APPENDIX TO THE IHS 2002 PERFORMANCE PLAN

A.1 Approach to Performance Measurement

Data Verification and Validation

In the context of GPRA the concepts of data validation and verification are defined as:

> **Validation** is the process for ensuring that data collected match the intended area of performance.
>
> **Verification** is the assessment of data completeness, accuracy, consistency and timeliness and related quality control practices.

For each performance indicator in this performance plan, the issue of validation is directly addressed in the "Rationale" section that comes immediately after the statement of the indicator. Where ever possible we have attempted to use an evidence-base justification for the selection of the indicator, particularly for clinical care related indicators.

How we address the issue of data verification, however, is considerably more diverse in this plan because of the diversity of types of data that support the indicators. The verification of many of the clinically based performance indicators is supported by either the IHS Automated Data System or the IHS Diabetes Care and Outcomes Audit. The verification of data from these sources is described in the three sections that immediately follow and support indicators 1-8, 12, 13, 18, 22-24, 26, 29.

For the Capital Programming/Infrastructure Indicators 34-36, the data are recorded at the local level where projects are conceptualized based in strict protocols and formulas. These data are compiled at the Area and Headquarters level and reviewed for accuracy and then compare against similar projects. The validation and verification of this information is essential to the facilities programs since it is used to distribute resources as well as measure performance.

For indicators that survey our consumers (indicators 21 and 37), the required Paperwork Reduction Act clearance process effectively addresses both validation and verification process as required in submitting the instrument and collection protocol. We are using a similar recognized survey approach to assess Indicator 16 addressing surveys of our health care providers relative to the adoption of policies and procedures for screening and referral for victims of family violence, abuse, or neglect, and staff training that support these policies. Similarly, Indicator 42, which addresses the quality of work life, is collected by HHS staff through recognized survey procedures.

The remaining indicators in this plan are process measures for which verification is less formalized but relatively evident from the description of how the indicators are addressed. In essence they are based on the integrity of IHS reporting structures. As an example, Indicator 20 addressing health facility accreditation, depends on the reports of the accrediting bodies submitted to the sites and Areas, forwarded to IHS Headquarters and reported in this document.

Data Sources to Describe the AI/AN Population

The IHS utilizes outside (non-IHS) and IHS data sources to manage its diverse programs and assess Indian health status. The two principal outside data sources are the Bureau of the Census and the Centers for Disease Control and Prevention, in particular, the National Center for Health Statistics (NCHS). The Census Bureau is the source of Indian population counts and social and economic data. However, reliable Indian census data at the county level are only available from the Decennial Census, once every 10 years. The IHS prepares AI/AN population estimates for years between the Censuses.

The NCHS provides IHS with natality and mortality files that contain all births and deaths for USA residents, including those identified as American Indian or Alaska Native. The NCHS obtains birth and death records from the State departments of health, based on information reported on official State birth and death certificates. The IHS receives these records with essentially the same basic demographic information as the records maintained by NCHS, but with names, addresses, and record identification numbers deleted as required by the Privacy Act. It should also be noted that tribal identity is not recorded in these records by the States. The State of New Mexico does identify tribal affiliation for 23 indigenous tribes of that state. However, the IHS does not obtain this tribal identification from the automated records provided by NCHS. The data are subject to the degree of accuracy of reporting by the States to NCHS. The NCHS does perform numerous edit checks and imputes values for non-responses. The IHS assigns IHS organizational (Area and service unit) identifiers to the birth and death records in setting up its Indian database. The IHS computer routines for accomplishing this have been thoroughly verified, and the results are continuously monitored.

Several studies have shown considerable miscoding of Indian race on State death certificates, understating Indian mortality especially in areas not associated with Indian reservations. The IHS now utilizes factors based on a National Death Index study to adjust Indian mortality rates for race miscoding. Another major problem with mortality data is the time lag in receiving data. These data are not typically available from NCHS until two years after the events occur, and mortality data are often slow in showing the impact of health interventions. Due to these constraints, IHS has chosen not to use mortality data for annual performance plan indicators except in special circumstances. The IHS will continue to use mortality data for tracking long-term trends in Indian health status and to make comparisons with other population groups. However, having to wait two years to link activities in an annual performance plan with mortality findings is of limited value in the ongoing implementation and evaluation process.

IHS Automated Data Systems

The IHS has its own program information systems to collect data on the services provided by IHS and tribal direct and contract programs. The software used by IHS facilities and most tribal facilities is the Resource and Patient Management System (RPMS). In addition the IHS provided the file structure and technical assistance to a number of tribes to facilitate reporting of data in RPMS from non-RPMS sources. As a result, it is estimated that this data set accounts for approximately 90 percent of the IHS user-population.

Data are collected for each inpatient discharge, ambulatory medical visit, and dental visit (all patient specific) and for community health service programs including health education, community health representatives, environmental health, nutrition, public health nursing, mental health and social services, and substance abuse (all activities reporting systems).

The patient-specific data are collected through the Patient Care Component (PCC) of the RPMS. These data are subject to recording, inputting, and transmission errors.
However, IHS applies a series of edits at the facility and central database levels to detect and correct invalid data. Some examples include the following: when ICD-9 and CPT-4 data is input into RPMS, edit checks are conducted for sex, age, and diagnosis to prevent data from being processed that could not be true; the Medical Record supervisors have access to the medical records reports which provide the capability to check the data entered for completeness (e.g., does each visit have a provider, date of service, etc.) and flags the entries that should be edited; and when records are flagged for export, the PCC Export routine has edit checks to prevent transmission of records with incomplete data elements.

At the central database level when data is processed, additional edit checks are applied to ensure that the validity of data sorts. For example, if a report requires the gender and if the gender field is not 'male' or 'female', that record is not used. Reports are also assessed for linearity (is the data consistent month to month) and completeness (how it compares to last year) prior to sending data for review and approval. Others that cannot be detected by computer are identified through the monitoring for reasonableness that is performed in the field, and by Area and Headquarters health program staff.

Each facility that utilizes PCC has a facility-level database that contains the detailed PCC data collected at that site. A subset of the detailed PCC data (to meet the routine information needs of IHS Headquarters) is transmitted to the IHS central database. The PCC data are the source of most of IHS' GPRA measures since they reflect prevention activities and morbidity and do not have the time lags described previously for mortality data. However, many of IHS' proposed measures rely on detailed PCC data not currently transmitted to the IHS central database. The IHS is developing software to transmit some of these needed data items to the central database. In the meantime, IHS will need to use sampling routines to collect the required data from the individual facility-level databases. A stratified sampling approach will be used to include different types and sizes of facilities and Indian populations with different health characteristics.

Early in the process of attempting to compile FY 2000 reports for several indicators based on our automated patient record data system, several unforeseen data problems emerged. As part of our Y2K conversion efforts in 1999, the IHS retired the obsolete mainframe computing platform that was used to aggregate Indian Health Service supported health care data nationally and prepare statistical reports, which are used to report on GPRA indicators. The conversion efforts successfully addressed the Y2K date change issue but proved to be challenging when migrating existing data and duplicating the complex set of algorithms used to aggregate data from decentralized collection points. When the database was transitioned from the mainframe to IBM RS/6000 minicomputers there were incompatibilities between the configuration of the database (Informix) and the IBM High Availability hardware configuration that resulted in data being lost during report generation or the verification processes were not fully functional.

Intensive efforts have since been focused on procedures to reestablish the essential report generating capabilities and ultimately improve data quality. Many of the problems have been addressed by moving the database to the IBM Database 2. Due to hard drive failures, space limitations and equipment upgrades annual report verification was delayed. All of these hardware/equipment issues will be completely addressed by the end of March 2001. Additionally, there are issues with duplicate patient data and complete export of data from field

sites. The Master Person Index and Data Movement projects should eliminate most of these problems sometime in FY2002.

There are currently workgroups formed (with IHS Direct, Tribal and Urban staff) to address issues of workload reporting, algorithm/formula review, data entry/coding, equity, etc. Within the next year, these groups will develop solutions to improve the quality and timeliness of our data**.** This has been and is a challenging process requiring a high level of coordination and cooperation between the local I/T/Us, Areas and to Headquarters.

The combination of improvements in the information technology architecture and the program improvements will ultimately improve the quality and availability of data. Current efforts are focused on securing data for indicator 26 not yet reported and on final data validation and verification for six other indicators (Indicators 1, 6-8,13 and 22). We are confident these technical set backs will be resolved and we remain committed to improving the processes for generating and making GPRA and other accountability data a major focus of our information technology development path.

IHS Diabetes Care and Outcomes Audit

A final important data set that underpins the diabetes treatment indicators 2-5 is the IHS Diabetes Care and Outcomes Audit. Since 1986 a yearly medical record review to assess diabetes care has been conducted in more than 75% of the IHS and tribal facilities, representing care to nearly 70,000 AI/AN people with diabetes. The medical staff at participating facilities are encouraged to maintain active diabetes registries using uniform definitions. Each registry is maintained in the IHS medical record system and includes information about individuals with diagnosed diabetes who have been seen at least once in the past three years. Each year a systematic random sample is drawn from each facility's registry, using a sample size sufficient to provide estimates of $\pm$10% of the true rates of adherence for that facility with a confidence of >90%.

The medical record review measures selected clinical interventions, performance measures, and intermediate outcomes using the uniform set of definitions. The Area diabetes consultants conduct chart reviews and other professional staff trained by them in accordance with written instructions and definitions provided by the IHS Diabetes Program. The abstracted data are entered into a microcomputer-based epidemiologic software program. Summary reports are printed for immediate use by facility staff in their quality improvement and program planning Activities. Regional and national rates are constructed for each item of the medical record review after data are aggregated from all participating sites.

During the period 1995-1999, approximately150 sites submitted data to be compiled for the IHS total. Indian health facilities and tribally contracted facilities that do not provide direct patient services did not participate in the audit. Participation from each of the 12 IHS administrative regions varied by year and by federal or tribal management. All regions were represented in each year and approximately 2/3 of all the facilities contributed data in a given year. Tests of trend over the 3- year period were performed by the Mantel-Hanzel test except as noted in the text.

A.2 Changes and Improvements

FY 2002 Performance Plan

The IHS has drafted its FY 2002 performance plan is based on updates in baseline data and other data related issues, the ability to address key external factors influencing success (see Section 1.4 on page 24), the level of attainment of related FY 1999 performance indicators, and the most current proposed funding level. The IHS has discontinued two indicators for both FY 2002 and FY 2002. The first is indicator addressing downsizing and maintaining a smaller administrative infrastructure while maintaining compliance with accountability requirements. This decision was based on a potential need for some increases in infrastructure to address the growing accountability requirements of Federal agencies.

The second indicator addressed increasing the number of agreements with other organizations that directly support GPRA performance indicators was discontinued for several reasons. First, a larger number of small single focus agreements have recently been folded into larger multiple focus agreements thus making the number of agreements to have little validity in assessing the actual level of collaboration occurring. Another reason to discontinue this indicator is that while we can and have tracked the agreements negotiated by IHS Headquarters, there is no practical way to do so for the many agreements that are negotiated at Area and local I/T/U levels that are indeed assisting in meeting performance indicators. Lastly, this is a process measure in which the validation and verification is extremely subjective and not consistent with the goal of the IHS moving toward more objective and evidenced-based measures whenever possible.

Six indicators have been added to the FY 2002 plan including:

- two new treatment indicators covering access to dental services for diabetics and reducing untreated dental decay in youths
- two prevention performance indicators covering HIV risk behavior and expanding tribal infrastructure for comprehensive injury prevention
- a new data related indicator for improving data quality and expanding information technology capability in collecting and monitoring GPRA clinical performance data.
- a new indicator addressing tribal Self-Determination support and Contract Support Costs

As part of efforts to continually improve performance data, the IHS will utilize a systematic sampling approach for several clinical indicators during the FY 2001. This sampling process will be used to validate recently developed automated data runs and identify problem areas in coding and collation of data with the goal of greater use of automated approaches in the near future.

Another improvement to the FY 2002 Performance Plan is the application of the Balanced Scorecard model. A discussion of this model has been included on pages 36-38 of this document that explains the use of the Balanced Scorecard in the Federal context. Furthermore, each performance indicator is classified as to which perspective of this construct it best fits under the heading of "Type of Indicator" that is included with the description of each individual indicator.

FY 2000 Performance Report

For FY 2000, of the 34 performance indicators in the plan we are now reporting on 29, with six are provisional findings pending further verification. Of these 29 indicators, 18 were achieved, nine partially achieved, and two not achieved. We will report on the remaining five indicators by this coming August.

Revisions to FY 2001 Performance Plan

The iterative process of developing the FY 1999-FY 2001 performance plans and drafting the FY 1999 performance report has been a significant learning process for the IHS. It has required the auditing of many different data sets to assess current access to health services (coverage) and baseline rates of various conditions. As part of efforts to continually improve performance data, the IHS will utilize an electronic sample procedure for three clinical indicators (Indicators 6,7 and 24) during FY 2001, and verify and validate this approach against a chart audit of a subset of the sample. This sampling and audit process will identify problem areas in coding and collation of data with the goal of greater use of automated approaches in the near future. In light of these findings, the IHS has revised several indicators for FY 2001 to assure more reliable, timely and accurate performance data.

In addition, analyses of recent workload data have revealed that expanding access to some services will be are likely to be affected by the growing problems in recruiting and retaining health care providers (see *Recruitment and Retention of Health Care Providers* on page 28). Based on these trends and the IHS FY 2001 funding level, we have adjusted the target levels of a few indicators to reflect more realistic probabilities of accomplishment for FY 2001.

For two indicators our efforts in FY 2000 have resulted in our ability to set higher performance targets in FY 2001 than originally proposed. Our success in achieving a higher score in the HHS Quality of Work-life survey for FY 2000 allowed us to raise the FY 2001 target from 95 points to 97 for Indicator 42. From a public health perspective, we are pleased that our efforts in FY 2000 in improving water fluoridation compliance in pilot sites through an agreement with CDC has resulted in increased focus and earmarked funding for FY 2001. As a result all Areas will benefit from this effort and the performance target for improved access to fluoridated water in FY 2001 is expanded beyond the pilot sites to include all IHS Areas.

This process has also identified opportunities for greater cooperation with outside entities such as CDC and NIH and indicators have been revised to build on these partnerships in addressing tobacco use, HIV/AIDS, and cardiovascular disease.

The table that follows summarizes the significant changes in content or magnitude to FY 2001 indicators originally submitted with the FY 2001 budget.

Summary of Changes to the FY 2001 IHS Performance Indicators

Original FY 2001 Indicator	Revised FY 2001 Indicator	Rationale for Change
Indicator 2: Increase the proportion of I/T/U clients with diagnosed diabetes that have improved their glycemic control.	**Indicator 2:** Increase the proportion of I/T/U clients with diagnosed diabetes that have improved their glycemic control.	These two diabetes related indicators have not been changed but changes have been made in the criteria for assessing these two clinical measures. This has occurred to support the evidenced-based revisions to the standards of care that have now been made to the IHS Diabetes Care and Outcomes Audit.
Indicator 4 : Increase the proportion of I/T/U clients with diagnosed diabetes who have been assessed for dyslipidemia.	**Indicator 4 :** Increase the proportion of I/T/U clients with diagnosed diabetes who have been assessed for dyslipidemia.	
Indicator 6: During FY 2001, increase the proportion of women 18 and older that has had a Pap screen in the previous year by 3% over the FY 2001 level.	**Indicator 6:** During FY 2001, increase the proportion of women 18 and older that has had a Pap screen in the previous year by 3% over the FY 2001 level.	Indicator 6 and Indicator 7 have not been changed in content or target levels but in the approach to data collection. Data for this indicator is now collected by the use of electronically drawn random sample of patient records with verification of a subset by chart audit as part of a transition to more automated approaches to securing performance data. See the indicator write-up (pages 55-59) for description of this process.
Indicator 7: During FY 2001, increase the proportion of the AI/AN female population over 40 years of age that has received screening mammography in the previous two years by 2% over the FY 2001 levels.	**Indicator 7:** During FY 2001, increase the proportion of the AI/AN female population over 40 years of age that has received screening mammography in the previous two years by 2% over the FY 2001 levels.	
Indicator 8: Improve child and family health by increasing the proportion of AI/AN children served by IHS receiving a minimum of four well child visits by 27 months of age during FY 2001 by 3% over the FY 2000 level.	**Indicator 8:** Improve child and family health by increasing the proportion of AI/AN children served by IHS receiving a minimum of four well child visits by 27 months of age during FY 2001 by 2% over the FY 2000 level.	Performance level adjusted to reflect the continued problem of recruitment and retention of health care providers.
Indicator 11: Reduce dental decay rates by improving water fluoridation compliance in FY 2001 by 10% over FY 200 levels for Areas participating in the IHS/CDC Fluoridation Surveillance Demonstration Project.	**Indicator 11:** Reduce dental decay rates by improving water fluoridation compliance in FY 2001 by 10% over FY 2000 levels for water systems in Areas participating in the IHS/CDC Fluoridation Surveillance Demonstration Project and by 5% for systems serving all other IHS Areas.	Target was expanded to include all IHS Areas because $500,000 was appropriated in FY 2001 to support fluoridation enhancement IHS-wide.

Original FY 2001 Indicator	Revised FY 2001 Indicator	Rationale for Change
Indicator 17: Not included	**Indicator 17:** During FY 2001, IHS will: • Conduct a pilot study at five sites to evaluate the potential of electronically extracting data from the RPMS to report on five clinical performance measures, • Begin one or more intervention studies at appropriate sites to resolve data quality problems that are identified in this and previous studies, • For any of these performance measures where the data quality is deemed to be sufficient to proceed, implement electronic data collection so that baseline data can be collected for FY 2002.	This indicator was added to support ongoing efforts to improve performance data quality and expanding automated approaches to data collection.
Indicator 21: By the end of FY 2001, improve IHS-wide consumer satisfaction by 5% over the FY 2000 baseline level	**Indicator 21:** By the end of FY 2001, secure OMB clearance on revised consumer satisfaction instrument.	Submission to OMB was not completed during FY 2000 because of revisions of the instrument and has delayed clearance until FY 2001, and collection of baseline until FY 2002.
Indicator 22: Improve the health status of American Indian and Alaska Native people by assuring that during FY 2001, the total number of public health nursing services (primary and secondary treatment and preventive services) provided to individuals in all settings and the total number of home visits are increased by 7% over the FY 2000 workload levels.	**Indicator 22:** Improve the health status of American Indian and Alaska Native people by assuring that during FY 2001, the total number of public health nursing services (primary and secondary treatment and preventive services) provided to individuals in all settings and the total number of home visits are increased by 3% over the FY 2000 workload levels.	Performance level adjusted to reflect the continued problem of recruitment and retention of health care providers and to reflect the IHS FY 2001 appropriation.
Indicator 23: Reduce the incidence of preventable disease by increasing the proportion of AI/AN children who have completed all recommended immunizations for ages 0-27 months (as recommended by Advisory Committee on Immunization Practices) during FY 2001 by 2% over the FY 2000 rate.	**Indicator 23:** Reduce the incidence of preventable disease by increasing the proportion of AI/AN children who have completed all recommended immunizations for ages 0-27 months (as recommended by Advisory Committee on Immunization Practices) during FY 2001 by 1% over the FY 2000 rate.	Performance level adjusted to reflect the continued problem of recruitment and retention of health care providers.

Original FY 2001 Indicator	Revised FY 2001 Indicator	Rationale for Change
Indicator 24: Reduce the incidence of preventable diseases, by increasing pneumococcal and influenza vaccination levels among adult diabetics and adults aged 65 years and older by 2% over the FY 2000 rates.	**Indicator 24:** Reduce the incidence of preventable diseases, by increasing influenza vaccination levels among adult diabetics and adults aged 65 years and older by 1% over the FY 2000 rates and securing baseline pneumococcal vaccination rates for this population.	Performance level adjusted to reflect the continued problem of recruitment and retention of health care providers and securing reliable assessments of pneumococcal vaccination rates. Data for this indicator are now collected by the use of electronically drawn random sample of patient records with verification of a subset by chart audit as part of a transition to more automated approaches to securing performance data. See the indicator write-up (pages 84-86) for description of this process.
Indicator 28: Improve physical fitness and model fitness behavior by assuring that by the end of FY 2001, at least five model Take Charge Challenge fitness programs will be organized and functioning at either IHS Area Offices or the I/T/U level.	**Indicator 28**: During FY 2001, the IHS will collaborate with NIH to assist three AI/AN communities develop culturally sensitive, multidimensional, community - directed pilot cardiovascular disease prevention programs.	This indicator has been modified to have a longer-term less prescriptive focus targeting the prevention of cardiovascular disease that will build on collaborative efforts already underway with NIH at three AI/AN pilot sites.
Indicator 31: Reduce high risk HIV/AIDS behaviors by assuring that at least 50% of the I/T/Us will have implemented an HIV/AIDS Needs Assessment to monitor and assess risks by individuals and tribal communities and develop appropriate interventions.	**Indicator 31:** During 2001, develop an approach for HIV/AIDS surveillance and establish a baseline for completeness of reporting in one IHS Area.	Indicator 31 was revised and Indicator 32 was added after analyses of available data revealed serious deficiencies in HIV/AIDS reporting across states and difficulties in comparing IHS and CDC data sets. In addition, through an interagency agreement with CDC, an experienced HIV/AIDS coordinator has jointed the IHS and is refocusing efforts to enhance surveillance, long-term program effectiveness, and collaborative partnerships.
Indicator 32: No Indicator Proposed Initially	**Indicator 32:** Obtain a baseline measure of the percentage of high risk sexually active persons who know their HIV status from a sample of IHS facilities.	See Explanation for Indicator 31 above.
Indicator 33: Reduce environmental threats to health by completing community environmental assessments of 90% of American Indian and Alaska Native communities in FY 2001 by the implementation of the environmental health surveillance system.	**Indicator 33:** By the end of FY 2001, complete field-testing of the protocol and implementation plan for an environmental health surveillance system and conduct environmental assessments in 15% of American Indian and Alaska Native communities.	Performance level adjusted to reflect the IHS FY 2001 appropriation and vacancies in critical staff during FY 2000 that delayed progress. In addition, Tribal consultation is requiring greater time than anticipated.

Original FY 2001 Indicator	Revised FY 2001 Indicator	Rationale for Change
Indicator 35: Improve home environmental health by providing sanitation facilities projects to serve 3,800 new or like-new homes and 11,455 existing Indian homes.	**Indicator 35:** Improve home environmental health by providing sanitation facilities projects to serve a total of 14,730 new or like-new homes and existing Indian homes.	Performance level adjusted to reflect the IHS FY 2001 appropriation.
Indicator 36: : Improve critically needed access to health care services by providing the following physical infrastructure: • Ft. Defiance, AZ Hospital: Continue construction of the replacement hospital and start design of part of the staff quarters; • Winnebago, NE Hospital: Continue construction of the replacement hospital. • Parker, AZ Health Center: Continue construction of the replacement health center. • Pawnee, OK Health Center: Start design of the replacement health center. • Small Ambulatory Construction Grants: Provide construction grants to tribes/tribal organizations. Dental Units: Provide dental units based on priority needs.	**Indicator 36:** : Improve critically needed access to health care services by providing the following physical infrastructure: **Hospitals:** Ft. Defiance, AZ-Constr..... Winnebago, NE-Constr..... **Outpatient Care Fac.:** Parker, AZ-Complete Constr..... Pawnee, OK -Complete Design.... **Staff Quarters:** Bethel, AK..... **Joint Venture Projects:** Equipment for tribally constructed projects **Small Ambulatory Grants:** Construction grants/contracts to tribes/tribal organizations **Dental Units:** Modular dental units	Performance level adjusted to reflect the IHS FY 2001 appropriation.
Indicator 37: To improve the IHS consultation process with its I/T/U stakeholders, during FY 2001 the IHS will implement the revised consultation policy and secure OMB clearance for the instrument to assess I/T/U stakeholder satisfaction with the consultation process.	**Indicator 37:** To improve the IHS consultation process with its I/T/U stakeholders, during FY 2001 the IHS will coordinate the completion and implementation of the revised IHS consultation policy and develop an instrument to assess satisfaction with the new policy.	Efforts to integrate diverse strategies for revising the consultation policy proposed by different stakeholder groups have resulted in a delay in the revision process start-up.

Original FY 2001 Indicator	Revised FY 2001 Indicator	Rationale for Change
Indicator 38: During the FY 2001 reporting period, the IHS will have improved the level of Contract Health Service (CHS) procurement of inpatient and outpatient hospital services for routinely used providers under contracts or rate quote agreements to at least 88% at the IHS-wide reporting level.	**Indicator 38:** During the FY 2001 reporting period, the IHS will have improved the level of Contract Health Service (CHS) procurement of inpatient and outpatient hospital services for routinely used providers under contracts or rate quote agreements to at least 79% at the IHS-wide reporting level.	Follow-up review of the FY 1997 data that the baseline was drawn from revealed that the original baseline analysis did not account for large amounts paid for single large payments out of the Catastrophic Health Emergency Fund, or adjustments for providers who have opted out of HCFA managed care programs. Thus, a new lower baseline has been calculated and targets have been reduced correspondingly.
Indicator 40: To increase collaborative support for improved health status of AI/AN people, the IHS will have increased the number of interagency agreements and cooperative agreements with agencies and organizations that are directly linked to performance plan indicators over the FY 2000 level.	**Indicator 40**: This Indicator has been discontinued for FY 2001.	With a larger number of agreements being folded into larger single agreements, the number of agreements now has little validity for assessing the level of collaboration. In addition, it was discovered that there is a large number of agreements at the Area and local level that are not monitored in a centralized way.
Indicator 39: During FY 2000, the IHS Headquarters and Areas will maintain full compliance with major Federal requirements (i.e., GPRA, GMRA, Clinger-Cohen Act, etc.), without expanding the administrative staff above the FY 1999 FTE target level.	**Indicator 40**: This Indicator has been discontinued for FY 2001.	Given growing accountability requirements and identified limitations in IHS public health infrastructure, this indicator may no longer be valid in supporting the IHS Mission, Goal, and Foundation..
Indicator 42: To improve job satisfaction and the quality of work life for IHS employees, the IHS will improve its overall Human Resource Management (HRM) Index score to at least 95 as measured by the DHHS annual HRM survey.	**Indicator 42:** To improve job satisfaction and the quality of work life for IHS employees, the IHS will improve its overall Human Resource Management (HRM) Index score to at least 97 as measured by the DHHS annual HRM survey.	The target has been raised for FY 2001 to build on the success of the score of 96 accomplished in FY 2000.
Indicator 43: : No Indicator Proposed Initially	**Indicator 43:** During FY 2001, the IHS will support the efficient, effective and equitable transfer of management of health programs to tribes submitting proposals or letters of intent to contract or compact IHS programs under the Indian Self-Determination Act by: a. developing a technical assistance "needs assessment" protocol for systematically identifying the technical assistance needs of new compacting and contracting tribes. b. develop a Contract Support Cost Review Protocol for systematically and consistently applying the IHS Contract Support Cost Policy to all initial contract support cost requests.	The indicator has been added to enhance focus on technical assistance to compacting and contracting tribes and assure the consistent application of the IHS Contract Support Cost Policy in reviewing contract support cost requests.

A.3 Linkage to HHS and OPDIV Strategic Plans

The IHS FY 2001 Plan was developed in the context of the IHS component of the HHS Strategic Plan and the four broad strategic objective described in Section 1.1. From the perspective of the HHS Strategic Plan, every indicator selected directly or indirectly supports Objective 3.6 *Improve the Health Status of American Indians and Alaska Natives.* Furthermore, most indicators also address multiple other Department objectives and are listed in the "Linkages" section of each individual indicator.

A.4 Performance Measurement Linkages with Budget, Cost Accounting, Human Resources, Information Technology Planning, Capital Planning and Program Evaluation

Performance Measurement Linkages with Budget

One of the greatest challenges of implementing the GPRA in a public health program is responding to the requirements of demonstrating an outcome focus on one hand and better linkages to funding (and hence, costs) on the other. These are difficult and in some cases impossible goals to mutually accomplish. The IHS has integrated the use of process, impact and a few outcome indicators but because many health outcomes cannot be realized in a one-year plan, we have predominantly focused on activities that have an evidenced-based association with positive health outcomes over time (impact).

To attempt to enhance short-term detailed cost accounting as well as discipline specific outcome assessment capability would require the reprogramming of a significant proportion of resources away from patient care into administrative infrastructure. Such an effort would run against current trends and existing priorities. We contend given these realities, our plan meets the requirements and intent of the GPRA and adequately strengthens the connection between showing how health care funding is annually prioritized to the problems of greatest concern of our consumers. Health outcomes (i.e., mortality and morbidity) are well articulated annually in our publication ***Trends in Indian Health***, but which present data that are two to three years old because of delays in the Nations data system infrastructure.

The IHS has elected to keep general reference to funding levels in the plan and built estimated accomplishment around the request funding level. We can identify which requested funding enhancements are generally linked to supporting specific indicators in some cases. While the linkage would be relatively clear and direct in the case of public health nursing or dental care related indicators, it would get more complex with the diabetes-related indicators and extremely vague in the case of consumer and employee satisfaction related indicators. Applying a linear single path manufacturing accounting model to many health problems and management issues in a comprehensive public health program such as the IHS is not feasible.

Similarly, while performance targets for indicators addressing facilities construction are linked to funding levels in a linear way, this is often not the case for indicators addressing health care services when viewed through a one-year timeframe. Our ability to recruit additional health care providers and having the needed clinical space available to utilize them efficiently may not be realized in a

single year. In some cases, investments in the supportive infrastructure are the highest priority for long-term effectiveness but will do nothing in the short-run to increase access to services.

Another important fact that should be considered in reviewing FY 2002 performance indicators and their targets and the FY 2000 performance results is that the AI/AN population increases over two percent annually. Thus, service capacity must be increased over two percent just to remain at the same level of coverage each year for the indicators that set a target for the percent of the population covered.

We have selected an aggregation approach largely based on the way our programs are managed and have selected four functional areas for the aggregation of the 24 budget categories identified in the IHS "Detail of Change Table": 1.) Treatment, 2.) Prevention, 3.) Capital Programming/Infrastructure, and 4.) Consultation, Partnerships, Core Functions, and Advocacy.

While this approach may appear to be an overly simplistic "lumping" of categories, it is important to realize that there is no aggregation or disaggregation that allows mutually exclusive activities linked to mutually exclusive health problems. For a more detailed discussion of these issues, see the *Program Aggregation* section on page 37 of this document.

Cost Accounting

Beginning in FY 1997, the IHS contracted with the Mitretek Systems to analyze technical alternatives for IHS cost reporting/cost accounting. This provided a detailed analysis of technical alternatives and a cost benefit and trade off analysis of alternatives. The results have been provided to a steering committee to support strategic decision-making regarding the implementation of cost reporting and cost accounting at IHS. This system is necessary to assist IHS leadership to maximize the utility of available resources by being cost effective and ensuring that patient care can be provided to its customers.

In August of FY 1999 the steering committee met during to review, revise, and expand the cost center structure of the agency. All the current 95 cost center specifications were reviewed for content and current applications. The workgroup recommended that some of the current cost centers be deleted in future years. Several new cost centers were recommended for development. These reflect current technology, terminology and healthcare practices that will further help to delineate the agency's costs. During FY 2000 activities included the implementation of 15 new "cost centers" to improve capturing cost by functions, and sponsored 1 of 2 national training on cost principles for staff at service units, areas and headquarters. The effort also included completing "cost reports" at 30 facilities and 12 Area Offices to be used for Medicare/Medicaid rate negotiation. Five additional sites were selected to complete first-year practice cost reports. The IHS also reviewed the Veterans Administration Hospital financial cost accounting system in Albuquerque, NM, for evaluation and possible adoption by IHS.

Human Resources

The IHS is committed to human resource development as an essential component of performance planning and performance management. Historically, we have consistently invested in long and short-term training in the clinical, public health, and management/leadership areas to assure capable providers and public health leaders. In recent years we have reduce these investments to in order to support other priorities. The effects of these reductions in training are undoubtedly multiple but perhaps most evident in growing staff retention difficulties. That these two problems

are related was confirmed in surveys of employees leaving the IHS, who indicated that a lack of training opportunities was a significant determinant in their decision to leave.

Across budget categories in the requested FY 2002 IHS budget is a renewed commitment to find cost effective approaches to better meeting human resource development needs including clinical, public health, management, information technology, and teamwork. Through our Quality of Work Life project, the IHS has attempted to align its performance goals with its human resource management efforts in several ways. One, IHS has began a process by which future executives are identified and trained to take over top leadership positions one they become available. Primarily, the use of candidate development programs at all levels is the process that we will be using. Two, there is a large push to train our present and future leadership cadre at the lower levels by offering courses like Leadership in Context which focuses on leadership behavior at all levels, and Leadership 2000 which focused on leadership behaviors at the individual contributor level. Three, we are planning to train a cadre of internal consultants/coaches to offer support and infrastructure to the change in culture that will be needed for the future of Indian health. Four, there is a major push toward flexibility in working conditions for all employees, like flexiplace, flextime, etc.

We use the Human Resource Management Index (HRMI) to determine if our Human resource program is meeting employee and management expectations. The HRMI measures 14 different work related issues ranging from management culture to employee morale. The IHS HRMI score has been identified as a performance measure in beginning with the FY 2000 IHS Performance Plan (see Indicator 42 on page 117) and we expect to raise the HRMI score by at least one point each year to document performance improvement.

Information Technology Planning

The Clinger-Cohen Act (CCA) of 1996 (formerly the Information Technology Management and Reform Act), established new requirements for the information technology (IT) planning process that emphasize the management of IT resources as a "capital investment" and link these IT planning activities to budget and performance measures. The Act reflects the growing importance that the management of IT resources plays in contributing to efficient government operations. The IHS is working to integrate CCA activities in support of GPRA efforts and visa versa.

The IHS budget formulation process is the mechanism through which the portfolio of IT investments is selected and funded. Increased attention needs to be given to the economic and business justification of major investments. During the budget execution phase, an intensified management control process will be established to ensure performance goals are achieved, and that IT projects are delivered on time, within budget, and perform as intended.

The establishment of an IT investment review process as required by CCA represents a major paradigm shift in IT planning, acquisition and management. Because of this, IHS efforts have focused on educating I/T/Us in the new IT management process and providing technical guidance in the development of IT management processes consistent with their operational and management environments.

During FY 2001, the IHS will implement an agency-wide IT Investment Review Board (ITIRB) and policies and procedures on IT capital planning and investment control processes in accordance with CCA requirements and Departmental guidelines. The IHS' approach to CCA

implementation will follow the example of the Department in delegating responsibility and authority to the Area Directors for Area IT capital planning and investment control.

As part of the requirements of GPRA and the CCA, performance measurement is an essential part of effective management. CCA requires IHS to measure the contribution of IT investments to mission results. A key goal of the CCA is for agencies to have processes and information in place to ensure that IT projects are implemented at acceptable costs, within reasonable and expected time frames, and are contributing to tangible, observable improvements in mission performance. To effectively link strategic and IT capital planning along with the budget process, IT performance measurement efforts must monitor the performance of IT investments/projects to address whether they are effectively supporting the mission and programs of IHS.

Capital Planning

Capital asset planning for health care facilities construction is done in accordance with the IHS Health Care Facilities Priority System Methodology and submitted to OMB through Circular A-11, Preparation of Budget Estimates, Section III for reporting capital assets. These issues are represented in this performance plan by the three Capital Programming/Infrastructure Indicators 34-36 beginning on page 103.

Program Evaluation

In recognition of the growing importance of evaluation in supporting the IHS Mission, Goal and GPRA performance planning, the IHS has elected to add this section addressing program evaluation for FY 2000. The IHS evaluation process seeks to include American Indians and Alaska Natives as primary stakeholders in defining the purpose, design, and execution of evaluations. Stakeholders are the users of the end product of evaluations and typically are the population or groups most likely to be affected by the evaluation findings. The IHS has worked with it stakeholders in identifying and implementing principles of responsive evaluation practice and setting evaluation priorities.

The purposes of IHS evaluation efforts are:

- to advise the Director of the IHS on policy formulation; to conduct and manage program planning, operations research, program evaluation, health services researches, legislative affairs, and program statistics
- to develop the long-range program and financial plan for the IHS in collaboration with appropriate agency staff
- to coordinate with HHS, Indian Tribes, and organizations on matters that involve planning, evaluation, research and legislation
- to develop and implement long-range goals, objectives, and priorities for all activities related to resource planning and allocation methodologies and models.

The Office of Public Health (OPH) serves as the principal advisory office to the IHS on issues of national health policy and coordinates these four evaluation functions:

- *Health Program Evaluations*--Collect and analyze information useful for assisting IHS officials in determining the need for improving existing programs or creating new programs to address health needs.

- *Policy Analysis*--Conduct analyses when a change in the IHS health service delivery system must be considered, when issues emerge in an area where no policy currently exists, or when current policies are perceived as inappropriate or ineffective.
- *Health Services Research*--Undertake analyses of the organization, financing, administration, effects, and other aspects of the IHS.
- *Special Studies and Activities*--Conduct studies and prepare special reports required by Congress in response to pending legislation or policies, often using a roundtable whenever an issue or a health problem requires immediate action and it is unclear what type of action should be taken.

The OPH meets part of the IHS evaluation needs with two major types of short-term studies: policy or program assessments and evaluation study. The policy study contributes to IHS decision-making about budget, legislation, and program modifications and includes background information to support IHS projects. Evaluation studies are carried out at the program level, or area offices, and focus on specific program goals.

Annually, OPH identifies the high-priority health care and health management issues and concerns through the submission of headquarters and area office proposals for assessment or evaluation. IHS area and associate directors submit proposals for possible areas of evaluation study. These proposals are reviewed and rated by a panel of subject-matter experts and evaluation experts and also reviewed by IHS staff for more specific concurrence with IHS strategic goals, objectives, and priority areas. The proposals are then ranked by priority and forwarded to the OPH for review and approval. The Director of the IHS reviews the final proposals and decides the respective funding levels.

Summary of Relevant Evaluations Activities

Several recent evaluation projects have significant direct and/or indirect implications for IHS performance planning and are thus summarized below:

Level of Need Funded Study Part 1: Benefit Package Costs for All Indians: This study, which is currently in draft report status, was designed to answer the question: *What would it cost to provide an equitable level of health care services to all eligible Indian people?* The research team used an actuarial analysis approach to address factors that affect the cost of providing health care benefits. The Federal Employee Health Benefits Plan was used as the benchmark for coverage and cost (i.e., premiums, co-payments, and deductibles) and adjustments were made for the population's age, health status, location, and estimated payments by other insurers (i.e., Medicare, Medicaid, and private).

The finding revealed that a health care package comparable to the Federal employee's provided to all 2.4 million AI/AN would cost $2,980 per person for a total cost of $7.4 billion annually. This same coverage if applied to the current 1.34 million using the IHS system would cost approximately $4 billion with about 25% of the cost expected to come from other sources (i.e., Medicare, Medicaid, and private). Under this model, additional resources would be needed to serve all eligible AI/AN people.

Diabetes in the Native American Population: The purpose of this project is to evaluate the effects of intensive counseling and drug management on the lowering of HgAlc's hypertension

control and compliance with annual exams through a pharmacy practitioner diabetes program. The current Santa Fe Service unit (SFSU) HgAlc average is 8.3%. This is a reduction from 9.4% in 1995. It has been suggested that this reduction is due to the increased use of metformin at the SFSU. The cost of this agent for the past 2 years at SFSU alone totaled $45,303. The estimated cost of all diabetic medication in FY 97 was $31,750. The proposed use of another new agent trogilitazone has the potential of triple this dollar amount. The project will attempt to limit these expenses by providing intensive counseling on the use of medications, reinforcing dietary and lifestyle changes and recommended by the dietician, reinforcing the use of self-blood glucose monitoring, and adjusting medication per protocol or doctors orders. The findings from this study underpin many of the strategies used in to achieve Indicators 2-5.

Evaluation of the Behavioral Risk Factor Surveillance System's Results and their Applicability to the Native Population of Anchorage: The purpose of this evaluation study is to determine the relative accuracy, validity and reliability of the Behavioral Risk Factor Surveillance System (BRPSS) risk estimates of the Anchorage Native population compared with data collected using other techniques that include (a) door-to-door household surveys, (b) key informant surveys, and (c) intercept data collection from Natives seeking primary care services in Anchorage from the Alaska Native Medical Center and the Primary Care Center.

The findings have significant implications for the most efficient and effective approaches to delivering health services and thus achieving many of the performance measures in this plan.

Evaluating the impact of primary intervention techniques on the dental caries rate in children living in southwest Alaska Native villages: The project will identify the reason why some communities in Bristol Bay have significant higher/lower caries rates in children than do other children in other Bristol Bay communities. Children aged 6-8 have been selected for the project. Since there are multiple contributing factors from caries, multiple risk factors must be reviewed to properly assess the risk for disease. The results of the project will be used to identify the factors that create high risk communities. A community model will be developed for use in allocating specific techniques including use of fluoridated water, consistent tropical fluoride application, village education and support will reduce decay by an average of 2-3 surfaces per child at the end of those years.

Alaska Native Teen Tobacco Cessation Project: The purpose of the Alaska Native Teen Tobacco Cessation Project is to (1) help the youth who participate in the project to quit tobacco, 2) motivate the youth to become tobacco prevention and cessation advocates in their communities, and 3) determine the effectiveness of the cessation camp model in helping youth to quit tobacco. The utility of the study is to provide health educators, parents, teachers, community health aids, and other community health workers with information about the effectiveness of this particular approach to teen tobacco cessation.

This project will provide important information and strategies relevant to the development of Tobacco Control Centers as outlined in Indicator 30.

Assessing Substance Abuse Treatment Outcomes for Native Americans Residing on the Reservation: This study will provide a description of the severity of the participants' problems across eight domains (medical, legal, employment, social, drug use, psychological and spiritual) prior to intervention, and for up to 24 months after intervention. This description will provide the basis upon which improvements of the treatment program can be made. Areas that should be

targeted for specific populations will be identified. In addition, the study will produce a set of manuals documenting the interventions provided by Indian Rehabilitation, Inc., in a manner that will allow replication by other facilities.

Methodology for Adjusting IHS Mortality Data for Inconsistent Classification of Race-Ethnicity of American Indian and Alaska Natives Between State Death Certificates and IHS Patient Registration Records: The findings in this study indicate that on 10.9 percent of IHS Indian records matched to national death records, the race reported for the decedent was other than American Indian or Alaska Native. The percentage of records with inconsistent classification of race varied considerably among the IHS Areas. Recommendations included replicating the study using data on deaths occurring since 1988, using the adjustment factors developed in the study, and working with States to decrease inconsistent race reporting. While the significance of the study is not profound in terms of the performance indicators in this plan (i.e., the indicators are not based on State death certificates), the long-term significance in monitoring mortality disparities for the AI/AN population is critically important. The adjustments factors developed from this investigation are now being utilized in calculating AI/AN mortality rates in all the IHS publications.

Evaluation of the Indian Health Service (IHS) Adolescent Regional Treatment Centers: The principal conclusion based on this study's findings is that regional treatment centers have developed effective adolescent alcohol and substance abuse programs. The continuity of care and aftercare, however, is the biggest problem. The regional treatment centers need additional mental health staff resources, client charting improvements, and innovative ways to increase family involvement. Recommendations include improving the continuum of care to adolescent substance abusers, self-evaluation, and regional treatment center effectiveness and efficiency. This evaluation effort served as a major determinant in selecting Indicator 9 for this plan that addresses follow-up care for youths returning from regional treatment centers.

Evaluating the Effectiveness of Alcohol and Substance Abuse Services for Native American and Alaska Native Women: Phase II Final Report: This evaluation provides both qualitative and quantitative information about a group of women that has been traditionally underrepresented in research. The life conditions of women about whom information was gathered are extreme, and for many women, adverse or abusive childhood experiences and conditions have carried through to adulthood. The vast majority of women were exposed to various types of abuses--such as physical, sexual, and emotional abuse--from childhood to adulthood. Women entered treatment through a variety of ways. Those who were mandated tended to enter treatment as an alternative to incarceration. Women hear about the availability of services through the court system, word-of-mouth, or through a community or an American Indian and Alaska Native social service agency. Women in the focus groups tended to select their current alcohol and other drug treatment program over alternatives because of its focus on American Indian and Alaska Native tradition and culture. The women and staff also espoused the benefits of the family-like environment that the treatment centers promoted. The availability of women-centered, family-focused approaches to alcohol and other drug treatment is severely limited in the United States. Several barriers to services for potential participants exist. The leading obstacle for parenting women is the lack of child-care for their children while in treatment. It was strongly emphasized that a woman's recovery was dependent on three key factors: herself, her social networks, and her community.

Partially based on the findings of this evaluation, this plan includes indicators which address policies and procedures for dealing with substance abusing women (Indicator 10) and for identifying, treating and/or referring victims of family violence, abuse or neglect (Indicator 14).

Prior Trauma Care of Intoxicated Patients as a Predictor of Subsequently Fatal Injury: The IHS has funded a study that includes the preliminary data collection, crude data reporting, and initial death certificate-hospital record linkage for alcohol related fatalities. The purpose of this study is to identify intervention opportunities associated with nonfatal, alcohol-related injuries reported in IHS emergency departments and clinics that could, over time, decrease alcohol-related injury death in the Billings, Montana, Service Units. This study is providing baseline data for post-intervention comparisons by expanding the existing database about alcohol-related injuries and death. The findings are being used to identify different intervention and prevention strategies directed at decreasing alcohol-related injuries and deaths in the Billings, Montana, Service Units. Injury-control efforts include a new policy regarding referrals by emergency room treatment staff to alcohol treatment staff. Prevention of alcohol-related injuries and deaths will also include activities focused on informing youth about the relationship between alcohol consumption and high-risk behavior. The findings of this evaluation effort underpin the interventions that are being used in achieving Indicator 26 in this plan addressing the reduction of unintentional injury hospitalization rates.

Resource Requirements Methodology Update: In the early 1970's, the IHS formulated the Resource Requirements Methodology (RRM) as a management tool to provide a comprehensive, systematic, and uniform process for estimating the level of resource requirements necessary to provide basic health care to IHS customers and to assist in the allocation of non-earmarked resources. To reaffirm the purpose of the RRM, a study was conducted in 1995 to determine the validity and accuracy of the present methodology for use in today's health care environment. Preliminary findings support the need to update the current methodology to meet the future program demands of the IHS. The will consist of the following phases: (1) Update Staffing

Criteria and Modules, (2) Formulate Needs Assessment Cost Model, and (3) Needs Assessment Model Training. This methodology is critical to planning the achievement of most of the health service related indicators identified in this plan.

Development of a Health Services Research Agenda for American Indian and Alaska Native Populations: The IHS and the Agency for Health Care Policy and Research cosponsored a health services research conference as a first step in a long-term agenda-setting process to identify the most important health services research issues facing AI/AN communities and their health care systems over the next 5 to 10 years. The health services research agenda is intended to promote collaboration among American Indian or Alaska Native organizations, tribal and urban health systems, medical communities, foundations, and government agencies to increase communications and produce research information on health program services for the American Indian or Alaska Native patient. The health services research agenda is also intended to provide a forum for discussing health care reform changes that are creating new directions in the Indian health care system.

New Directions for Evaluation

The IHS is responding to dramatic changes taking place inside and outside the Government including greater involvement of tribal governments in the Indian health care system, technological innovations, the changing patterns of disease to more chronic conditions, and the transfer of many Federal programs and resources to individual States. These changes will affect the IHS evaluation strategy in the coming years. Nevertheless, the IHS remains committed to comprehensively community-based, preventive, and culturally sensitive projects that empower tribes and communities to overcome health issues. Specific research and evaluation proposals currently in process include the following topics: evaluation of the effects of medical nutrition therapy on patient outcomes among Native Americans with newly diagnosed type II diabetics, evaluation of the elders clinic at the Zuni (New Mexico) Ramah Service Unit, and the evaluation of the impact of the Northern Cheyenne End-Stage Renal Disease Prevention Project.

In addition, the Director of the IHS has increased emphasis on several areas consistent with the DHHS Strategic Plan and the priorities identified by IHS stakeholders. These activities focus on women's health, youth, traditional medicine, elder care, and establishment of working relationships with Federal and State governmental agencies and will undoubtedly affect new directions for evaluation.