INDIAN HEALTH FINANCING SERIES

II. Administrative Data History — Policy Article

Improving Federal Health Data

on American Indians and Alaska Natives

The Role of the CMS Tribal Technical Advisory Group in Advancing Data Systems for Medicare and Medicaid

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Carved mask, gift to the author from the Port Gamble S'Klallam Tribe

Abstract

Federal administrative data systems have historically provided incomplete and often inaccurate information about American Indians and Alaska Natives (AI/ANs) participating in federal health programs. Race misclassification, limited identification of Tribal health providers, and restricted Tribal access to federal datasets have complicated efforts to evaluate participation in Medicare and Medicaid programs and to assess health outcomes among AI/AN populations.

This article examines the role of the CMS Tribal Technical Advisory Group in improving the availability and quality of federal data concerning AI/AN participation in programs administered by the Centers for Medicare & Medicaid Services. Through the work of its Data Committee, TTAG discussions contributed to the development of improved analytical approaches for identifying AI/AN beneficiaries in federal datasets.

The paper traces the evolution of these efforts across two phases: an initial period focused on documenting data limitations and developing analytical methods, followed by a second phase involving the implementation of data linkage between CMS administrative datasets and the IHS patient registration system. These efforts substantially improved the ability of Tribal governments, federal agencies, and researchers to analyze AI/AN participation in federal health programs.

Keywords: *American Indians and Alaska Natives, Medicaid, Medicare, federal health data, Tribal Technical Advisory Group, racial misclassification, CMS-IHS data linkage, Tribal data sovereignty*

1. Introduction

Reliable health data are essential for evaluating public health programs, measuring health outcomes, and informing health policy decisions. For American Indians and Alaska Natives (AI/ANs), federal administrative data systems have historically provided an incomplete and often inaccurate picture of participation in Medicare, Medicaid, and related programs. Long-standing challenges—including racial misclassification in federal datasets, inconsistent identification of Tribal health providers, and limited Tribal access to federal administrative data—have complicated efforts to analyze health outcomes and program participation among AI/AN populations.

These limitations have had significant implications for health policy. When federal datasets underestimate the number of AI/AN beneficiaries participating in Medicare and Medicaid programs, policymakers may underestimate the role of these programs in financing care delivered through Tribal health systems. This article examines how the CMS Tribal Technical Advisory Group, through its Data Committee, worked to address these limitations over more than two decades.

2. Historical Limitations in Federal Data on AI/AN Populations

Racial misclassification has long been recognized as one of the most significant limitations of federal administrative data for AI/AN health research. In Medicare enrollment records, AI/AN beneficiaries have historically been misclassified as belonging to other racial categories. Studies from the early 2000s estimated that federal enrollment datasets correctly identified only 40 to 60 percent of AI/AN beneficiaries, with the remainder coded as white, black, or unknown.

This misclassification problem was compounded by the structure of Medicaid data systems. States administer Medicaid programs under broad federal guidelines, and state data systems varied substantially in their collection of race and ethnicity information. Many state systems did not systematically collect AI/AN race information, and those that did often relied on self-reported data that was inconsistently captured.

3. Creation of the CMS Tribal Technical Advisory Group

The CMS Tribal Technical Advisory Group was established in 2003 as a formal mechanism for government-to-government consultation between CMS and Tribal nations. The TTAG was created in response to Tribal concerns that CMS policy development had not adequately incorporated Tribal perspectives, particularly with respect to Medicaid reimbursement for Tribal health programs and the administration of Medicare in Tribal communities. The TTAG is composed of elected Tribal leaders or their designees, representing the geographic diversity of Tribal nations across the United States.

4. Development of the TTAG Data Committee

Within the broader TTAG structure, a Data Committee was established to address specific concerns related to the quality and availability of federal data on AI/AN health program participation. The Data Committee emerged from recognition that many of the policy issues discussed in TTAG meetings depended on empirical questions that existing federal data systems could not reliably answer. The committee provided a sustained forum for discussing analytical methods, evaluating data limitations, and developing recommendations for improving federal data systems.

5. CMS-Funded Research on AI/AN Participation in Federal Health Programs

5.1 Research Context and Objectives

Beginning in the mid-2000s, CMS contracted with the California Rural Indian Health Board (CRIHB) to conduct research examining AI/AN participation in Medicare and Medicaid programs using state-level administrative data. This research, conducted primarily by James

Crouch and Carol Korenbrot of CRIHB, pioneered methods for identifying AI/AN beneficiaries in state Medicaid claims data and estimating Medicaid expenditures for this population.

5.2 The “Gaps and Strategies” Report

The CRIHB analyses demonstrated that state Medicaid payment files, while imperfect, could be used to develop reasonably reliable estimates of AI/AN Medicaid participation and expenditures at the state level. These analyses also documented systematic variation across states in the completeness and accuracy of AI/AN race coding, providing an empirical foundation for subsequent data improvement efforts.

5.3 Analysis of Medicare Participation

CRIHB analyses of Medicare enrollment and expenditure data documented patterns of AI/AN Medicare participation that differed from general population patterns. Notably, the analyses identified evidence that racial misclassification was more severe in Medicare administrative data than in Medicaid data—likely because Medicare enrollment is based on Social Security records that historically did not include AI/AN race identification.

5.4 Analysis of Medicaid Participation

The Medicaid analyses developed state-level estimates of AI/AN Medicaid spending, providing the first comprehensive picture of Medicaid’s role in financing care delivered through Tribal health systems. These estimates became the foundation for subsequent budget formulation arguments about the importance of Medicaid for Indian health programs and informed the development of the effective FMAP concept.

6. TTAG Data Symposia

The TTAG Data Committee organized a series of data symposia that brought together Tribal health officials, federal data analysts, academic researchers, and CMS policy staff to discuss methods for improving AI/AN health data. These symposia served as a forum for presenting research findings, discussing analytical challenges, and developing consensus on priority areas for data improvement. They also helped build relationships between Tribal data researchers and federal data custodians that proved important in subsequent data linkage work.

7. Development of CMS–IHS Data Linkage

7.1 Origins of the Data Linkage Concept

The concept of linking CMS administrative datasets with the IHS patient registration system emerged from recognition that race-based identification of AI/AN beneficiaries in CMS data was fundamentally unreliable. A data linkage that matched CMS enrollment records to IHS patient registration records would identify AI/AN individuals based on their verified relationship with the Indian health system—a more reliable indicator of IHS eligibility than race coding alone.

7.2 Technical Implementation

Technical implementation of the linkage was supported through a CMS grant to the National Indian Health Board (Grant No. 1M0CMS331623, 2020–2021). The NIHB Tribal Data Project, led by Rochelle Ruffer and Jeannie Le, worked with CMS and IHS to develop and apply the linkage methodology. The project utilized the Virtual Research Data Center (VRDC) and ResDAC technical assistance infrastructure, with collaboration between the project team and data access specialists including correspondence with the author in April 2022 documenting the Fox–Ruffer ResDAC collaboration.

7.3 Analytical Applications

The 2023 CMS–IHS Data Match, resulting from this work, identified 941,168 confirmed IHS-access Medicaid enrollees — a count limited to IHS-registered individuals and therefore a floor on total AI/AN Medicaid enrollment — and documented $6.4–$6.6 billion in associated Medicaid expenditures modeled through PMPY rates rather than summed from individual claims. These figures have become the primary anchors for the Indian health financing analytical work described in the companion papers in this series, representing a substantial advance over prior survey-based estimates while carrying their own scope limitations.

8. ACA Era Research and the Continued Use of Survey Data

The Affordable Care Act expanded Medicaid eligibility and introduced new insurance market reforms with significant implications for AI/AN populations. The TTAG Data Committee engaged with these policy changes and their data implications, including the use of the American Community Survey to track AI/AN coverage trends in the post-ACA environment.

The committee also examined the impact of Medicaid expansion decisions—particularly the Supreme Court's ruling in NFIB v. Sebelius (2012), which made expansion optional—on AI/AN Medicaid enrollment. Several states with large reservation-based AI/AN populations declined Medicaid expansion, limiting coverage gains for AI/AN individuals in those states.

9. Tribal Data Research in the 2020s

9.1 Emergence of Tribal-Led Data Initiatives

The 2020s saw a significant expansion of Tribal-led data initiatives, building on the foundation established by TTAG Data Committee work and the CRIHB analytical tradition. These initiatives reflected both growing Tribal technical capacity and increasing recognition that Tribal data sovereignty requires Tribes to have meaningful control over data about their communities.

9.2 The NIHB Tribal Data Project

The NIHB Tribal Data Project, building on the CMS–IHS data linkage work, has produced a series of annual reports analyzing AI/AN Medicaid and Medicare participation, expenditures, and coverage trends. Under the leadership of Rochelle Ruffer and Jeannie Le,

the project represents the most comprehensive and methodologically sophisticated analyses of AI/AN participation in CMS programs available.

9.3 The NIHB Data Match Report

The 2023 CMS–IHS Data Match report—identifying 941,168 confirmed IHS-access Medicaid enrollees and $6.4–$6.6 billion in associated expenditures—represents the current state of the art in AI/AN federal health data. These figures serve as the methodological anchor for a new generation of Indian health financing analyses — the most reliably sourced estimates currently available, though bounded by the IHS-access population and PMPY expenditure modeling.

10. Policy Significance of the TTAG Data Initiative

The TTAG Data Committee's work over more than two decades has had substantial policy significance. By documenting the scope of racial misclassification in federal datasets, the committee established the empirical foundation for arguments that federal investment in AI/AN health programs was being systematically underestimated. By supporting the development of the CMS–IHS data linkage, the committee helped create the analytical infrastructure necessary for rigorous evaluation of AI/AN participation in Medicaid and Medicare.

The shift from survey-based estimates to administrative data linkage represents a significant methodological advance in Indian health financing analysis—from approximate, survey-derived population estimates to verified, individual-level enrollment records matched against IHS patient registration data. This advance has made the current generation of Indian health financing analyses more rigorous and defensible than those produced under the prior survey-based paradigm, while leaving important scope questions unresolved: the Data Match covers IHS-registered enrollees, not the full AI/AN Medicaid population, and expenditures are modeled through PMPY rates rather than summed from claims.

11. Conclusion

The CMS Tribal Technical Advisory Group Data Committee represents a sustained, two-decade effort to improve the quality and availability of federal health data on AI/AN populations. Through a combination of CMS-funded research, data symposia, and the eventual development of the CMS–IHS data linkage, the committee helped transform the analytical infrastructure available for Indian health policy analysis.

The 941,168 confirmed IHS-access Medicaid enrollees identified in the 2023 CMS–IHS Data Match—and the $6.4–$6.6 billion in associated expenditures modeled through PMPY rates—represent the culmination of this work and the best-verified figures currently available in Indian health financing. These figures now anchor a new generation of analyses that are more rigorous and defensible than prior survey-based estimates, with the scope caveat that they cover IHS-registered enrollees and modeled expenditures, not the full AI/AN Medicaid population or summed claims.

With the development of the CMS–IHS data linkage and related improvements in federal data systems, it becomes possible to analyze Indian health financing using verified administrative data rather than indirect survey proxies. This shift enables a more precise examination of how Medicaid interacts with the Indian health system. The institutional history traced in this paper has a Tribal-side counterpart that predates TTAG by nearly a decade. The concept of co-owned information systems, developed by Northwest Tribes through NPAIHB and ATNI by 1995, articulated the data governance framework that federal policy eventually moved toward. That history is documented in Supplement III, which follows this paper. The next paper builds on this data infrastructure to analyze one of the least understood features of that interaction: the 100% FMAP provision and its effect on the distribution of financing responsibility between states and the federal government.

References

Ruffer, R., & Le, J. (2025). 2025 state health insurance status report. National Indian Health Board, Tribal Health Data Project. Funded by Centers for Medicare and Medicaid Services/HHS.

Centers for Medicare and Medicaid Services. (2023). CMS–IHS data match: AI/AN Medicaid enrollment and expenditures. U.S. Department of Health and Human Services.

Fox, E. J. (2026). A history of CMS–IHS Tribal data improvement. Indian Health Financing Working Paper.

Fox, E. J. (2026). The full-funding requirement for Indian Health Services. Indian Health Financing Working Paper.

Indian Health Service. (Multiple years). IHS congressional budget justifications. U.S. Department of Health and Human Services.