively by looking at appropriations in a given year and circumscribed health indicators, when the benefits of that expenditure may be decades in evolving. There are many health and social consequences beyond what is reflected in mortality data and beyond a simple adverse impact on the life course of an individual. The individual, the children, the extended family, the community, and the tribe are all damaged in the course of the disease of alcoholism. The negative impact includes loss of life and health, as well as the loss of productivity in the patient and his/her community. The downward trend in mortality noted for 1989-91, hopefully, reflects the results of the past 10 years of early intervention and increased prevention and treatment services, notably for young people, families, and women.

In light of the current emphasis on the integrity of health planning, AI/ANs must seek to change their communities from within, with assistance from and collaboration with Federal, state, and private agencies. All efforts can only be effective, however, when tribal sovereignty is the central foundation for intervention. Indian nations have a right to their share of health resources and must determine the type of services which are most needed at the local level. This issue of sovereignty underlies the changes in funding brought about by tribal health leadership in compacting and implementation of the new tribal contracting regulations. What lies ahead for alcoholism treatment and prevention service delivery must be a better partnership with AI/AN tribes. With more effective health planning and services for a population at high risk, the outcomes achieved may benefit the non-Indian world as well.

Clearly, ongoing discussion of questions raised by this article is warranted.

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Reply

The author fully acknowledges and appreciates the complexity of factors that contribute to alcoholism mortality among the population in general and American Indians and Alaska Natives (AI/AN) in particular related by the ASAPB. This includes the delayed role of prevention in reducing morbidity and mortality.

While the ASAPB notes the chronic disease effects on the individual, the family, and the community cannot be measured by a single data unit (mortality - paragraph 3), it uses the same unit to "reflect(s) the results of the past 10 years of early intervention and increased prevention and treatment services, notably for young people, families, and women." I am not sure which point the ASAPB wishes to make.

Either one can use this very important measure of effectiveness or one cannot, and, if not, then what measure? Indian Health Service (IHS) uses mortality data to measure the progress of many health conditions, alcoholism included. As a matter of fact, it is the only measure used in their publications as an index of effectiveness for many interventions.

In the case of alcoholism, the author would hope for increased interventions whether on a treatment or a prevention level to reduce mortality and morbidity among AI/ANs. He also would hope that the ASAPB would not rely upon the dodge often used by IHS officials that "tribal sovereignty is the central foundation for intervention" when leadership within the system is an issue as exemplified by the lack of responsiveness of the IHS hospital system to community interest and concerns about detoxification, the lack of support from the highest administrative levels to the development and enforcement of adequate admission and follow up treatment policy, as well as the lack of reporting data upon which remediation efforts could be rationally planned.

IHS only reports mortality data in regard to alcoholism in its official publications; hence, the perhaps "simplistic" approach the author chose to review some of the ASAPB information base. It neither reports morbidity nor other impact data (with the exception of the charts and graphs the author reported in the *Trends in Indian Health* for the years of 1989 to 1991 for other substances of abuse from the Alcoholism Treatment Guidance System). The author believes mortality data become the standard upon

which treatment, prevention, and administrative systems can be reflected or judged for their adequacy. Other outcome targets have not been selected for reporting progress in IHS publications such as found in *Healthy People 2000* (for instance, the decline in age of first drinking by youth, the decrease in mortality by traffic accidents related to alcohol abuse, etc.).

While the ASAPB relates the decrease in mortality rate of the 1989–1991 data year (paragraph 3 of the ASAPB response), the figure remains .3 a percent more than the preceding data period of 1987–1989. This represents 73 more AI/AN who died from alcohol related causes. The point (acknowledged by the ASAPB) is that mortality is increasing since data year 1986 despite all the “collaborative efforts”, the introduction of another data system, the introduction of evaluation systems to maximize resources, and the other administrative remedies discussed above.