

LNF Workgroup Report

# Level of Need Funded Cost Model

*A study to measure the costs of a  
mainstream package of health services  
for Indian people*

**Part 1:  
Summary for the  
Total Indian Population**

May 1999

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# SUMMARY

## Part 1: Level of Need Funded Cost Model for the Total Indian Population

### Introduction

Federally recognized American Indian tribes and Alaska Native villages have a government-to-government relationship with the United States. Numerous treaties, Supreme Court decisions, legislation, and Executive Orders affirm this unique legal relationship. The provision of health services to American Indians and Alaska Natives grew out of this government-to-government relationship. The U.S. Government exchanged federal services for the land, water, and minerals of the indigenous people who lived on this continent centuries before the United States was formed. The exchange was made through treaties that were negotiated and signed with tribal nations that were, and still are, recognized as sovereign nations. These treaties remain in effect. On the basis of these moral and legal responsibilities to the first Americans, the U.S. government began appropriating federal funds specifically for Indian health services in 1925.

The Indian health care system, a partnership of federal, tribal, and urban Indian operated health care programs, is the primary source of health care services for many American Indians and Alaska Natives. The federal funding that is provided for the Indian health care system is not an entitlement, like Medicare and Medicaid. The Indian health care program depends upon annual discretionary appropriations. Unlike entitlement programs or privately purchased health insurance plans, a defined package of health care services is not assured to eligible Indians who need services. The level of services provided by the Indian health care system varies from place-to-place and from time-to-time depending on available funding.

The American Indian and Alaska Native population has long experienced health problems disproportionately compared with other Americans. Their life expectancy is still 5 years less than other Americans. They die at higher rates than other Americans from alcoholism (579%) , tuberculosis (475%), diabetes (231%), accidents (212%), suicide (70%), pneumonia and influenza (61%), and homicide (41%). Indian families are 7.5 times more likely than other American families to live in homes that have sanitation facilities that do not meet modern standards. Recently, media and government health experts have focused on Indian health disparities.

Given the higher health status enjoyed by most Americans, the lingering Indian health disparities are troublesome. In trying to account for the inequities, health care experts and congressional and tribal leaders are looking at many factors that impact upon Indian health including, but not limited to, inadequate funding of the Indian health system.

## **The Purpose of the LNF Study**

Variable federal health services to Indians and their lingering health status disparity prompt an important question. *What would it cost to provide an equitable level of health care services to all eligible Indian people?* The IHS charged a stakeholder group of 15 tribal representatives to help answer that question. The Level of Need Funded (LNF) Workgroup was established in September 1998 in response to a congressional directive to work with tribes to determine an acceptable methodology for funding federal Indian health programs equitably. The charge to the LNF Workgroup is contained in Appendix A. The LNF Workgroup engaged experts from the private sector and government agencies to advise the Workgroup members on a scientific approach and to conduct the necessary research. Workgroup members and the research firms are listed in a subsequent section.

This is the first of two reports by the LNF Workgroup. Part 1 summarizes the costs of a mainstream package of health care services for the Indian population in total. The new model and data used to estimate costs are described in detail in Appendix B: “Level of Need Funded Cost Model – Indian Health Service.” Part 2 of the LNF report, to come later, will summarize regional differences in costs and funding within the Indian population.

## **The Need for a New Way to Measure Indian Health Needs**

The LNF Workgroup seeks to provide Indian Country with useful information for estimating the health need of American Indians and Alaska Natives. Previous LNF methods relied heavily on workload internal to the IHS system. The IHS budget does not permit coverage of all medically necessary services and that did not fully provide for the population eligible to receive services. Previous methods were criticized for being too reflective of the IHS system rather than the true need for care, for being difficult to understand, and for not being independently verifiable. Tribal governments recognized the shortcomings of the previous approaches, and the Congress directed the IHS to find a better and more acceptable method.

Members of the Workgroup wanted a measure of equitable health care funding for Indians to compare with other population groups. The measure should be verifiable and understandable to a variety of public audiences. These goals led us to pose an approach built on the following question. *What would it cost to give to Indian people the health care services found in typical, mainstream health insurance plans?* To answer this question, we developed an approach that relies on publicly available data sources, uses industry-standard methods, and ties to a standard level of health care benefits. The use of a comparable methodology and verifiable data contributes to the agency and its partners’ efforts in advocating for the health needs of American Indian and Alaska Native people.

## The New Cost Model

The LNF Workgroup is releasing the research report, “Level of Need Funded Cost Model – Indian Health Service.” The study was designed and conducted jointly by I&M Technologies, Inc., the prime contractor and the Center for Health Policy Studies under guidance of the LNF Workgroup. The research report details methods and data for calculating the level of health need for American Indians and Alaska Natives. The report provides the following:

- a description of the new model for an actuarial calculation of the cost of providing a mainstream health benefits plan to American Indians and Alaska Natives;
- a description of the data and calculations;
- an estimate of equitable funding for four subsets of Indian people;
- findings for a national LNF estimate; and
- discussion of issues for applying the cost model to smaller subsets of the Indian population including states and 12 IHS Areas.

## The Benefits Package Benchmark

The LNF Workgroup directed that the LNF model use a “standard” set of health care benefits found in typical mainstream health plans to benchmark costs. Only personal health benefits are generally covered under employer-sponsored health benefit plans. Public health services provided by the IHS, such as sanitation and community based health education services, are not included in mainstream plans. Likewise, they are excluded from the LNF cost model. The study used the Federal Employees Health Benefits (FEHB) plans as the primary guide in developing IHS benefit plan options. Consistent with historical and current IHS practices, there is no use of deductibles, coinsurance, or co-payments under any of the benefit designs even though member cost sharing is used extensively under the FEHB plans and under most other mainstream health benefit plans. Benefits are restricted to medically necessary services. Benefit options begin on page 41 of Appendix B.

## The Actuarial Cost Calculation

### Identify the cost per person for a mainstream health plan

In the first step, the researchers selected \$2,100 per person as the initial benchmark. This value falls at the low end of a range taken from three independent sources for the non-elderly population: \$2,139 average premium for federal employees and dependents under the FEHB; \$2,310 estimated from national health spending data; and \$2,108 estimated from average private premiums. An amount of \$733 was added to include costs of the elderly population. An additional \$558 was added as the average value of co-payments and deductibles. The resulting total cost of \$3,391 per person is standardized to the U.S. general population, including the elderly, and includes co-payments and deductibles. This is the total expected cost per person if the characteristics of Indian people were the same as for the U.S. general population.

## Adjust for risk characteristics of the Indian population

In the second step, the costs for Indians is revised to account for ways that the Indian population differs from the US general population. The Indian population is significantly younger which normally suggests lower costs, in this case, 22 percent lower. However, the health status of the Indian population is disproportionately lower than the U.S. average and, therefore, raises costs. When adjusted for the incidence of disease and medical conditions, the predicted cost for Indians is raised by 15 percent. The net affect of the age-sex-health risk adjustment lowers the cost to \$3,153 per person. The Indian population served by the IHS is predominantly rural where health costs tend to be lower, in this case, 6 percent lower when averaged over counties served by the IHS. The geographic adjustment reduces the predicted average cost to \$2,964 per person.

<i>Stage of Calculation</i>	<i>Cost Per Person</i>
Premium per person, US under-65 population	\$2,100
Premium per person, US population with elderly	\$2,833
Cost, US population (premium, copays, and deductibles)	\$3,391
Cost per person adjusted for age-sex-health status	\$3,153
Cost per person adjusted for geographic location	\$2,964

## The Results from the Cost Model

The LNF Workgroup requested cost predictions for four subsets of the American Indian and Alaska Native population. Results are shown in Table 2.

<i>Four Indian Populations</i>		<i>Pop. 000s</i>	<i>Cost Per Person</i>	<i>Cost Billions</i>
USERS	actual Indian users of the IHS and tribal health system	1,342	\$2,980	\$4.0
SERVICE AREA	eligible Indians living in the IHS / tribal service area (includes USERS)	1,468	\$2,964	\$4.4
URBAN INDIANS	Indians living in 34 metropolitan areas where urban projects are located	332	\$2,971	\$1.0
ALL OTHER	those Indians living outside the IHS / tribal / urban service areas	635	\$3,121	\$2.0
TOTAL		2,435		\$7.4

## The Available Funding Calculation

### Identify the average funding per person from third party payers

Some Indian people served by the IHS have sources of health care coverage in addition to the IHS. These include Medicare, Medicaid, and private insurance. The extent and continuity of such coverage is difficult to measure. The Survey of American Indians and Alaska Natives (SAI/AN) is the only comprehensive data source for third party coverage for the Indian populations served by the IHS and no comprehensive data are available for the Urban and All Other populations. The researchers extrapolated results from the SAI/AN for Indians living in the IHS service area. They estimate that 25% of health spending for this subset of the Indian population is from third party payers. Out-of-pocket spending is excluded.

### Identify the average funding per person from the IHS budget

Most of the IHS budget pays for personal medical services like those in a mainstream health plan. However, portions of IHS appropriations go to public health functions like sanitation facilities for clean water and waste disposal. Public health functions are not part of mainstream benefit plans. The IHS staff analyzed the overlap between the mainstream benefits package and IHS spending. Staff estimated 17 percent of the IHS appropriations are for things not in the mainstream benefits package and are excluded from the LNF ratio.

## The LNF Calculation

The new model predicts the amount of money needed to serve the health care needs of the American Indian and Alaska Native population at a level comparable to a mainstream health benefits package. This prediction sets a reference point against which to compare the amount of funds actually available for Indian health care. Comparing available funding to needed funding forms a ratio called the level of need funded percentage. The LNF percentage is important because it helps the IHS establish a target level of funding and helps to determine resource allocation within the Indian health system.

The estimates of available health care funding and needed funding were combined to present the LNF ratio for the user and eligible Indian populations. The LNF numerator is the IHS appropriation *less* spending for items other than personal medical care. The LNF denominator is the federal funding needed for a mainstream health benefits plan *less* the value of funding by third party payers such as Medicare, Medicaid, and private insurance. The national average LNF percentages for the user and eligible populations are shown in Table 3 on the next page.

<i>Table 3. Level of Need Funded Calculation and Results</i>		
	<i>Per User of the IHS System</i>	<i>Per Eligible in the IHS Service Area</i>
1. Total \$ per person for a mainstream benefits package	\$2,980	\$2,967
2. Less \$ paid by other payers	-25%	-25%
3. Equals federal \$ needed for the Indian population	\$2,235	\$2,205
4. IHS \$ appropriations per person	\$1,578	\$1,443
5. Less \$ for public health functions	-17%	-17%
6. Equals net IHS \$ per for personal health care	\$1,310	\$1,198
7. LNF Percentage ( #6 / #3) X 100%	59%	54%

## **The Cost of Mainstream Services for Indians**

The workgroup has answered the question of what it would cost to provide mainstream health care services to American Indians and Alaska Natives similar to the benefits enjoyed by many Americans.

- A mainstream package of health care services for all 2.4 million American Indians and Alaska Natives (AI/AN) would cost \$7.4 billion.
- The cost for mainstream services for the IHS/tribal user population, 1.34 million AI/AN, would cost \$4 billion. Approximately 25 percent of this would be expected from third party payers such as Medicare, Medicaid, and private insurance. The cost for urban and all other Indians is \$3 billion, of which IHS appropriations provides less than \$30 million. No data exist to estimate the third party contributions for these populations.
- The IHS appropriation provides only 59% of the necessary federal funding for the Indian health system responsible for services to the 1.34 million AI/AN users. The cost of raising 1 percentage point is \$30 million. The cost to raise the LNF to 100 percent for the IHS / Tribal user population is \$1.2 billion.

## **The Conclusion**

The provision of health care services to Indians is a U.S. treaty obligation and trust responsibility in exchange for aboriginal land, water, and minerals. The IHS appropriation provides only 59 percent of the necessary federal funding for the Indian health system that is responsible for those health care services. Clearly, the Indian health system is severely under funded.

The Indian health care funding gap is not an isolated finding of this cost model. The gap is consistent with and perhaps a contributing cause of disproportionately low health status for Indian people and their limited access to and lower utilization of health care services compared to most other Americans.

The gap in Indian health funding is not a surprise to members of the LNF Workgroup. We are too familiar with inadequate health funding in our communities, with old outmoded facilities and insufficient capacity, with deficient health provider staffing, with long waiting periods for appointments, with backlogs for needed referral services, and with disproportionately high morbidity and mortality. These findings confirm what we have experienced first hand.

## The Discussion

The LNF Workgroup has developed a model to estimate the costs of an equitable package of health care services for Indian people that is based on a mainstream health plan. We developed a national estimate for required funding that relies on publicly available data sources, uses industry-standard methods, and ties to a standard level of health care benefits. Policy makers in the federal, state, and tribal governments and the health care industry will find this report and the model it presents to be useful tools for estimating health care funding needs of Indians.

The model uses middle of the road costs of mainstream health plans to estimate costs for Indians. A variety of plans with a range of costs are available in more populated urbanized areas. However, availability of plans is limited in remote less populated areas of the U.S., often to higher cost fee-for-service type plans. IHS serves Indians in both populated and remote areas. Given the variation in plan availability among IHS service areas, the average premium provides a reasonable cost standard. To further demonstrate the main conclusions, the researchers repeated the LNF calculations using a premium at the 25<sup>th</sup> percentile of FEHB plans rather than the middle of the road premium. The 25<sup>th</sup> percentile premium is cheaper than three-quarters of the 271 FEHB plans. The resulting LNF is 66 percent for existing users of IHS and tribal programs -- still substantially below 100 percent.

Although our approach uses mainstream health plans as a cost benchmark, the Workgroup members do not propose a national insurance plan for Indians. The conditions within Indian country are too diverse for any single delivery model. We hold the view that, if funding comparable to mainstream plans were available to Indian communities, our health care delivery systems could combine an array of options to best meet the unique needs and conditions in each community.

The LNF model identifies necessary federal funding less third party coverage, estimated by the researchers in this study at 25 percent. We identified three important concerns with respect to third party coverage. First, 25 percent is the average of all counties served by IHS and tribal health programs. Workgroup members believe that third party coverage varies substantially among Indian communities and that 25 percent is an unrealistic expectation for some places. Part II of the LNF report will address regional variation of third party coverage for states and IHS areas. Second, reliable data on third party coverage is difficult to obtain. There are many reasons for this difficulty. Medicaid eligibility standards and benefits

vary among the 50 states. Existing law precludes IHS from collecting from self-insured tribal governments. Reporting of third party collections is inconsistent – it is required in IHS and is optional for tribes. Race/ethnic status is often missing or miscoded by third parties, especially for Indians. There is no practical means of collecting data from hundreds of private health plans for those Indians with supplemental coverage in addition to the IHS. Eligibility for Medicaid and private coverage often is discontinuous and depends on fluid changes in personal employment, income, and family status. The third concern about offsetting third party resources is founded on the unique federal obligation to Indians. Based on the special federal relationship to tribal governments, Indian leaders want Indian health care to be promoted from its existing discretionary status to entitlement. They hold that 100 percent of the necessary federal funding for Indian health care should flow through the IHS appropriation without the necessity for and offset of third party collections.

This report applies to the Indian population nationally. The technical report identifies a number of issues to consider when applying the approach to smaller populations. Generally, reliability of the estimates produced by the model decrease as the population size decreases.

## The Recommendations

The members of the LNF Workgroup recommend the following:

- The IHS should adopt the LNF Cost Model as the approach to describe and measure national funding needs of American Indians and Alaska Natives for personal health care services.
- Any costs unique to Indian populations (e.g., public health wrap-around programs, special costs resulting from remoteness and isolation, extraordinary transportation costs, unique requirements for cultural compatibility, and other special costs required of IHS and tribal programs) should be identified and justified separately. Separating unique costs from the LNF model keeps the model simple, comparable with other populations, and credible in the eyes of various public audiences while highlighting the truly unique aspects of Indian health.
- The LNF Cost Model should be used in allocating new funding among IHS Area Offices. The allocation formula should be determined in consultation with tribal leaders following the submission of Area LNF estimates in August 1999. Recommendations on resource allocation will be provided in the LNF Workgroup's second report.

## Credits – LNF Workgroup, Consultants, Staff

<b><i>LNF WORKGROUP MEMBERS</i></b>		
<b><i>IHS Area</i></b>	<b><i>Member</i></b>	<b><i>Organization</i></b>
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Billings	Alvin Windy Boy Gordon Belcourt	Rocky Boy Tribal Health Department Montana/Wyoming Indian Health Board
California (Tribal Co-chair)	James Crouch	Director, California Rural Indian Health Board
Nashville	Thomas John	Health Director Senaca Nation of Indians
Navajo	Taylor McKenzie, M.D.	Vice President Navajo Nation
Oklahoma	Howard Roach	Retired IHS executive Lawton Service Unit
Phoenix	Daniel Honahni, Ph.D.	Hopi Tribe
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Tucson	Reuben Howard	Pasqui Yaqui Health Department
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Self Governance	Joe Moran	Confederated Tribes of Salish-Kootenia
IHS (IHS co-chair)	Cliff Wiggins	Senior Operations Research Officer Office of the Director, IHS

<b><i>CONSULTANTS &amp; RESEARCH PARTNERS</i></b>		
<b><i>Type</i></b>	<b><i>Name</i></b>	<b><i>Organization</i></b>
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Partner, (health spending on Indians)	Donald Cox, Ph.D.	Barents Group, LLC under contract to the Kaiser Family Foundation
Partner, (IHS benefits analysis)	David Schraer, M.D.	Chief Medical Officer, Alaska Area IHS
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Partner, (IHS statistics)	Tony D'Angelo	Office of Program Statistics, IHS

<b><i>STAFF &amp; SUPPORT</i></b>		
<b><i>Type</i></b>	<b><i>Name</i></b>	<b><i>Organization</i></b>
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Contracted Logistical Support	Cheryl Mathias	Confederated Tribes of Salish-Kootenia



## APPENDIX A: Charge to the LNF Workgroup

TO: LNF Workgroup  
FROM: Director  
SUBJECT: Charge to the Workgroup

### ISSUE

The Congress has requested a measurable description of the health care needs of American Indians and Alaska Natives (AI/AN) and the costs of providing the needed health services. The Indian Health Service (IHS), tribal, and urban programs also need practical tools for assessing health care needs, determining financial risks, and comparing actual costs to expected standards.

### BACKGROUND

Historically the IHS has used epidemiological data to describe the health status and health care needs of the population it serves. This information is based on rich data sets involving both vital event data and workload information. In the past, it has also had a method for planning for health resources for specific communities. That method was called the Resource Requirements Methodology (RRM), which was developed to determine the staff needed to operate a primary care health program for a community of a specified size, workload, and geographic dispersion. The RRM was based on some health standards and professional judgement concerning the scope and character of services to be offered and the staff needed to provide those services. The IHS used the tool to report to the Congress on the projected staffing needs for new and replacement hospitals and ambulatory health facilities.

Later, the RRM was used to provide a comparative yardstick for budget formulation and distribution of resources. Available resources reported for each service site were compared to the RRM projections of need to calculate a funding sufficiency percentage. The resources required were known as the level of need, and the resources available as a percentage of that need were described as the level of need funded (LNF). This provided the Congress with a yardstick to evaluate the relative standing among different communities and tribes. What had been a simple facility staffing planning tool became a cumbersome tool used for purposes for which it was not designed. In short, the existing cost forecasting tools used by the IHS is outdated and inadequate.

In recent years, estimates of resource needs made by individual tribes, Indian organizations, and the IHS are based on differing methodologies, assumptions, and data. Consequently, estimates of resource needs are often inconsistent. The lack of a widely accepted standard for assessing health benefits for Indian people and the resulting lack of factual information on costs has impeded the advance of policy for authorizing and financing Federal health care benefits to Indian people. At its hearing May 21, 1998, the Senate Committee on Indian Affairs specifically asked for LNF information on the fiscal year (FY) 1999 IHS budget. The House Interior Appropriation Sub-Committee has also asked for this information. Since the IHS provided no updated number, the Committee directed that these estimates be available for consideration at the FY 2000 appropriations hearing.

Concomitantly, during the FY 2000 IHS budget formulation process, tribes and urban programs developed a "Needs Based Budget." The method, however, was not

measurably reproducible, nor did it quantify the need down to the community level. The tribes, urban programs, and IHS have requested an incremental increase in the FY 2000 budget that would move Indian health programs closer to that “Needs Based Budget” target. Further advocacy for the “Needs Based Budget” will require that it be based on a defined standard of benefits and reliable estimates of costs to finance those benefits.

The Indian health programs need to fully examine current industry approaches for forecasting needed health benefits and costs. Using actuarial and related methods, they can perform an analysis based on a wide or narrow range of benefits. The process has become extremely sophisticated. These methods have the important advantage of being widely recognized and accepted both in the health care industry and by Federal and State government officials and legislators. Therefore, a Workgroup has been formed to determine a level of need methodology for Indian health programs that adapts these methodologies to assessing the health care needs of AI/AN people and the costs to address those needs.

#### CHARGE TO WORKGROUP

The charge to the Workgroup is to provide perspectives from Indian country on measuring health resource needs of AI/ANs. The Workgroup will consider contemporary industry approaches for defining health benefits and estimating costs. You will identify a standard for health benefits for Indian people that is at least comparable to that enjoyed by most Americans. The Workgroup will consider options for forecasting resources and costs that is widely recognized in the health industry and Federal government and is also practical to apply. The final plan will identify a method to estimate costs per person that are necessary to finance the needed benefits and services. The Workgroup will assist in categorizing Indian sub-populations into reasonable cohorts for forecasting purposes. They will advise on means to measure available resources that are necessary to compute a LNF percentage for communities and individual tribes. They also will help publicize the project and educate tribes about its possible uses and advantages.

#### WORKGROUP COMPOSITION

The Workgroup will be composed of one tribally designated individual from each Area. One representative from the Tribal Self-Governance Advisory Committee, the National Indian Health Board, and the National Council of Urban Indian Health; and an IHS member from the Indian Health Leadership Council. A Federal and a tribal co-chair will be elected at the initial meeting. Technical assistance will be provided primarily by respected outside institutions and organizations, with supplemental work by IHS staff. Input from tribal governments, Indian organizations, other Federal agencies, and various institutions may be sought from time to time. The IHS also is considering a partnership with a foundation to conduct independent research on the reasonable costs of a health care benefits package for Indian people. If this research project does happen, the Workgroup is invited to provide input as appropriate.

#### LOGISTICS AND SUPPORT

The Workgroup will meet as necessary, with logistical support provided by IHS Headquarters and the Salish and Kootenai Tribes. The technical services of IHS staff or outside consultants (such as actuarial services) shall be provided as needed. The budget authorized for the support of the Workgroup will be determined on a quarterly basis and travel expenses for the Workgroup for no less than three meetings will be

authorized. Consultant services will be funded as appropriate. The Workgroup is expected to complete its charge by October 1999.

#### EXPECTED PRODUCTS

A. By November 15, 1998:

- Identify options for a personal health care benefits standard for Indian people that is comparable to that enjoyed by most Americans,
- Identify options for a recognized scientific method to estimate the costs per person to finance the benefits,
- Identify unique public health and health department type programs (sanitation, environmental health, community health representatives, etc.) that are separate from personal health services – termed “wrap around public health programs.”

B. By December 15, 1998

- Select an approach for personal health care benefits for the standard
- Select an approach to estimate costs per person for personal health services
- Select an approach(s) to estimate costs for wrap around public health programs
- Identify population cohorts appropriate for forecasting costs
- Identify means (contractor, foundation, etc.) to apply the selected options in a macro-analysis to derive first approximation results for large sub-populations or geographic regions.

C. By February 15, 1999:

- Identify first approximation per person cost for large sub-populations or geographic regions
- Identify first approximation of available resources for large sub-populations or geographic regions
- Identify first approximation of LNF percentage (level of detail determined by the initial findings and availability of data)

D. By April 1, 1999

- Finalize details of the benefits standard
- Finalize details of the cost forecasting methods
- Identify the means to apply the final standards at a community/tribal level

E. By October 1, 1999

- Submit final report on personal health benefits standards and wrap around public health standards
- Submit final per person personal health service cost factors and wrap around cost factors

3. Submit final needs estimates for communities/tribes

4. Submit final LNF percentage for communities/tribes.

Michael H. Trujillo, M.D., M.P.H., M.S.  
Assistant Surgeon General



## APPENDIX B: Technical Report

### The Final Report

#### “LEVEL OF NEED FUNDED COST MODEL,”

which was submitted by I&M Technologies and the Center for Health Policy Studies to the LNF Workgroup, follows this cover page. Page numbers in the attachment are separate and do not follow in sequence from the page numbers of the summary report.