

## 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 the 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

### Data Analytics Technical Assistance

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For the fourth cohort, IAP provided data analytic technical assistance to eight Medicaid agencies for a six-month project that began in March 2020. During this time, IAP worked with these Medicaid agencies to develop data analytic strategies, use data to drive programmatic decision-making, integrate various non-Medicare datasets with Medicaid data, and design data visualizations to enhance understanding of trends. The five states (Connecticut, Georgia, Florida, Virginia, and West Virginia), the District of Columbia, and two territories (the Commonwealth of the Northern Mariana Islands [CNMI] and Guam), had access to a range of resources—peer-to-peer learning opportunities, materials on data analytics issues, and tailored technical assistance. These technical assistance activities helped the participating states and territories lay the groundwork for using data analytics more effectively in future implementation efforts to drive delivery system reform.

#### COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS/GUAM

CNMI and Guam built upon their work in previous IAP cohorts to further develop their analytic skill sets in this fourth cohort of data analytic technical assistance by expanding the range of their statistical software proficiency. The IAP team worked with CNMI and Guam to provide an overview of the SAS interface, SAS programming language essentials (data types, syntax, etc.), and how to perform basic functions (e.g., reading data, importing data, and printing contents) in order to analyze their Medicaid claims data. Technical assistance also included presentations and interactive demonstrations related to data preparation (e.g., merging data sets and assigning variables) and data analysis (e.g., generating frequencies and means and calculating descriptive statistics by grouping). In addition, the technical assistance involved demonstrations related to converting claims data to SAS datasets using actual CNMI data, which will inform analytic decision-making in the future.

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#### CONNECTICUT

Connecticut requested technical assistance with developing a data analytic strategy and data dashboard to better understand Medicaid beneficiaries with alcohol use disorder as well as babies born with neonatal abstinence syndrome. The state requested technical assistance researching similar analytic strategies from other states to gain insight and direction in developing and framing comparable analytics and reporting standards for the same population in the Connecticut Medicaid data warehouse. Additionally, the IAP team participated in multiple technical assistance sessions with Connecticut to develop an accurate and repeatable process to link separate mother and newborn records across multiple years of Medicaid data. The successfully linked mother and newborn records were then utilized as the September 22, 2020

underlying data source in a developed data dashboard that summarized the data by key variables, as determined by state leadership.

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## DISTRICT OF COLUMBIA

The District of Columbia sought technical assistance to improve care coordination by gaining a better understanding of its Medicaid beneficiaries' health conditions and the services they receive. As part of the transition to a new Medicaid data warehouse, the District requested technical assistance from the IAP team to expand their use of diagnosis and procedure groupers. To support the District in making this decision, the IAP team developed technical resources that provide detail on several of the Agency for Healthcare Research and Quality (AHRQ) groupers, including the Clinical Classifications Software Refined (CCSR), a diagnosis grouper, Procedure Classes for ICD-10-PCS, a procedure grouper, Clinical Classifications Software (CCS) for Services and Procedures, a CPT and HCPCS Level II grouper, and the Utilization Flags for ICD-10-PCS. The technical resources include general information and considerations for implementation and use and relevant literature references. To further assist the District in preparing to use these groupers in its new data warehouse, the IAP team reviewed use cases and provided feedback and considerations of best practices.

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## FLORIDA

Florida used this IAP opportunity to improve its data analytic and visualization capacity to drive decision-making and convey tailored information to appropriate stakeholders. This IAP technical assistance focused on dental services among adolescent Medicaid enrollees. The IAP team provided technical assistance to Florida by sharing best practices for data visualization and developing dashboards for reporting key information across important subgroups (e.g., race/ethnicity, sex). In addition, the IAP team also provided detailed feedback on a draft report prepared by the Florida team for the state's Medicaid Director. The final product of this IAP engagement was a data analytic dashboard displaying information about all adolescent Medicaid enrollees and for selected subpopulations. The Florida team will be able to use the data analytic dashboard as a starting place for analyzing the regional and statewide effects of Medicaid dental policies.

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## GEORGIA

Georgia received technical assistance to develop a standardized approach for using data to drive programmatic decision-making and support policy recommendations. To meet this goal, the IAP team worked with Georgia to create and apply a comprehensive standard operating procedure (SOP) to evaluate and process data requests from intake to final recommendations. This process involved refining an existing questionnaire with input from peer states via peer-to-peer calls. The SOP ensures that questions acquire requisite information on the quality component of requests and, where feasible, the potential impact on costs and beneficiary outcomes that can be applied to any request. Additionally, the SOP provides details on the process workflow for data requests, including the roles and responsibilities of key stakeholders, in both a narrative and visual form, along with an analytic framework with details on qualitative and quantitative methodologies used to evaluate requests and inform responses. The IAP team also provided technical assistance to the state in the development of a standard method of output that provides results and recommendations to leadership in a comprehensive, informative manner. The resources gained through IAP will help Georgia build capacity and expertise to conduct an array of analyses, validate results, and provide appropriate recommendations to leadership on potential policy changes in a standardized manner.

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## VIRGINIA

Virginia requested technical assistance to build on the predictive modeling toolkit IAP developed in a previous IAP data analytics cohort to add more sophisticated statistical techniques with a separate use case. The IAP team provided

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technical assistance to Virginia in the development of a use case and predictive model that could support state initiatives to improve infant outcomes by conducting an environmental scan of relevant models and outcomes Virginia could adapt to its analytic project. As Virginia defined the population of interest, built a dataset, and executed the predictive model, the IAP team provided weekly guidance, feedback, and subject matter expertise including suggestions for additional enhancements to Virginia's predictive modeling toolkit on advanced analytic methods. The IAP team also used demonstrations of various statistical models on available data to review and interpret results, as well as how to display those results to stakeholders.

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## WEST VIRGINIA

West Virginia sought technical assistance and support to integrate the National Plan and Provider Enumeration System (NPPES) file into the current state Medicaid data warehouse. The technical assistance requested by the state included the development of an efficient and consistent process to download the current NPPES files on a monthly basis, load the NPPES files and accurately link the corresponding NPPES file with the existing provider data in the Medicaid data warehouse. The IAP team assisted the West Virginia team by developing a standard for incorporating quality control checks to verify the process was successful and worked collaboratively to build and continually enhance the corresponding programming script to carry out trial matches. The IAP team also provided technical assistance and direction for West Virginia's request to utilize additional data sources, such as the NPPES and WV Medicaid Management Information System (MMIS) to verify existing provider addresses and to expand the state's existing data dictionary, to include required details for comparison of the NPPES fields, linked fields, and the newly created fields related to the IAP project. Based on the provided technical assistance, West Virginia identified the potential for future data quality improvement related projects through the comparison and utilization of data fields within NPPES, the WV Medicaid data warehouse and WV MMIS.

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