

InFOCUS

.....
 The Data Management & Analytics (DMA) department in Mathematica's Surveys and Information Services Division builds on more than

20 years

.....
 of experience offering information and operations management solutions for our clients.

Data Management & Analytics (DMA)

.....
 The Data Management & Analytics (DMA) department in Mathematica's Surveys and Information Services Division builds on more than 20 years of experience offering information and operations management solutions for our clients. DMA's services make it possible to use business intelligence and data warehousing tools to better understand what is happening within a program.

The Data Management & Analytics (DMA) department in Mathematica's Surveys and Information Services Division builds on more than 20 years of experience offering information and operations management solutions for our clients. DMA's services make it possible to use business intelligence and data warehousing tools to better understand what is happening within a program.

DMA supports all aspects of data governance, including enterprise data strategy; conceptual and logical data modeling; and identification and documentation of metadata (sources, extract, transform, and load [ETL] strategy and rules, and source-to-target mapping) to help policymakers and program staff improve accountability and data quality in complex program environments. We assist federal agencies in managing mission-oriented programs and projects to minimize risk, remain on schedule and within budget, and meet their objectives. DMA provides program management support to federal agencies to help manage projects throughout their life cycle and conduct independent verification and validation (IV&V) of systems to ensure data quality. Our services include specification of performance measurements, reporting and data validation software design and testing, business process analysis, and implementation of data validation procedures. Daniel Shapiro directs our team of 60 staff offering a full suite of data management and analytic services.

OUR SERVICES

.....
System Testing. We employ a variety of testing methods to ensure that systems that support critical agency processes perform according to specification. DMA's testing tools automate the generation of exhaustive and efficient test cases to ensure that all system logic is bug free. Our test developers independently replicate system logic based on detailed functional specifications, so we can ensure that software released to production performs as designed. DMA's testing methodologies have been proven across a wide range of technologies, from legacy transactional systems, to web-based case and performance management systems, to enterprise-level service-oriented applications.

Specifications. We design reporting and analytic systems that are critical to sustaining program performance and monitoring. We document these designs using precise specifications and incorporate ETL processes. DMA specifications address extensive data quality routines, source-to-target mapping, data models, and precise reporting outcomes and measures. We produce highly detailed specifications that developers can translate into software code more effectively than can be done with traditional requirements documentation. We design data models for data warehouses that are structured for reporting on key analytic measures and allow flexibility in ad hoc reporting environments.

DMA designs data warehouse models to meet the specific analytic and reporting needs of our clients' programs.

IV&V. We have performed independent verification and validation reviews for more than 20 states to determine the extent to which their unemployment insurance benefits and employer contributions data validation systems meet the U.S. Department of Labor, Employment and Training Administration (DOL ETA) requirements. The methodology employed in the IV&V reviews includes mapping each state's reporting and validation system; reviewing state validation instructions, manuals, and validation files; conducting independent data element validation; and providing training and technical assistance to states.

Business Process Analysis. We conduct comprehensive business analyses of state social welfare systems. Our review examines and improves the current business processes for state benefits and tax operations including initial claims taking, fact finding, adjudication, and appeals, as well as processes for the prevention, detection, and recovery of overpayments. Final analyses pinpoint deficiencies in the application of business rules and determine areas to be improved to meet state and federal requirements and performance standards.

Program Management Office Support.

We help government offices plan, implement, and manage large information technology (IT) programs in compliance with all prevailing federal guidelines. For example, our experts have assisted clients in complying with the 25 Point Implementation Plan to Reform Federal Information Technology Management, National Institute of Standards and Technology publications, Office of Management and Budget circulars, National Archives and Records Administration publications, and other departmental IT policies such as Lifecycle Development Manuals.

From developing strategy white papers to preparing Exhibits-300 (OMB Business Cases) and gathering and documenting data and system requirements, our staff can work from a client's site or from our offices to help fulfill specific business objectives.

Acquisition Support. We provide both pre-award and post-award support for government contracting offices.

Tasks include developing and issuing Requests for Proposals, supporting proposal evaluation panels, conducting cost and pricing analysis, preparing contract modifications, carrying out technical reviews of Engineering Change Proposals, and executing ongoing financial analysis.

Information and Operations Management.

Our certified project management professionals are skilled at developing dynamic management and organizational solutions. We help create work plans and schedules, design and document procedures and processes, and provide expert-level advice in project management, using the Project Management Body of Knowledge (PMBOK).

SUBJECT MATTER EXPERTISE

DMA successfully marries broad subject matter expertise with rigorous methodologies to understand and address clients' needs.

Medicaid. We have been at the forefront of designing federal Medicaid and Children's Health Insurance Program (CHIP) systems to modernize legacy data environments and comply with health reform provisions. Our services include information management planning, business and data requirements analyses, metadata management, and system design. We support the Center for Medicaid and CHIP Services' (CMCS) development of the Transformed Medicaid Statistical Information System (T-MSIS) through identifying stakeholder data needs, developing data quality edits, and designing the new environment's logical data model. To help CMCS improve its data analytics, we developed a concept of operations for a new Medicaid and CHIP data environment, which included the architecture capable of providing timely and comprehensive data on the Medicaid and CHIP programs.

Health Quality/EHR eMeasures. Quality measurement and electronic health records (EHRs) are key tools in reforming health care. We support the Centers for Medicare & Medicaid Services' Quality Measurement and Health Assessment Group in operating the Physician Quality Reporting and e-Prescribing System. We help stakeholders such as registries, data submission vendors, EHR producers, group physician practices, and maintenance of certification boards participate in the system so their providers can qualify for its incentives.

.....
DMA successfully marries
broad subject matter
expertise with rigorous
methodologies to
understand and address
clients' needs.
.....

Selected Clients

- U.S. Department of Health and Human Services
 - Centers for Medicare & Medicaid Services
 - Office of the National Coordinator for Health Information Technology
- U.S. Department of Labor
 - Employee Benefits Security Administration
 - Employment and Training Administration
 - Office of the Assistant Secretary for Administration and Management
 - Office of Enforcement
- U.S. Department of Education
 - Institute of Education Sciences
- Social Security Administration
 - Office of Retirement and Disability Policy

We also assist the Office of the National Coordinator for Health Information Technology in re-specifying, testing, and implementing Meaningful Use quality measures to promote adoption of EHRs. We work with an array of stakeholders, applying prevailing agency guidance, to implement the Health Information Technology for Economic and Clinical Health (HITECH) Act.

Health Exchanges. Operating an efficient health insurance marketplace and understanding the characteristics of the consumers, insurers, and products within the marketplace are critical to success. We understand the processes, systems, data, and public policy behind the marketplace and apply that knowledge to a variety of service offerings. DMA develops complex, structured eligibility and enrollment test cases and works with marketplace vendors and external stakeholders to provide independent testing of all possible outcomes. We design performance metrics, reports, and dashboard content related to marketplace data tailored to specific stakeholders. We provide data profiling, data and report testing, and statistical analysis and modeling of marketplace data to support operational decision making and policy analysis.

Data Collection for Program Evaluation.

High quality data are key to sound policymaking. For the Social Security Administration's Office of Program Development and Research, we help collect, manage, and analyze data on Supplemental Security Income and Social Security Disability Income beneficiaries in the Ticket to Work program. We oversee beneficiary assessment data collection, facilitate modifications to the data system, provide training and technical assistance to more than 100 grantee

organizations, and ensure data are provided in a usable format for research and evaluation.

Employment, Training, and Social Support Measures.

We can help states improve their work participation rate, optimize the federal funding and IT investments, improve data quality and federal compliance, and analyze their data to better manage performance and finances. DMA has broad expertise in designing, testing, and documenting performance management systems to meet complex federal reporting requirements. We literally "wrote the book" on data validation procedures for unemployment insurance programs and have provided technical assistance on the topic to every state and territory. Several states and territories have contracted with us directly to assist them in preparing valid, verifiable performance reports that can withstand ETA scrutiny. DMA staff have led ETA's data validation and reporting initiative for the Workforce Investment Act, Trade Adjustment Assistance, and National Farmworker Jobs Program. We also designed the ETA Senior Community Service Employment Program (SCSEP) case management system and are nationally recognized experts in SCSEP.

We are available to work under a wide range of contract vehicles, including sole source, GSA MOBIS and Schedule 70, agency master agreements, and competitive procurements.

TO FIND OUT MORE

Please contact:

Daniel B. Shapiro, Director, Data Management and Analytics, (609) 936-2790, dshapiro@mathematica-mpr.com

Follow us on:



Mathematica® is a registered trademark of Mathematica Policy Research, Inc.



Scan this QR code to visit our website.