Providing Meaningful Analyses and Visualizations to ED

AEM CORPORATION IS A KEY PROVIDER of data visualization support to the Department of Education. As the nation's leaders in education data management, our experts leverage their domain expertise and relationships to efficiently uncover new insights for program offices.

Our education analytics team provides education and training, develops authoritative analyses, presents compelling statistics through visualizations and reports, and advocates for new opportunities to tell meaningful data stories to both technical and non-technical audiences.

CONTENT KNOWLEDGE

Our team leads administration and analysis on several data collections and supports a range of data and technical assistance contracts. We work across the data lifecycle, defining requirements, facilitating the submission process, evaluating data quality, conducting data analysis, and supporting data use.

Our work with the Civil Rights Data Collection (CRDC), ED*Facts*, and Common Core of Data (CCD) data collections demonstrates how we draw on our knowledge of the data lifecycle to offer value in our analyses and visualizations:

- **We know what data are available.** This allows efficient analyses of data and facilitates combining data with additional sources. For instance, we could readily apply our EDFacts and CRDC data knowledge to assist with complex analyses that require both datasets.

- **We understand what to use, and how to use it.** Domain knowledge prevents double-counting, reliance on poor-quality statistics, and excessive time tracking down data notes. That maximizes our ability to use quality data.

- **We maintain strong relationships.** Within ED, data stewards are owners of key data. Working side-by-side with ED data stewards gives us key insights into program office interests and pain points with their data. In addition, we have active relationships at the state and district level, maintaining a deep knowledge of the field's data capacity.
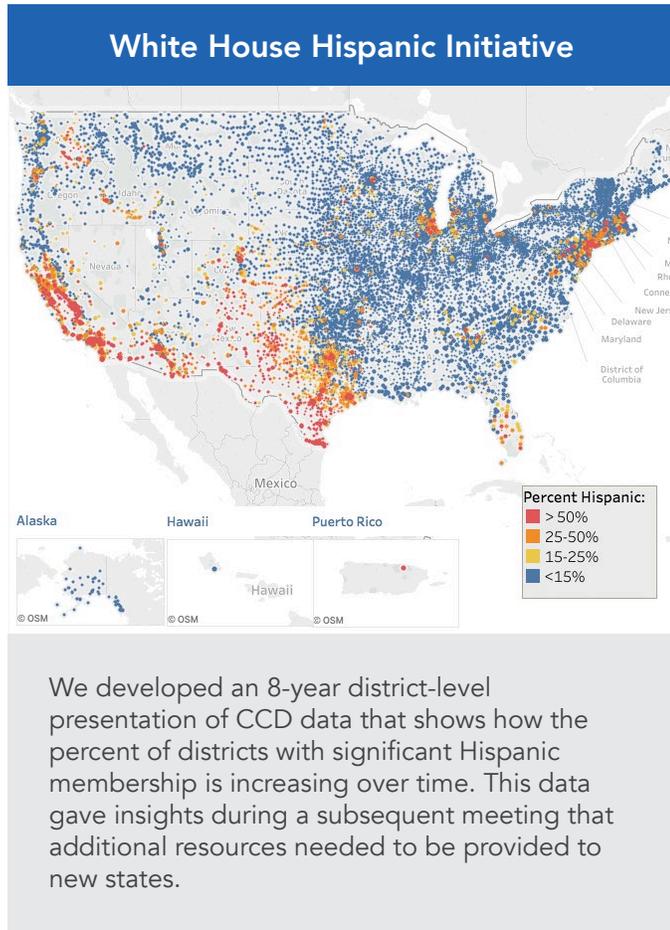
ANALYSIS, VISUALIZATION, AND REPORTING

Our analyses make complex information digestible. We work to provide insights on program performance and key trends in education data. Through these efforts, we offer recommendations, changes, and improvements:

- **We match the visualization to the data.** The visualizations we develop are based on the nature of given data, the needs of stakeholders, and the story that the data present. Some data are well-suited for visualization as bar charts, while others may require substantial thought and effort in presenting an accurate and accessible visual.

- **We offer reporting formats that meet customer requirements.** We maintain reporting websites that generate national publicity for the data they release. We provide internal reports that assist with program evaluation and improvements. We also develop reports for Congress.

- **We continually offer training and education.** It's important that all stakeholders at national, state, and local levels feel comfortable with using, presenting, and advocating for data and the insights they provide. To assist with this, we have developed guidance so that stakeholders understand how to get started with data visualization and also how to avoid common pitfalls.
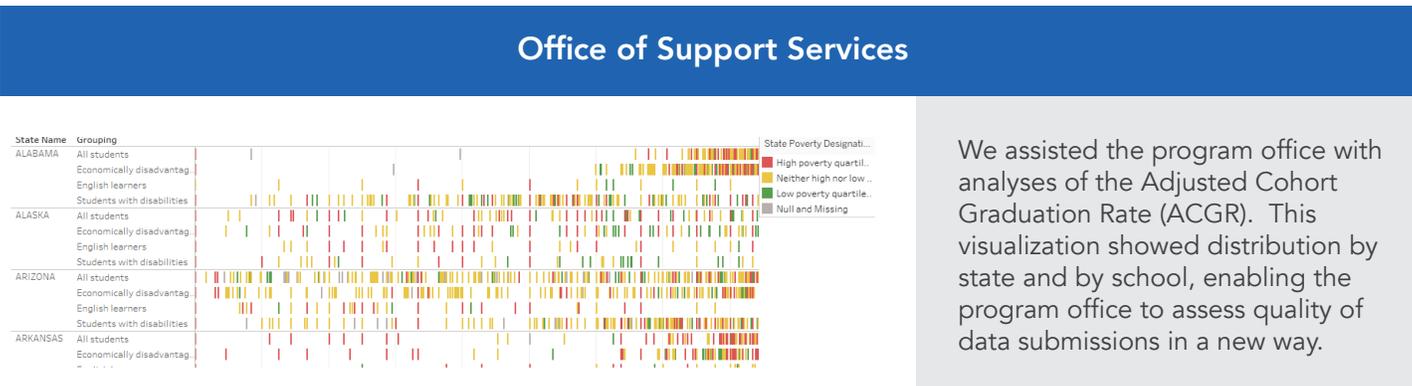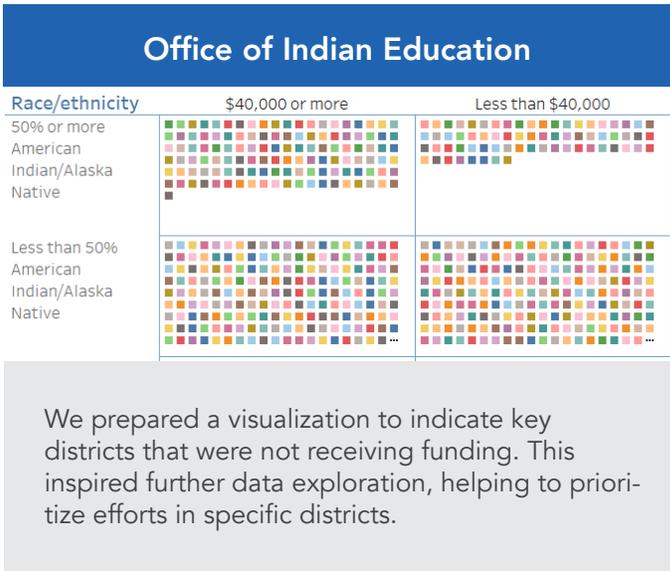
METHODOLOGICAL KNOWLEDGE

Our team backs up our analysis and visualization capabilities with leading data expertise. We have former CIOs, national privacy experts, and former state education agency data stewards/coordinators. We have several What Works Clearinghouse-certified reviewers, who have knowledge in the implementation and analysis of rigorous research designs. We offer staff with doctoral-level training in quantitative and qualitative methods, including time series analysis, hierarchical linear modeling, and survey design and analysis. We understand critical federal and state data privacy requirements, including the implementation of disclosure avoidance techniques such as suppression, blurring, and perturbation. And our experts are capable of using the tools with which our customers are most comfortable. work with a range of tools, including SAS, SPSS, Stata, R, and Tableau.

White House Hispanic Initiative

Percent Hispanic:
- \> 50%
- 25-50%
- 15-25%
- <15%

We developed an 8-year district-level presentation of CCD data that shows how the percent of districts with significant Hispanic membership is increasing over time. This data gave insights during a subsequent meeting that additional resources needed to be provided to new states.

Data Tells a Story

Whether we present data to researchers and power users or to data novices, we intend to show our stakeholders something they have not seen before. Our data work is designed to be interactive, provide a new perspective, and suggest actionable steps for program and policy.

Office of Indian Education

We prepared a visualization to indicate key districts that were not receiving funding. This inspired further data exploration, helping to prioritize efforts in specific districts.

Office of Support Services

We assisted the program office with analyses of the Adjusted Cohort Graduation Rate (ACGR). This visualization showed distribution by state and by school, enabling the program office to assess quality of data submissions in a new way.

aem EDUCATION SERVICES