

## Data Analytics

In July 2014, the Centers for Medicare & Medicaid Services (CMS) launched a collaborative between the Center for Medicaid and Child Health Insurance Program (CHIP) Services and the Center for Medicare & Medicaid Innovation called the Medicaid Innovation Accelerator Program (IAP). Through targeted technical assistance, IAP aims to improve health and health care for Medicaid beneficiaries and to reduce associated costs by supporting states in their ongoing payment and delivery system reforms. In 2017, IAP began to offer general data analytics technical assistance to states. IAP also is working with states on health care delivery system reform efforts in value-based payment and program areas such as reducing substance use disorders, improving care for Medicaid beneficiaries with complex care needs and high costs, promoting community integration via long-term services and supports, and supporting physical and mental health integration.

### Data Analytics Technical Assistance

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During the second cohort of the year-long general data analytics technical assistance that began in June 2018, IAP worked with nine Medicaid programs to develop data analytic strategies; use data to drive programmatic decision-making; integrate various non-Medicare data sets with Medicaid data; and design data visualizations to enhance understanding of trends. The seven states (Colorado, Hawaii, Iowa, Louisiana, Mississippi, Nevada, and South Dakota) as well as two territories (Guam and the Commonwealth of the Northern Mariana Islands), had access to a range of technical assistance resources—peer-to-peer learning, shared materials on data analytics issues, and tailored technical assistance. These activities helped the states plan various reforms and lay the groundwork for using data analytics more effectively in future implementation efforts.

#### **COLORADO**

The technical assistance Colorado received helped the state to design an intuitive and interactive executive-level dashboard. The state considered many content areas for this dashboard, including Medicaid costs and expenditures, utilization, quality, priority clinical areas, operations, and staffing. The IAP team worked closely with Colorado to convey an analytic-driven approach to decide which indicators, in line with the content areas, would be included on the executive dashboard. Once the indicator list was finalized, the IAP team worked together to design visualizations that would be meaningful to their stakeholders. Colorado used the analytic-driven approach to guide their thinking and plan to leverage this approach to build other dashboards for providers, members and public stakeholders in the future.

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## GUAM/COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS (CNMI)

Guam and CNMI received technical assistance to develop a foundational understanding for performing data analysis. The IAP team delivered presentations and facilitated interactive sessions with Guam and CNMI to review uploading data, how to clean and manipulate data, and how to review the quality of data. The IAP team demonstrated data analytic concepts and techniques using synthetic data sets and engaged in interactive sessions with the territories to assist Guam and CNMI to upload, clean, and manipulate their own data. Additionally, the IAP team worked with the territories to perform a variety of analyses such as calculating descriptive statistics, flagging beneficiary diagnoses, and calculating quality measures. The goal of using this technical assistance approach was to offer Guam and CNMI the ability to conduct ad-hoc data analyses without a readily available data warehouse.

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## HAWAII

Hawaii launched a major health care delivery system and payment reform effort focusing on integration of physical and behavior health and aligning financial incentives. To support these reform efforts, Hawaii engaged the IAP team to provide technical assistance on two specific areas: improve data quality and develop a strategy for integrating new data sources into their existing data. To improve data quality, the IAP team analyzed Hawaii laboratory data for consistency of results and validity within specified ranges, flagging results that were two or more standard deviations from the mean, and recommended strategies and best practices that could be implemented to reduce these errors. As a result, the team identified gaps in the existing data integration processes as well as best practices to follow when integrating new data sources.

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## IOWA

The Iowa and IAP team focused technical assistance efforts to develop and execute a data analytics approach that consolidated disparate encounter data and enhanced staff capability in data visualization to create meaningful output for internal and external stakeholders. The IAP team assisted Iowa by facilitating peer-to-peer learning calls with other states to share insights and successful strategies on challenging encounter data problems, including efficient methods to collect and use the data for management and reporting. In collaboration with Iowa, the IAP team developed various iterations of an infographic for internal leadership to review important metrics of interest, more comprehensively understand data, and help to inform program decisions. In developing the infographic and by providing data visualization training to Iowa, the teams have laid the groundwork for Iowa to develop a data dashboard that will be interactive and include more information to inform program decisions in the future.

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## LOUISIANA

Louisiana worked with the IAP team to develop executive dashboard reports focused on key priority areas such as emergency department (ED) utilization and Medicaid and CHIP enrollment, featuring key metrics to help guide and inform agency staff, state legislators, and other stakeholders. These reports were informed by reviewing recent reports produced from agency staff and identifying areas of improvement and clarity for the intended audience. The IAP team also provided Louisiana with training to use their newly purchased dashboard reporting software so that they may develop additional reports in the future, including Managed Care Organization (MCO) performance reports utilizing encounter data. Louisiana also embarked on a denied claims analysis to review inconsistencies identified by the external independent reviewer of MCO reports, encounter data, and other data sources.

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## MISSISSIPPI

Mississippi continued to build on the progress it made in the first cohort of IAP data analytics technical assistance by identifying approaches pursued by other states to provide better care for the long-term services and supports population. In this cohort, Mississippi sought technical assistance to prepare a high-level data report for their leadership. After providing multiple table shells for that report, the IAP team also worked with Mississippi to outline the effects of consolidating their waiver application processes for four of its Home and Community Based Services (HCBS) waivers. The IAP team worked alongside Mississippi to collect and review the relevant waiver information and outlined various consolidation approaches based on the processes learned from other states. The team developed reports summarizing the implications of various approaches to consolidating waivers for consideration by Mississippi leadership. The IAP team and Mississippi also compared each HCBS waiver service in Mississippi and addressed the implications of folding the waivers together.

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## NEVADA

Nevada sought technical assistance in developing a data analytic strategy to inform decision-making efforts and to provide for a more data-driven environment in which cost drivers and quality of service delivery are more discernable. Specifically, the IAP team helped the Nevada team standardize data requests and reporting of Medicaid data, engage internal and external stakeholders, and develop a working relationship with Medicaid stakeholders. The IAP team identified best practices that Nevada then used to improve its data visualization reporting, specifically in behavioral health, opioid abuse, and fee-for-service utilization through engagement with policy staff to identify indicators of interest and standardize responses to data requests. Additionally, the IAP team helped Nevada initiate the development of an overall strategic plan for identifying, analyzing, and reporting Medicaid data to support agency decision-making.

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## SOUTH DAKOTA

South Dakota received IAP technical assistance to produce two web-based dashboards that report on the use and cost of services funded by Medicaid and CHIP: (1) an executive dashboard for the agency head and (2) a separate management dashboard for agency staff. The executive dashboard presents higher-level figures on spending and utilization, while the management dashboard focuses on the particulars of claims processing. Both dashboards enable the user to drill down from high-level categories, such as accounting classifications, by setting of care, by in-state versus out-of-state providers, by Indian Health Service facilities versus others, or by other categories. For each dashboard, the IAP team developed a draft version with graphics and tables based on South Dakota's desired content and functionality. For each finalized dashboard page, the IAP team provided a template of the table in the data dashboard software of preference. This development approach allowed South Dakota to load its own data into the template to produce the desired dashboard content.

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Additional information on the IAP Data Analytics program, including materials from national webinars, is available on the [IAP Data Analytics webpage](#).