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The Road Not Taken: How Tribes Choose between Tribal and Indian Health Service Management of Health Care Resources

ALYCE ADAMS

American Indians and Alaskan Natives greeted the passage of the self-determination legislation of 1975 with cautious optimism. The law gave tribes and tribal organizations the ability to contract for the management of health care and other services previously managed by agencies of the federal government.¹ The doctrine that motivated this shift toward increased Indian self-sufficiency determined that tribes would be more responsive to the needs of Indian people than the federal government bureaucracy. However, the law included many financial barriers to tribal management. Moreover, after years of being excluded from management decisions, many tribes lacked the resources necessary to manage these services successfully. Given these impediments and the continued under-funding of Indian health, some tribal leaders began to view the legislation as a way to rid the federal government of its obligations to American Indians once and for all.

This study explores the tribal and environmental characteristics that may influence a tribe's decision to switch to tribally managed health care resources. The findings of this study suggest that inadequate responsiveness by the local Indian Health Service (IHS), as measured by a lower percent of American Indian managers and fewer appropriations at the area level, is a crucial determinant in switching to tribal management. The issue of inequity in the responsiveness of IHS area offices and how it affects a tribe's ability and desire to manage health care resources deserves further consideration.

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BACKGROUND

Some of the key events leading to the creation of the Indian Health Service system as we know it are displayed in Table 1. Prior to 1849, military clinicians provided health care services to members of federally recognized American Indian tribes under treaty and trustee obligations between the federal government and individual tribes. In 1849 the Bureau of Indian Affairs (BIA), the agency charged with providing these services, was moved from the War Department to the Department of the Interior (DOI). The BIA was funded by Congress, which was supported by powerful constituents interested in obtaining Indian lands.² The non-health-related BIA policies sometimes had catastrophic consequences for American Indian health. For example, some BIA boarding schools inadvertently became mechanisms for spreading contagious diseases.³

Table 1
Chronology of Major Events in American Indian Health Policy

| YEAR | EVENT | DESCRIPTION |
|------|---|---|
| 1921 | Snyder Act | U.S. government agrees to provide health care and other services |
| 1928 | Miriam Report | Report detailing practices of the BIA and recommending that health care be provided by professionals |
| 1954 | Transfer Act | Creation of the Indian Health Service |
| 1970 | Nixon Speech | Nixon announces new policy of Indian involvement in Indian policy |
| 1974 | American Indian Self-Determination and Education Assistance Act | Tribes allowed to contract out for health care and other services previously provided by the federal government |
| 1976 | American Indian Health Care Improvement Act | Increase in the appropriations for Indian health programs and established scholarships for Native American clinicians |
| 1988 | Amendments to the Self-Determination Law | Removal of some financial barriers to tribal management |
| 1990 | Amendments to the Self-Determination Law | Removal of additional barriers |
| 1994 | Amendments to the Self-Determination Law | Tribes allowed to use self-governance compacts (i.e., block grants) for health care programs |

A full-scale review of BIA practices was conducted in 1928. The resulting account, the Miriam Report, recommended the use of "higher-paid professionals" to deliver health care and other services to tribes.⁴ However, it was not until 1954 that the government created a new branch of the US Public Health Service, the IHS, to provide health care services in place of the BIA.⁵ Funding for the IHS, however, remained under the auspices of the Subcommittee on the Interior.

After the creation of the IHS, tribes have experienced dramatic drops in infant mortality and contagious disease rates. However, new behavioral health problems, including alcoholism, diabetes, and suicide, soon replaced contagious diseases as the leading causes of death.⁶ Some tribal leaders attributed the continued poor health conditions to the lack of Indian involvement

in health management decisions.⁷ Figure 1 illustrates the lack of tribal government involvement in the Indian health appropriations process during this time. Tribes were involved to the extent that the president, the Department of Health and Human Services (then the Department of Health, Education, and Welfare), the IHS, and Congress were willing to involve them in the budgetary process.⁸

Flow of Appropriations for Indian Health Programs from Congress to Members of Federally Recognized Tribes

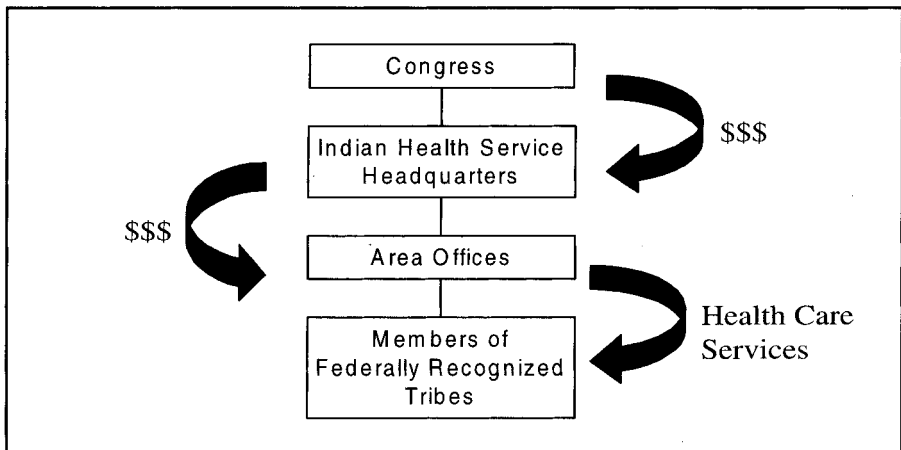


FIGURE 1.

By the early 1970s, the federal government's approach to tribes had shifted from termination of tribal governments to tribal self-determination.⁹ In 1975, Congress passed the American Indian Self-Determination and Education Assistance Act (Public Law 638). This new law enabled tribes and tribal organizations to manage health care and other services using congressionally appropriated funds. With PL 638, tribes could take over the management of facilities, individual programs, or entire health care service units.^{10,11,12}

However, disagreements quickly ensued as to how much control tribes were actually granted under PL 638. For example, tribes were required to obtain liability insurance and to pay for annual audits of tribally managed programs. PL 638 funds for many services were only received retrospectively, meaning that tribes had to come up with operating money up front. Further, tribes could only receive the amount of money that the under-funded IHS would have received to provide these services. Therefore, tribes would receive no financial support for start-up costs, expansion of services, or the building of administrative infrastructures. PL 638 contracts were also a threat to the tenure of the IHS in that increased tribal management of services diminished IHS's role to that of contract officer. Therefore, giving IHS discretionary power over contract approval represented a direct conflict of interest.¹³

Amendments to PL 638 in 1988, 1990, and 1994 released tribes from the liability insurance burden and attempted to reduce BIA and IHS resistance by guaranteeing employment to federal employees assigned to work in tribal contract programs if the contracts to which they were assigned failed.^{14,15} Ironically, while the employment guarantee may have reduced agency resistance, it also reduced the tribe's flexibility with respect to staffing decisions.¹⁶ Further, the issue of under-funded Indian programs was not addressed by the amendments.

In light of these issues, tribes were left with a decision.¹⁷ Should they accept the contracts offered by PL 638 and with them the risk that IHS resistance and inadequate funding would jeopardize the success of these programs, or should they reject the offer and attempt to work through the IHS to insure adequate tribal input in the delivery of health care services? Economics provides a framework within which to identify the factors that may influence tribal government decisions regarding self-management. The principal-agent model describes relationships in which one party, the principal, hires another, the agent, to carry out a task. A situation in which the principal cannot perfectly monitor the agent and the incentives of the principal and agent differ is known as the principal-agent problem.¹⁸ A classic example of this problem is found in the relationship between a patient and a doctor when the patient's primary concern is health improvement but the physician's focus is on both health improvement and increased income. Because the patient does not have the doctor's expertise, she or he cannot know whether all the services she or he receives are necessary or appropriate.

The theory recommends different contractual agreements to align the incentives of the agent with those of the principal as a solution to this problem.¹⁹ For example, physicians may receive bonuses if they practice in adherence to quality of care guidelines. However, a solution to the principal-agent problem becomes decidedly more elusive when there are multiple principals and multiple agents as is the case in the American Indian health care system and in the public sector more generally.²⁰

The principal-agent relationships that make up the American Indian health care system are illustrated in figure 2. The first relationship level exists between tribes and Congress. At the heart of this relationship is the trust responsibility underlying all federal-tribal relations.²¹ In this tier of the system, tribes are the principals and Congress is the agent. However, Congress does not carry out the provision of health care services directly, but instead funds the IHS to fulfill this task. Therefore, in the second tier of this modified principal-agent model, Congress is the principal and the IHS is the agent. As the IHS is divided into twelve separate regional offices, each can be thought of as another level of agency in the third tier. The fourth tier shows the relationship between the area offices and those actually providing health care services to tribes. Not shown in figure 2 is tier five, in which the agent is the clinician and the principal the patient. Given these multiple layers of agency, it is not hard to imagine how the desires of tribes could become diluted and transformed as they trickle down through the health care system.

Description of the American Indian Health Care System as a Multi-Tiered Principal-Agent Model

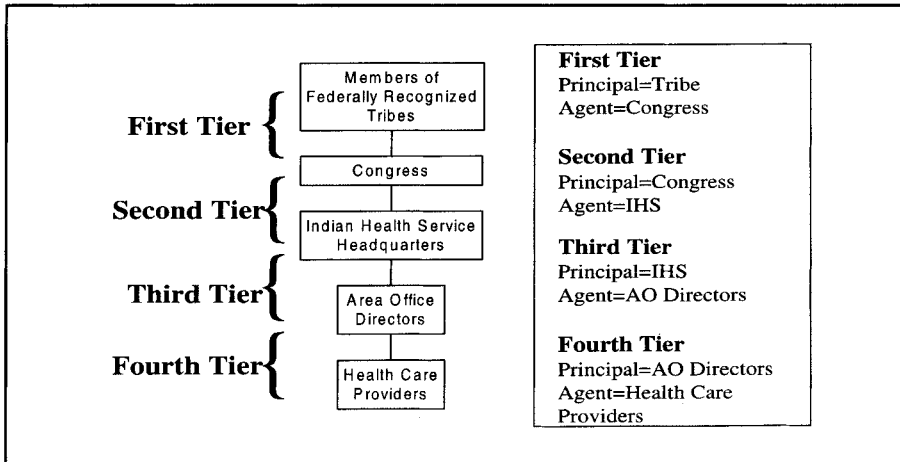


FIGURE 2.

The self-determination legislation attempted to simplify this system by allowing tribal governments to manage health care resources in place of the IHS area offices. Because tribal governments are elected by the tribe, the incentives of the tribal governments were naturally more aligned with those of tribe members. However, because the primary funding structure remained in tact, tribal success would still be influenced by the complex system of relationships between the different levels of federal bureaucracy.

For example, some tribal leaders suspected that PL 638 was an attempt to terminate the US government's trust responsibility by encouraging tribes to manage services and then using the increase in self-governance as an excuse to discontinue federal support.²² In the competition for resources, such a small, disenfranchised group could not rely on the general public to put pressure on Congress to continue financial support for tribes.^{23, 24} Also, as health care managers, tribal governments would still require IHS approval of federal support for tribal management programs. Further, these governments faced challenges similar to those that plagued the IHS, including difficulty in recruiting and retaining clinicians due to the poor quality of life on some reservations.²⁵

In addition to these systemic issues, the cultural, social, and historical context of tribes may shape tribal decision-making with respect to PL 638. Thomas McGuire, for example, described tribal government decisions as tending toward the expansion rather than the constraint of individual and community sovereignty.²⁶ Further, many tribes may be predisposed to view any change in federal policy as a potential threat to their sovereignty and to the federal trust responsibility.²⁷ As leaders of nations, tribal government officials may experience pressures to choose those policies that satisfy the greatest number of policy objectives.²⁸ Finally, tribes may consider whether they have the economic, social, and human resources to support tribal management.²⁹

Given these challenges, tribal governments might ask themselves three questions when determining whether to take over management of health care resources: (1) Do we have a compelling reason to manage health care resources?; (2) Do we have the capacity to manage health care resources?; and (3) How will the other participants in the system react to our involvement? Using the information available about the health care system and PL 638, potential determinants of tribal management can be identified.

Motivating Factors

The desire for independence from the federal government is undoubtedly a strong motivating factor for many tribes. In fact, the desire may be so strong that some tribal governments may pursue PL 638 funds despite a lack of internal capacity to manage these funds.³⁰ The devotion of resources to building a large, well-established bureaucracy may indicate the pervasiveness of this desire among the leadership. The existence of such a bureaucracy may also indicate involvement in PL 638 contracts in non-health areas.

While PL 638 contracts are not the only method of increasing tribal government control, they are formal ways of exercising sovereignty. I use the terms *autonomy* and *sovereignty* almost interchangeably to mean the degree of freedom tribal governments have in making policy decisions independent from the federal government. This definition does not require financial independence.

In addition to the issues of tribes seeking autonomy, unresponsiveness on the part of the IHS may spur the tribal government to pursue PL 638 funds. In areas where the incentives of the IHS area offices diverge from those of the tribe, the tribal government may be more motivated to take over management. Tribes residing in those areas where they are already involved in the decision-making process should have a less compelling reason to take over management of these services. Alternatively, higher average appropriations per person in an area may indicate more services or better quality of care. Appropriations are generally allocated to the area offices based on the previous year's allocation and population growth. If greater average funding per patient is a reflection of more resources for patient care, tribes may feel less compelled to take over management and risk disrupting an advantageous arrangement. However, there is evidence that increases in funding may not go to patient services, but to increasing the size of the area office bureaucracy.³¹

Relatively high rates of adherence to practice guidelines and health status may indicate responsiveness on the part of the IHS. However, lack of confidence in IHS care may not be sufficient to cause a tribe to take over services. Ultimately, the tribe must ask whether they could do a better job of managing health services than the IHS.

The above motivations concern tribal governments as institutions. However, the values of individual tribal leaders are likely to influence the decision-making process as well.³² Societies impose rules of conduct, both formal and informal, on individual leaders. By extension, they will not bestow certain powers onto these leaders if they do not trust the leaders to follow the

rules.^{33, 34} Therefore, tribe members may be more likely to agree to tribal management if they can impose legal and/or social sanctions against tribal managers should they abuse their authority.

More generally, tribe members may disagree about whether the tribal government is the best institution to manage health care services. This may be particularly true when the federal government employs a large segment of the tribe's population. While the 1988 amendments guaranteed employment for federal employees should they be displaced by PL 638 contracts, tribal members employed by the IHS may view the federal government as a more predictable employer than the tribe.

Internal Capacity

Power in the American Indian health care system exists in two forms: money and information. Possession of either of these goods makes an institution valuable and places it at an advantage in the competition for resources. Therefore it is predictable that tribal governments possessing either one or both of these resources will likely improve their capacity to be successful managers.

Tribal governments that can supplement IHS appropriations with their own resources may be in a better position not only to improve services, but also to deal with the real possibility of reductions in federal funds.³⁵ I would add the qualification that these funds should be somewhat evenly distributed throughout the population. If resources are concentrated among a small number of people within the tribe, changes in political alliances could result in the sudden withdrawal of these funds for other purposes.

What types of information do tribes need in order to successfully manage health care resources? In addition to rules regarding IHS appropriations, health service managers should also be aware of eligibility rules for Medicare, Medicaid, and other potential funding sources. State welfare reform has added new challenges to tribal management due to its impact on Medicaid eligibility.³⁶ Low rates of educational attainment and high unemployment rates decrease the probability that most tribes will have local health care management expertise.³⁷ As an alternative, tribal governments with sufficient resources can hire outside consultants.

External Considerations

Tribal governments may also consider the potential responses of the congressional and executive branches, the local IHS bureaucracy, health care providers, and other tribes to their new role as manager. With control over budgetary priorities and actual appropriations, the executive branch and Congress have considerable control over the ultimate success of PL 638 programs. Tribes that have their own financial resources are less vulnerable to changes in federal government priorities.

The area offices can impede tribal management by withholding information from the tribe or by rejecting PL 638 program proposals. Ultimately, the willingness of the area offices to share power may depend on their

current relationships with individual tribes. These relationships will be determined by any number of factors to include the culture of the area office and characteristics of the tribes in the area. For example, larger tribes may have the political leverage to draw attention to the area office if it consistently rejects or discourages PL 638 contract proposals.

In addition, given the difficulties in monitoring health care providers, tribal management does not guarantee a change in clinical practice. However, in cases in which tribes can conceivably contract with private sector providers, they may be able to induce competition between outside providers and the IHS. The ultimate effect of this competition on tribal government decisions is uncertain. Perhaps the mere threat of competition is enough to elicit good performance from the IHS. Alternatively, tribes, given a choice, might simply prefer one type of provider to another.

Finally, the response of other tribes may factor into management decisions. Some tribes, often those unable to support services due to their small size, share services with other tribes. Since tribes already have a well-developed relationship with the IHS, they may prefer to stay with IHS management rather than share decision-making power with other tribal governments.

These issues can be dispelled into a list of testable hypotheses. Tribes will be more likely to take over management of health care resources when the tribe:

1. employs more people than the federal government;
2. feels its needs are not being met by the area office;
3. possesses strong formal and informal rules of conduct for tribal officials;
4. has financial resources in addition to federal support;
5. has or can acquire management expertise;
6. has a sufficient population to support services;
7. has/does not have access to non-IHS providers; and
8. does not have to share services with another tribe.

Given that twenty-five years have passed since tribes were first granted the ability to manage health care services, data are now available on what decisions tribes have made thus far. I have estimated the associations between the above factors and the probability of tribal management using administrative data sources. The following section describes how this was accomplished.

METHODS

Baseline measures of the tribal and area office characteristics identified above were collected from administrative data sources on 107 federally recognized tribes. A logistic regression model was then used to estimate the probability that a tribe would switch from IHS to tribal management of their health service unit between 1980 and 1995 using the identified characteristics as potential predictors.

Data Sources

My primary data source was the database created by researchers at the Harvard Project on American Indian Economic Development (HPAIED).³⁸ The database contains socio-demographic information on a sample of 115 federally recognized tribes. The data were obtained from the BIA and the US Census Bureau for the years 1980 and 1990. I supplemented the HPAIED data set with data on tribal management of health care services, trends in IHS appropriations by area, and IHS employment of American Indian managers from the IHS.

Sample Population

Tribes residing in California, Alaska, and the Northeast were excluded from the analysis because these tribes were never served under the traditional IHS structure. This exclusion allowed individual tribes in the sample to be categorized as constants, those staying with IHS management throughout the study period, and switchers, those changing from IHS to tribal management at some point during the study period. Complete data were available on 107 federally recognized tribes meeting the above criteria.

Definition of Tribal Management

Tribal management can take many forms, from management of specific programs to the management of facilities and administrative functions. For the purposes of this analysis, tribal management was specifically defined as service unit—the administrative units of the IHS—management. Tribes were classified as switchers if the service unit providing care to the tribe became tribally managed at any point between 1980 and 1995. Service unit management was chosen over other forms of tribal management due to the preponderance of switchers in this category.

The outcome measure for the logistic analysis was therefore a dichotomous variable equal to one if the tribe switched to tribal management during the study period and equal to zero otherwise. It is important to know that more than one tribe may be affiliated with the same service unit. However, the tribe is the appropriate unit of analysis because the decision to switch is that of the tribe or tribes, not the service unit administrators.

Independent Variables

Characteristics of tribes and their IHS area offices at or before 1980 were assessed using the available administrative data. Tribal characteristics identified as possible predictors of switching to tribal management included the relative size of the tribal and local federal bureaucracies; the existence of formal and informal rules of conduct for tribal officials; socioeconomic indicators; management experience; population size; proximity to an urban center; and whether the tribe shared the service unit with at least one other tribe. Characteristics of the IHS area office included the degree of American

Indian employment at the management level, the availability of resources, and the quality of care.

The administrative data sources provided measures of most of these characteristics. The BIA and census data provided estimates of tribal and federal employment of tribe members, socioeconomic characteristics, and population size. A measure of the relative influence of the tribal and federal government bureaucracies was created by dividing the number of tribal employees in 1980 by the number of federal employees in that same year. The resulting ratio provided a measure for these institutions' degrees of influence on the reservation. For example, a ratio less than one would indicate a relatively strong federal bureaucratic presence on the reservation. Likewise, a ratio of greater than one may reflect strong tribal management in other policy areas, such as education.

No direct measures of informal and formal rules of conduct were available from the administrative data for 1980. A variable representing the percent of tribespeople living in poverty was used as an indirect measure of the amount and distribution of financial resources at the tribal level. This variable also reflected the tribe's ability to purchase outside expertise. The poverty rate was chosen over mean income as a measure of financial resources because it reflected the degree of income inequality within the tribe. A preferred measure would have been the budget for the tribal government. However, this information was not included for many of the tribes in the sample. Also, no direct baseline measures of health care management experience were available from the data source.

Population estimates for 1980 were included as a measure of tribe size. Distance to the nearest urban area was approximated using the driving distance to the nearest metropolitan statistical area (MSA) as calculated by the Mapquest® program. Miles were approximated for four tribes by measuring the distance from the center of the reservation to the nearest MSA. The BIA data provided a direct measure of whether or not a tribe had to share their service unit with a neighboring tribe in 1980.

IHS area characteristics controlled for in the analysis were the percentage of Indian managers in the service unit prior to 1980 and the amount of appropriations per person in the area in 1980. The percentage of Indian managers represented the degree of tribal involvement prior to 1980. The amount of appropriations per person was a measure of the amount of resources available for patient care. Unfortunately, information on the proportion of funds devoted to administrative purposes rather than direct patient care was not available.

Likewise, direct information on the quality of care was not included in the analysis. Service unit hospitalization rates were obtained from the IHS. However, the data contained substantial coding errors and were not verifiable using other data sources. Process-of-care measures were not available at the time of this analysis. The potential consequences of leaving out these important co-variates are discussed at length in the discussion section.

In summary, seven variables were created to approximate baseline tribe and area office characteristics for the empirical analysis: (1) the ratio of tribal to federal employees in 1980; (2) the percentage of tribal members living in poverty in 1980; (3) the population in 1980; (4) the percentage of Indian

Table 2
Hypothesized Predictors of Tribal Management and their Influence on the Probability of Tribal Management

| <i>Variables</i> | <i>Measurement of</i> | <i>Predicted Direction of Influence</i> |
|---|---------------------------------------|---|
| Ratio of Tribal to Federal Employees (1980) | Tribal Autonomy | Positive |
| Percent in Poverty (1980) | Financial Resources | Negative |
| Population (1980) | Ability to Support Services | Positive |
| Percent of Indian Managers (1974) | Tribal Involvement/IHS Responsiveness | Negative |
| Appropriations per Person (1980) | IHS Capacity/Responsiveness | Negative |
| Distance to Nearest MSA | Competition/Access | Positive or Negative |
| Shared Services with Another Tribe (1980) | Shared Responsibilities | Negative |

managers in 1974; (5) the amount of appropriations per person in 1980; (6) the distance to the nearest MSA; and (7) whether the tribe shared service unit services with another tribe in 1980. The hypothesized relationships between these characteristics and switching to tribal management are presented in Table 2.

Statistical Analysis

All analyses were performed in the STATA[®] system. A logistic model was used to estimate the probability that a tribe began managing a service unit at any point between 1980 and 1995.³⁹ The included co-variates were those listed in Table 2. For ease of interpretation, the odds ratios were multiplied by a scalar to reflect the effect of specific changes in the co-variate (for example, a 20 percent increase in the poverty rate) on the likelihood of tribal management. Interaction and higher order terms were added if their contribution to the model was deemed statistically significant at the 95 percent level based on a likelihood ratio (LR) statistic. Interaction terms reflected the joint effect of a combination of factors. For example, I suspected that the poverty rate was less important than other predictors for those served by a particularly unresponsive IHS area office. I tested this hypothesis by included interactions terms for the combined effect of the poverty rate and the two measures of IHS responsiveness. The interaction terms were retained in the model if their removal resulted in a significant change to the log likelihood. Adjustments were made to the standard errors (White/robust standard errors were employed) to correct for the uneven distribution of tribes among IHS areas.⁴⁰

LIMITATIONS

Lack of reliable data led to the possibility that left-out variables biased the estimates. For example, I excluded direct quality of care measures from the analysis because tribe-level data on health status were not available and service-unit-level hospitalization data contained substantial coding errors. Other potential confounders were the strength of social ties, the influence of individual leaders, cultural factors, and health care management experience. To the extent that these variables were correlated with the included variables, the resulting estimates could have been biased upward or downward. Therefore, the results should be interpreted with caution.

With respect to the managerial capacity of the tribe, I assumed that expertise could be bought. There is some evidence from tribes to support this assumption. For example, in a recent survey of tribes, the Office of the Inspector General found that 35 percent of 638 tribes hired outside consultants and that 18 percent hired lawyers to acquire needed technical expertise.⁴¹

I attempted to address issues of causality by including characteristics of tribes and area offices measured at or before 1980. It is possible that some of the tribes recorded as having taken over management in 1980 may have actually done so earlier than the recorded date. However, one of the key variables in the analysis, the number of tribal employees working in the service unit, was measured seven years prior to 1980 and is therefore unlikely to introduce endogeneity bias. In other words, it is unlikely that the percentage of Indian managers was a result of switching to tribal management and not the reverse. At the same time, any changes in the employment of Indian managers that occurred between 1974 and 1980 were not captured by this variable.

RESULTS

Of the 107 tribes in the sample, 25 tribes, or 23 percent, switched from IHS to tribal management of their service units between 1980 and 1995. The majority of PL 638 contracting for service unit management began between 1982 and 1983. Those tribes that took over management differed from the rest of the sample in several ways (see Table 3). First, those tribes that switched had a higher tribal to federal employment ratio than those that did not (3.30 versus 2.24; $p=0.02$). These tribes also had lower average poverty rates than those tribes that continued with IHS management (34 percent versus 39 percent; $p=0.05$).

Another major difference between the two groups in the sample was that the switchers were less likely to have had American Indian managers working in the service units prior to 1980 (16 percent versus 25 percent; $p=0.004$). The two groups did not differ significantly at baseline with respect to their size, the amount of appropriations per person, their proximity to an urban area, or whether or not they shared a service unit ($p>0.10$). While the differences in population size were considerable between the two groups (1,779 for the switchers and 4,767 for the non-switchers), the difference was not statistically significant due to the considerable variations in tribe size within groups.

Table 3
Differences in Mean Tribe and Area Office Characteristics by Type of Service Unit Management

| Variables | Tribes served by Tribally Managed (PL 638) Service Units (n=25) | | | Tribes served by IHS Managed (non-PL 638) Service Units (n=82) | | | P-values |
|--------------------------------------|---|-------|---------|--|-------|---------|----------|
| | Mean (st. error) | Min | Max | Mean (st. error) | Min | Max | |
| Ratio of Tribal to Federal Employees | 3.30 (0.50) | .47 | 9.3 | 2.24 (0.20) | .36 | 10 | 0.02 |
| Poverty Rate | 34% (0.02) | 21% | 53% | 39% (0.03) | 13% | 66% | 0.05 |
| Population | 1,779 (383.59) | 189 | 9,219 | 4,767 (1933.25) | 72 | 159,124 | 0.40 |
| Percent Indian Managers | 16% (0.04) | 0% | 63% | 25% (0.01) | 0% | 63% | 0.004 |
| Appropriations/Person | \$667 (34.16) | \$439 | \$1,047 | \$762 (34.04) | \$341 | \$3,036 | 0.15 |
| Miles to Nearest MSA | 73 miles (9.65) | 4.20 | 215 | 91 miles (7.13) | 3.20 | 314 | 0.19 |
| Shared Service Unit | 0.80 (0.08) | 0 | 1 | 0.74 (0.05) | 0 | 1 | 0.57 |

Logistic Regression Results

The results of the logistic regression model are presented in Table 4. The most statistically significant predictors of tribal management in the regression model were the percentage of Indian managers and whether or not the tribe shared a service unit. An increase in the percentage of American Indian managers in the service unit prior to 1980 of twenty percentage points was associated with .05 (1/20) times the odds of tribal management (95 percent confidence interval [CI]: 0.01,0.35; p<0.01). Sharing a service unit with another tribe was associated with .10 (1/10) times the odds of tribal management (95 percent CI: 0.02,0.54; p<0.01).

Other important co-variables included the ratio of tribal to federal employees, which was associated with 1.3 times the odds of tribal management versus IHS management (95 percent CI: 0.98,1.69; p<0.10). An increase in the poverty rate of 20 percent was associated with .50 (1/2) times odds of tribal management and was mitigated by the percent of Indian managers in the service unit (95 percent CI: 0.01,0.35; p<0.05). The amount of appropriations per person was also associated with a decreased probability of tribal management. An increase in appropriations of \$100 per person was associated with .71 times the odds of tribal management (95 percent CI: 0.50,1.01; p<0.10). Only population size and distance to the nearest MSA were not statistically significant at the 90 percent level or higher. With the exception of these two variables, all the variables were in the expected

Table 4
Results of Logistic Estimation of the Probability of Tribal Management [R²=.2762]

| <i>Covariates</i> | <i>Coefficients</i> | <i>Change in Covariate</i> | <i>Adjusted Odds Ratios</i> | <i>95% Confidence Intervals</i> | <i>P-values</i> |
|---------------------------------------|---------------------|----------------------------|-----------------------------|---------------------------------|-----------------|
| Ratio of Tribal to Federal Employees | .2511607 | 1 | 1.29 | 0.98,1.69 | 0.07 |
| Poverty Rate | -18.38223 | 10% | 0.05 | 0.01,0.35 | 0.02 |
| Population | -.000296 | 100 | 0.97 | 0.93,1.01 | 0.16 |
| Percent Indian Managers | -30.33587 | 20% | 0.05 | 0.01,0.35 | 0.003 |
| Appropriations per Person | -.0034372 | \$100 | 0.71 | 0.50,1.01 | 0.06 |
| Distance to Nearest MSA | .046944 | 1 | 1.05 | 0.40,2.78 | 0.93 |
| Poverty Rate* Percent Indian Managers | 65.32856 | NA | NA | NA | 0.02 |

direction with respect to their influence on the probability of tribal management (see Table 2). The only interaction term that was statistically significant was that between the percentage of Indian managers and the poverty rate. The effect of the poverty rate is mitigated by the percentage of Indian managers in the service unit. The odds ratio presented in Table 4 represents that odds ratio associated with a change in the poverty rate of 10 percent evaluated at the mean percentage of Indian managers.

DISCUSSION

The assumption that tribal governments would be better agents than the IHS provided justification for the passage of PL 638. These results lend support to the belief that the IHS agency does influence tribal decisions to manage health care resources. In fact, this study suggests that the responsiveness of the IHS area office may be the most influential determinant of tribal management.

IHS area responsiveness was measured in two ways: (1) the percentage of managers in the service unit that were American Indian before 1980, and (2) the appropriations per person in 1980. These measures were statistically significant and in the expected direction of the logistic model. The percent of Indian managers was by far the most statistically significant variable and was negatively associated with the likelihood of switching to tribal management. Likewise, the amount of appropriations per person was statistically significant and associated with considerably lower odds of tribal management.

These data indicate other important differences between tribes that chose tribal management and those that chose to stay with the IHS. For example, sharing a service unit was associated with continued IHS care.

While the poverty rate did not have as great an effect as might have been predicted given the financial barriers to using PL 638, it was statistically significant and negatively associated with switching to tribal management. However, the interaction effect between the poverty rate and the percentage of Indian managers deserves further exploration. The use of more direct measures of tribal government resources may lend insight into the exact meaning of this interaction effect.

The relative size of the tribal government was not as strong a motivating factor as the level of appropriations and degree of Indian management at the area level prior to tribal management. However, the ratio was statistically significant and positively associated with switching to tribal management. The size of the tribal bureaucracy may reflect the degree of tribal contracting in areas such as education. Tribes that have had success with PL 638 in other areas may be more inclined to pursue tribal management of health care resources.

Recent evidence from a federal government survey of tribes suggests that IHS responsiveness is still a key factor in determining tribal management. The Inspector General found that more than 50 percent of PL 638 tribes and more than 33 percent of non-PL 638 tribes were dissatisfied with the IHS.⁴² While it is unclear with what these respondents were dissatisfied—waiting times, quality of care, and cultural competency, among other factors—these responses do indicate a disconnect between the care tribes want and the care provided by the IHS. For example, Mickey Percy, chief of staff for the Chickasaw Nation, stated that if the IHS had been more responsive to their needs in 1994, the Chickasaw would not have chosen tribal management.⁴³ Furthermore, in the same GAO survey, tribes that did not switch to tribal management of health care services cited the following barriers: “small size, geographic isolation, program funding concerns, termination fears, and, what they perceive to be, reluctance on the part of some IHS staff to support or promote [PL 638] contracting.”⁴⁴

CONCLUSIONS

The results of this study provide evidence of regional variation in IHS responsiveness to the health care needs of tribes. Additional investigation is needed regarding the links between this variation and methods for allocating funding across regions. The reauthorization of the American Indian Health Care Improvement Act, to take place in 2000, offers an opportunity for Congress to address these issues.

The congruence of these study results with anecdotal evidence from tribes suggests that administrative data may be one option for monitoring program effectiveness. However, improvements in data collection are necessary before administrative data on tribes can be relied upon for assessing the quality of care. One of the lingering questions in the post self-determination era is whether tribal management has improved the quality of care delivered to American Indian populations. The data available at the time of this writing were not suitable for addressing this important policy question.

The lack of resources devoted to administrative and evaluative purposes is of continuing concern.

Twenty-five years after Congress presented tribes with an alternate route to health care management, there is still hesitation at the crossroads. This study is an attempt to better understand how tribes might evaluate their options. Additional research is needed to ascertain whether there is a clear pattern between the characteristics of a tribe and the consequences of their choices. It is my sincere hope that these findings will give tribes some of the information they need to make these difficult decisions and to look back without regret upon the road not taken.

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NOTES

1. *Indian Self-Determination and Education Assistance Act of 1974, US Statutes at Large 88* (1975): 2557–2574.

2. For a thorough but brief history of the American Indian health care system, see Stephen J. Kunitz, "The History and Politics of U.S. Health Care Policy for American Indians and Alaskan Natives," *American Journal of Public Health* 86 (October 1996): 1464–1473.

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4. Robert F. Berkhofer, Jr., *The White Man's Indian* (New York: Vintage Books, 1979), 180.

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7. Department of Health, Education, and Welfare, Office of Special Programs, *A Study of the Indian Health Service and Indian Tribal Involvement in Health* (Washington, DC: Government Printing Office, 1974).

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9. Robert LaFollette Bennett, "Tribal Government and Indian Self-Determination," *América Indígena* 38 (January–March 1978): 73–95.

10. Russel Lawrence Barsh and Ronald L. Trosper, "Title I of the Indian Self-Determination and Education Assistance Act of 1975," *American Indian Law Review* 3 (1975): 361–393.

11. Michael Gross, "Indian Self-Determination and Tribal Sovereignty: An Analysis of Recent Federal Indian Policy," *Texas Law Review* 56 (1978): 1195–1244.

12. Edmund Danziger, Jr., "A New Beginning or the Last Hurrah: American Indian Response to Reform Legislation of the 1970s," *American Indian Culture and Research Journal* 7:4 (1984): 69–84.

13. For a detailed review of Public Law 638 from a legal perspective, see Barsh and Trosper, "Title I of the Indian Self-Determination and Education Assistance Act," 361–393 and Michael Gross, "Indian Self-Determination and Tribal Sovereignty: An Analysis of Recent Federal Indian Policy," *Texas Law Review* 56 (1978): 1195–1244.

14. Department of the Interior, Bureau of Indian Affairs and Department of Health and Human Services, Indian Health Service, "Indian Self-Determination and Education Assistance Act Amendments, Final Rules," *Federal Register* 61:122 (June 1996): 34282–32535.

15. *Indian Self-Determination Amendments of 1987, US Statutes at Large* 102 (1988): 2285–2298.

16. Paul H. Stuart, "Financing Self-Determination: Federal Indian Expenditures, 1975–1988," *American Indian Culture and Research Journal* 14:2 (1990): 1–18.

17. This paper focuses on the decisions of tribal governments only.

18. Andeau Mas-Colell, Michael D. Whinston, and Jerry R. Green, *Microeconomic Theory* (New York: Oxford University Press, 1995).

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32. Joe Wallis and Brian Dollery, "An Evaluation of Leadership as a Response to Agency Failure in the Public Sector," *Public Administration* 75 (Summer 1997): 247–265.

33. Stephen J. Cornell and Joseph P. Kalt, "Where Does Economic Development Really Come From? Constitutional Rule Among the Contemporary Sioux and Apache," *Economic Inquiry* 33 (1995): 402-427.

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35. In their study of devolution in the US mental health care system, Goldman et al. found that those localities that had their own financial reserves were more successful in taking over management of mental health services from the state (Howard H. Goldman, Joseph P. Morrissey, Susan M. Ridgely, Richard G. Frank, Sandra J. Newman, and Cille. Kennedy, "Lessons from the Program on Chronic Mental Illness," *Health Affairs* 11 [Fall 1992]: 51-68).

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37. Indian Health Service, *Trends in Indian Health*, Charts 2.5-2.6.

38. The Harvard Project on American Indian Economic Development was founded in 1987 by Professors Joseph Kalt and Stephen Cornell at Harvard University. The project is directed at understanding the conditions under which sustained, self-determined socioeconomic development is achieved on American Indian reservations.

39. For a detailed description of the logistic regression model, see David W. Hosmer, Jr. and Stanley Lemeshow, *Applied Logistic Regression*, Wiley Series in Probability and Mathematical Statistics (New York: John Wiley and Sons, 1989).

40. Ibid.

41. Office of the Inspector General, *Tribal Contracting for Indian Health Services* (Washington, DC: US Department of Health and Human Services, 1996), 10-14.

42. Ibid., 6.

43. Mickey Peercy, phone interview by author, 8 February 1999.

44. Office of the Inspector General, *Tribal Contracting*, ii, 7-8.