



## Application for Maryland Medical Care Data Base

### TRACKING TABLE (For MHCC Use Only)

MHCC Data Request Number	
Application Received	
Application Approved	
Data Obtained	

### INSTRUCTIONS

This form is required for all Applicants requesting MCDB data. Applicants must also complete all the attachments. The completed Application and the Data Management Plan will be used by MHCC to determine whether the request meets the criteria for data release, pursuant to COMAR 10.26.06. Incomplete Applications will be returned to the Applicant, and the request will be delayed. All Applications require a nonrefundable application fee, payable at the time of submission.

#### Where to submit documents:

- Completed application packages should be scanned and emailed to: [mhcc.datarelease@maryland.gov](mailto:mhcc.datarelease@maryland.gov)
- A hard copy Application is acceptable and should be sent, with the application fee, to:
  - Maryland Health Care Commission
  - 4160 Patterson Avenue,
  - Baltimore, MD 21215,
  - ATTN: MHCC Data Release
- Please enclose a cover note page that includes the project title, requesting organization's name, and applicant's name.
- If an invoice is needed, please send a request to: [mhcc.datarelease@maryland.gov](mailto:mhcc.datarelease@maryland.gov)

#### Note to Applicants:

- Review [data availability and fees](#)
- All Application attachments will be incorporated into the Approved Data Use Agreement (DUA)

Questions? Email [mhcc.datarelease@maryland.gov](mailto:mhcc.datarelease@maryland.gov)

**TABLE OF CONTENTS**

<b>INSTRUCTIONS .....</b>	<b>1</b>
<b>PROJECT INFORMATION .....</b>	<b>3</b>
<b>ATTACHMENT A: SCOPE OF WORK .....</b>	<b>4</b>
<b>ATTACHMENT C: ADDITIONAL DATA SOURCES AND LINKAGE.....</b>	<b>8</b>
<b>ATTACHMENT D: DATA MANAGEMENT PLAN .....</b>	<b>10</b>
<b>ATTACHMENT E: USE OF CONTRACTORS AND/OR CONSULTANTS (External Entities) .....</b>	<b>15</b>
<b>ATTACHMENT F: APPLICANT QUALIFICATIONS .....</b>	<b>16</b>
<b>ATTACHMENT G: OBLIGATIONS AND ATTESTATION.....</b>	<b>17</b>

**PROJECT INFORMATION**

<b>Project Title</b>			
Maryland Model Analytics			
<b>Scheduled Project Start Date</b>	06/2021	<b>Scheduled Project End Date</b>	06/2022
<b>MHCC Staff Approved Pre-Application Number</b>			
<b>Project Overview:</b> <i>Provide an abstract or brief summary (150 words) of the specific purpose and objectives of the Project.</i>			
- To evaluate specific aspects of the Maryland Total Cost of Care (TCOC) model and care transformation efforts throughout the state			

<b>Applicant</b> <i>(principal investigator, project manager, individual responsible for the research team using the data)</i>			
<b>Name</b>		Jessica Heslop	
<b>Title</b>		Program Manager	
<b>E-Mail Address</b>		Jessica.Heslop@crisphealth.org	
<b>Telephone Number</b>		410-218-0190	
<b>Organization Name</b>		Chesapeake Regional Information System for Our Patients (CRISP)	
<b>Mailing Address</b>		7160 Columbia Gateway Drive, Suite 100	
<b>City/Town</b>	Columbia	<b>State</b>	MD
		<b>Zip Code</b>	21046

<b>Requesting Organization</b> <i>(Agency, Academic Institution, Research Organization, Company, etc.)</i>			
<b>Organization Name</b>		Chesapeake Regional Information System for Our Patients (CRISP)	
<b>Website</b>		crisphealth.org	
<b>E-Mail Address</b>		support@crisphealth.org	
<b>Telephone Number</b>		877-952-7477	
<b>Mailing Address</b>		7160 Columbia Gateway Drive, Suite 100	
<b>City/Town</b>	Columbia	<b>State</b>	MD
		<b>Zip Code</b>	21046

<b>Data Custodian</b> <i>(person responsible for receiving, organizing, storing, and archiving data)</i>			
<b>Name</b>		George Chalisery	
<b>Title</b>		Chief Executive Officer	
<b>E-Mail Address</b>		george@hmetrix.com	
<b>Telephone Number</b>		610.668.1961	
<b>Organization/Company</b> <i>(if different from Requesting Organization)</i>		hMetrix, LLC	
<b>Mailing Address</b>		150 Monument Road, #600	
<b>City/Town</b>	Bala Cynwyd	<b>State</b>	PA
		<b>Zip Code</b>	19004
<b>Relationship to Requesting Organization</b> <i>(e.g., Contractor)</i>		Contractor	

<b>Project Contact</b> <i>(person responsible for all communications with MHCC)</i>			
<b>Name</b>		Jessica Heslop	
<b>Title</b>		Program Manager	
<b>E-Mail Address</b>		Jessica.Heslop@crisphealth.org	
<b>Telephone Number</b>		410-218-0190	
<b>Organization Name</b>		Chesapeake Regional Information System for Our Patients (CRISP)	
<b>Mailing Address</b>		7160 Columbia Gateway Drive, Suite 100	
<b>City/Town</b>	Columbia	<b>State</b>	MD
		<b>Zip Code</b>	21046

## ATTACHMENT A: SCOPE OF WORK

### 1. Project Purpose

- a. Describe the specific research question(s) you are trying to answer or problem(s) you are trying to solve with the MCDB data requested (Please list and number the individual questions), or describe the intended product or report that will be derived from the requested data.

1) Compare Maryland Medicare and Commercial spending in Ambulatory Surgery by Maryland region in comparison to national averages. The study addresses the following specific research questions:

- changes in the market for the ambulatory surgery settings frequency
- changes in the market for the ambulatory surgery settings cost
- changes in the market for the ambulatory surgery settings outcomes-related quality of care
- connect the outcomes in the state to the Maryland regulatory environment

2) Investigate the impact of Maryland's efforts to improve care delivery and outcomes related to first episode psychosis (FEP) through implementing evidence-based treatment. The study addresses the following specific research questions:

- What percentage of individual with FEP receive coordinated specialty care (CSC)
- How does use of CSC vary by geographic location; race and ethnicity; and other characteristics such as comorbidities with substance use disorder?
- How frequently is telehealth used to access treatment for FEP?

- b. Briefly describe the purpose(s) for which MCDB data are sought. Use quantitative indicators of public health importance where possible, for example, variation in costs of care; rates of under or over service utilization; health system performance measures, the effect of public health initiatives, health insurance, etc.

1) Use analytics to explain how care delivery varies in Maryland vs the Nation and within Maryland in terms of place of service, relative utilization and relative unit cost, seek to connect cost outcomes in Maryland to the Maryland regulatory environment, demographics including at least race and/or ethnicity and socioeconomic status, and business and payer environment

2) Schizophrenia spectrum disorders account for a disproportionate share of health care spending. While affecting an estimated 1 percent of the U.S. population, these disorders account for 2.5 percent of total health spending and 22 percent of spending for mental health. The results will inform efforts to expand and improve treatment for FEP and the analytic tools developed for the analysis will facilitate monitoring of FEP care quality, outcomes, and costs over time.

- c. Explain in detail how the planned project that will use MCDB data is in the public interest and give specific examples of how the project will serves the public interest.

1) Use analytics to make recommendations for changes that would lower costs in Maryland in Ambulatory Surgery

2) Racial and ethnic differences in treatment initiation and course compound disparities in outcomes related to FEP. Additionally it is critical to understand the demand and extent of unmet treatment need in Maryland's rural areas. This project will assess the current status of treatment use, outcomes, and costs for FEP for Marylanders enrolled in Medicaid, Medicare, and private insurance plans. Please note that ZIP Code will be used to determine sociodemographic characteristics.

### 2. Project Methodology

- a. Provide a written description of the project methodology, state the project objectives, the protocol, software and/or identify relevant study questions and analysis method to allow MHCC to understand how the MCDB Data will be used to meet project objectives or address research questions.

1) Ambulatory Surgery:

\*Project Methodology:

- a- Medicare fee-for-service (FFS), Medicaid, and commercial claims data will be used identify surgical procedures performed in hospital outpatient or ASC settings
- b- assesses the differences in the patient populations by demographic characteristics, ZIP Code sociodemographic characteristics, primary payer, chronic comorbidities, surgery type, and surgery volume
- c- capture a 90-day pre-surgery time-period to assess the medical, surgical, and testing visits that patients encounter prior to ambulatory surgery by location and type of surgery
- d- assesses the 90-day experience following ambulatory surgery

\*Project Objectives: Compare Maryland Medicare and Commercial spending in Ambulatory Surgery by Maryland region in comparison to national averages

\*Protocol:

\*Software: Microsoft Excel

\*Relevant Study Questions:

- a) changes in the market for the ambulatory surgery settings frequency
- b) changes in the market for the ambulatory surgery settings cost
- c) changes in the market for the ambulatory surgery settings outcomes-related quality of care
- d) connect the outcomes in the state to the Maryland regulatory environment

2) First Episode Psychosis (FEP)

\*Project Methodology:

- a- Define the services that constitute coordinated specialty care (CSC)
- b- Select individuals with FEP and define an FEP episode of care beginning with an initial healthcare encounter with a diagnosis code for psychosis
- c- Classify episodes of care by receipt of coordinated specialty care (CSC)
- d- Analyze the outcomes in relation to receipt of CSC, which is compare the frequency of each outcome for beneficiaries/ enrollees with FEP who received CSC compared to those who did not.

\*Project Objectives: This project will examine use of CSC for FEP in Maryland for Medicaid, Medicare, and commercial insurance enrollees. It will estimate the proportion of individuals with FEP who receive CSC and examine variation in use of CSC across geographic locations and population sub-groups, particularly racial and ethnic minorities. The analysis will examine associations between CSC and clinical outcomes, such as medication adherence and hospitalizations, and will report the costs associated with care (where fee-for-service data are available)

\*Software: Microsoft Office

\*Relevant Study Questions:

- a) What percentage of individuals with FEP receive CSC?
- b) How does use of CSC vary by geographic location?
- c) How does use of CSC vary by race and ethnicity? (Please note that ZIP Code will be used to determine sociodemographic characteristics.)
- d) How does use of CSC vary by other characteristics such as comorbidities with substance use disorder (SUD)?
- e) How frequently is telehealth used to access treatment for FEP?

- b. Do you have approval for your project from an Institutional Review Board (IRB)? All Applicant must obtain review by an Institutional Review Board that has been or will be recognized by the MHCC.

Yes (attach a copy of the approval to this application)

No

Enter date submitted to IRB

Name of the IRB

### 3. Publication and Dissemination

Briefly (1-3 sentences) explain any "Yes" answer.

- a. Do you anticipate that the results of your analysis will be published or made publicly available?

Yes

No

- i. If yes, how do you intend to disseminate the results of the study (e.g., publication in a professional journal, poster presentation, newsletter, web page, seminar, conference, statistical tabulation, etc.)?

The results of the study will be summarized in two independent white papers (approx 3-5 pages) which will be published on CRISPHEALTH.ORG. The the draft white papers will be sent to MHCC to prior publication. Findings will also be presented to separate hospital user groups.

- ii. All public displays of MCDB data, regardless of the medium must comply with MCDB's cell size suppression policy, as set forth in the Data Use Agreement. Please explain how you will ensure that any public display will not disclose a cell size (suppression) that is less than 11, and percentages or other mathematical formulas that result in the display of a cell size (suppression) that is less than 11.

All results will be presented in aggregate. Suppressing all cell size  $\leq 11$  or to another size as recommended by MHCC. All results, mathematical formulas, and reports will be reviewed by internal Steering Committee including representation from HSCRC.

- iii. Identify the lowest geographical level of analysis of data you will to present for publication or presentation (e.g., state level, city/town level, zip code level, etc.). Will maps be presented? What methods will be used to ensure that individuals cannot be identified?

Lowest geographical level is zip code level. All public data will be reviewed by internal Steering Committee including representation from HSCRC. The draft white paper will be sent to MHCC to prior publication.

- b. If you answer "yes" to any of the following questions, describe the types of products, software, services, or tools and the corresponding fees will for such products, software, services, or tools.

- i. Will the MCDB data be used for consulting purposes?  Yes  No

- ii. Will report(s), website(s) or a statistical tabulation(s) using MCDB data be shared or sold?  Yes  No

iii. Will a software product using MCDB data be shared or sold?  Yes  No

iv. Will MCDB data be used as input to develop a product (i.e., severity index tool, a risk adjustment tool, a reference tool, etc.)?  Yes  No

v. Will MCDB data be sold or shared in any format not noted above?  Yes  No

If yes, in what format and who are the purchaser of the data?

vi. Will the project result in disclosing MCDB data, or any data derived or extracted from such data, in any paper, report, website, a statistical tabulation, seminar, or another setting that is not disseminated to the public?  Yes  No

vii. Will the results from the project be used for price transparency?  Yes  No

viii. Will health care providers be individually identified?  Yes  No. Please describe your protocol for informing health care providers.

## ATTACHMENT B: MCDB DATASET REQUESTED

MHCC collects privately insured data (claims and membership), known as the Medical Care Data Base (MCDB), on a quarterly basis from life and health insurance carriers, health maintenance organizations (HMOs), third party administrators (TPAs), and pharmacy benefits managers (PBMs) that are licensed to do business in Maryland. The MCDB data that is available for release contains eligibility and professional, institutional, and pharmacy claims. Starting in 2015, the Medical Care Data Base (MCDB) excludes private plan data for self-insured ERISA due to the *Gobeille v. Liberty Mutual* Supreme Court ruling.

The data which is refreshed and updated annually contains only privately fully-insured and self-insured non-ERISA health insurance plans for Maryland and non-Maryland residents. The MCDB comprises of about 90-95% of the privately fully insured market and just about 25% - 30% of the self-insured market (post-Gobeille, primarily non-ERISA). To determine the years for which data are available check on the [MHCC website](#). That site also contains information about the most current MCDB Release Version and a full list of elements in the release including the release record layouts, data dictionaries, and supporting documentation.

1. Which MCDB files are you requesting? Provide a brief justification (1-3 sentences) for each one.

Dataset	Year(s)
<input checked="" type="checkbox"/> Institutional Claims	2015-2020
<p>AIM 1: Required to identify ambulatory surgeries that were performed from 2015 through 2019 in Maryland, in ASCs and hospital-based outpatient surgery facilities. The data will be utilized to do review of Maryland counts of ambulatory surgeries by type and location and as assessment of the charges and payments for the surgeries.</p> <p>AIM 2: For First Episode Psychosis analysis, institutional claims will be used to identify multi-component treatment programs, referred to as coordinated specialty care (CSC). These claims will allow for analysis of current status of treatment use and costs for FEP for Marylanders.</p>	
<input checked="" type="checkbox"/> Professional Claims	2015-2020
<p>AIM 1: Required to identify ambulatory surgeries that were performed from 2015 through 2019 in Maryland, in ASCs and hospital-based outpatient surgery facilities. The data will be utilized to do review of Maryland counts of ambulatory surgeries and as assessment of the professional charges and payments for the surgeries.</p> <p>AIM 2: For First Episode Psychosis analysis, professional claims will be used to identify multi-component treatment programs, referred to as coordinated specialty care (CSC). These claims will allow for analysis of current status of treatment use and costs for FEP for Marylanders.</p>	
<input checked="" type="checkbox"/> Pharmacy Claims	2015-2020
<p>AIM 1: The data will be utilized to do review the relevant pharmacy charges and payments for the surgeries.</p> <p>AIM 2: Pharmacy claims will be used to identify multi-component treatment programs, referred to as coordinated specialty care (CSC). These claims will allow for analysis of current status of treatment use and costs for FEP for Marylanders.</p>	
<input checked="" type="checkbox"/> Member Eligibility	2015-2020
<p>AIM 1 &amp; 2: The data will be used to determine overall utilization of eligible population.</p>	

## ATTACHMENT C: ADDITIONAL DATA SOURCES AND LINKAGE

### 1. Medicaid Data

Applications for access to Medicaid Managed Care data for studies comparing the privately insured to Medicaid Managed Care patients can be submitted, but require a separate approval from the Maryland Medicaid Administration. The fields available on the Medicaid MCO data sets have been aligned with MCDB fields to the extent possible.

- a. Indicate whether you are seeking Medicaid data:  Yes  No
- b. Do you intend to merge or link MCBDB data with Medicaid data?  Yes  No  
If yes, provide brief justification.

- c. Federal law (42 USC 1396a (a) 7) restricts the use of individually identifiable data of Medicaid recipients to uses that are directly connected to the administration of the Medicaid program. If you are requesting Maryland Medicaid Data, please describe, in the space below, why your use of the Data meets this requirement.

### 2. Other Linkages

Data linkage involves combining MCDB data with other data to create a more extensive database for analysis.

1. Do you intend to merge or link MCBDB Data with other data?  Yes  No

If **Yes**:

- a. What are the files to be linked?

- b. Why is this linkage needed?

- c. Which MCDB data elements will be linked to the data elements in the external file?

- d. What methodology or algorithm will be used to create this match? If you intend to create a unique algorithm, please describe how it will link each dataset.

e. What variables from each of the source files will be included in the final linked analytic file?

2. Explain why the linkages are needed.

3. Describe the specific steps the Organization will take to prevent the identification of individuals in the linked files.

## ATTACHMENT D: DATA MANAGEMENT PLAN

### Certification

The undersigned certifies and agrees as follows:

- The data will be used only for approved purposes of analysis and presentation.
- The Organization will comply with all administrative, technical, and procedural policies and physical safeguards established to protect the confidentiality of the data and to prevent unauthorized access to the data.
- The data will be encrypted at rest and on motion on storage media (backup tapes, local hard drives, network storage, et al.) with at least an AES-256 standard or stronger.
- The Organization understands and agrees that any intentional breach of confidentiality will result in termination of the Data Use Agreement.
- Anti-virus software or service is active on any server or endpoint containing the MCDB data.
- Staff with access to PHI or other sensitive data have received all relevant training

The Organization has policies and procedures in place to address:

- The sharing, transmission, and distribution of PHI
- The physical possession and storage of PHI
- The destruction of PHI upon completion of data use
- Confidentiality agreements with each individuals, including contractors, who will access PHI
- Agreements governing the use and disclosure of PHI with all non-employees who will access PHI

**Confirm you certify and agree to the above statement**

### 1. Responsible Individuals

a. Provide the name(s) of custodian responsible for receiving, organizing, storing, or archiving data.

Name	George Chalissery				
Title	Chief Executive Officer				
E-Mail Address	george@hmetrix.com				
Telephone Number	610.668.1961				
Organization Name	hMetrix, LLC				
Mailing Address	150 Monument Road, #600				
City/Town	Bala Cynwyd	State	PA	Zip Code	19004

b. Provide the name of the person who will notify MHCC of any breach of the MCDB data, Data Use Agreement or the Data Management Plan

Name	Megan Priolo				
Title	Senior Director of Population Health - Maryland   CRISP				
E-Mail Address	Megan.Priolo@crisphealth.org				
Telephone Number	410-450-4755				
Organization Name	Chesapeake Regional Information System for Our Patients (CRISP)				
Mailing Address	7160 Columbia Gateway Dr #100				
City/Town	Columbia	State	MD	Zip Code	21046

c. Provide the name of the person responsible for ensuring proper data destruction upon the termination of the Data Use Agreement, and submission of the Certification of Data Destruction.

Name	Nathan Hedberg				
Title	Director, Product Strategy				
E-Mail Address	nate@hmetrix.com				
Telephone Number	510.384.2713				

Organization Name		hMetrix, LLC			
Mailing Address		150 Monument Road, #600			
City/Town	Bala Cynwyd	State	PA	Zip Code	19004

- d. Provide the name of the person who will notify MHCC of any project staffing changes, maintain the roster of staff who have formal, documented permission to access specific files for specific purposes, and ensure that all individuals with access to the data comply with the Data Use Agreement.

Name		Jessica Heslop			
Title		Program Manager			
E-Mail Address		jessica.heslop@crisphealth.org			
Telephone Number		410-218-0190			
Organization Name		Chesapeake Regional Information System for Our Patients (CRISP)			
Mailing Address		7160 Columbia Gateway Dr #100			
City/Town	Columbia	State	MD	Zip Code	21046

## 2. Physical Possession and Storage of Data Files

1. List how the data will be stored.
  - Cloud
  - Physical location(s)
  - Both
2. Provide the delivery address for the data, including the location where the data will be stored.

### i. Delivery Address

Address	150 Monument Road, #600			
City/Town	Bala Cynwyd			
State	PA	Zip Code	19004	

### ii. Storage Address

Address	1000 Adams Ave			
City/Town	Norristown			
State	PA	Zip Code	19403	

3. Provide the name and address of the Cloud Service Provider

Address				
City/Town				
State		Zip Code		

4. Describe the name and data security assessment level of each physical location and the Cloud Service Provider where the data will be stored. Provide evidence that the proposed computing environment meets or exceeds NIST 800-53v4 security standards. Identify all certifications held by entities that will store or hold data.
  - a) SOC 2 Type Audit
  - b) HITRUST Certification
  - c) ISO 27001 Audit Certification
  - d) Independent external HIPAA standards Assessment
  - e) SSAE 16 Overview, and/or
  - f) FedRAMP Certification

All data will be housed at hMetrix's Tierpoint Datacenter (Valley Forge location), which undergoes annual SOC 2 Type Audit review and regular external security risk & HIPAA standards assessment and external network penetration testing. hMetrix is also currently undergoing EHNAC P&S and TDRAAP accreditation. Additional documentation available upon request & primary controls of interest described in detail in the section below.

5. Has each individual who will access the data agreed to the Request Organization's privacy and security rules when using MCDB data files?  Yes  No
6. Within the last 12 months, has each individual who will access MCDB data received training on the proper handling of protected health information and/or personal data?  Yes  No. If no provide a brief description of the circumstances and detail the training that each such person will receive and by what date.

7. Explain the infrastructure (facilities, hardware, software, etc.) that will secure the MCDB data files.

To ensure the privacy and confidentiality of data for this project hMetrix will store and use the identifiable data in a server at the hMetrix secure datacenter under the direction of Mr. Chalissey, who has signed the DUA signature addendum. Mr. Chalissey or key personnel directly under his supervision, will upload the data onto the secure production servers (the main Compute server and the Windows Terminal server). These secure production servers are accessible only to key personnel and access to these servers will be monitored regularly. The data management at hMetrix' facility is built with multiple layers of security and follows best practices for securing sensitive data. The main levels of security include: physical media security in the offices of Mr. Chalissey and physical machine and media security in the data center, data directory user access controls, physical server security, and virtual server security. Server computers are password protected, protected by hardware firewalls, and are in locked buildings having limited, electronic passkey access in addition to physical sign in and identification with security staff. Physical access to the data center is limited to data center staff and few key personnel. Physical access requires photo identification, access cards and passwords along with manual sign in and sign out procedures. The data center is monitored on a 24x7 basis.

8. Briefly describe the policies and procedures regarding the physical possession and storage of MCDB data files.

Access to the private portion of hMetrix' data center in which the data will be housed is limited to Virtual Private Networks (VPNs). Without a VPN connection, there is no access to the servers that reside inside the datacenter. Only a few key personnel have the ability to gain access to the data center via VPN from off-site (non-hMetrix) locations. The rest of the staff only have the ability to gain remote access to the data center via site-to-site VPN tunnels from hMetrix' office locations. No data leaves the data center other than at the point when the data is uploaded to the server as part of this project. If the data is sent in encrypted form, then the encrypted data will be uploaded to the Compute server via SSH through the VPN tunnel and decrypted on the server. All applications are run on the server, thereby eliminating the need to house or transfer data on end-user laptop or desktop computers that are generally more of a security risk. Within the confines of the VPN tunnel, access to the server is limited to a Windows Terminal Server that is secured by strong passwords and a password aging policy and a SSH port on the Compute server that only accepts connections from a limited set of addresses. Data connections from the Windows Terminal Server to the Compute server are limited to encrypted communications using SSH or secure Windows domain server protocols alone. Management connections for server administration uses SSL secured web protocols in addition to SSH or secure Windows domain server protocols. DUA data access will be limited to data analysts and few members of the IT staff. Prior to enabling DUA access, all staff members receive data security training and abide by security procedures developed by hMetrix management. All staff members are required to sign and

9. Briefly describe the system or the process to track the status and roles of the individuals with access to the MCDB data files.

hMetrix uses small, focused project teams to limit access to sensitive data files. Project staff are tracked in our project management software platform (Jira) and internal HR staffing documentation. A dedicated ticket will be established for tracking this engagement and any data managed under this Data Management Plan. Any changes in employment, training, or staffing status for any engaged employees are entered within 24 hours into these tracking systems and reviewed by the project manager and Chief Security Officer as needed to address any required changes in data access privileges. Employees leaving the company have access revoked to all systems immediately upon termination.

10. Briefly describe physical and technical safeguards that will be used to protect MCDB data files.

According to industry best practices, only required encrypted software services and corresponding ports on the servers are enabled. There is no data, query tools and reports published from the compute server via interfaces other than the Windows Terminal Server interface and the limited SSH access. This minimizes the attack surface within the firewalls. The data files for this project will be processed on this dedicated, layered-security system, which can be accessed only by designated project staff who are under the direct supervision of Mr. Chalissey. Since the system is behind firewalls, monitored regularly, and accessible only to key personnel, the risk of unauthorized access to data is minimized. Individually identifiable or deducible data will not be transmitted by unsecured telecommunications, which include unencrypted Internet protocols such as the File Transfer Protocol (FTP). Further, the data will not be physically moved or transmitted from the hMetrix data center without written approval from MHCC. At the conclusion of this project, or by the date of retention identified in the Data Use Agreement, a "Certification of Disposition" certifying the proper destruction of all data obtained will be sent to MHCC.

11. Briefly describe how the data will be backed up and how back up files will be managed.

For this engagement, hMetrix will only back up data to nearline storage in the primary data center for fast backup recovery in the event of primary data loss, corruption, or hardware interruption. Backup data is stored in a single location and treated to the same security controls as primary data storage on a second, physically distinct server in the same rack. If requested, hMetrix can securely replicate data to a second geographically distributed data center operating under the same control system as described for the primary data center for disaster recovery purposes. Backup files are automatically tracked and deleted in accordance with the data destruction policy below when the primary data is destroyed, and destruction certification requires all backup copies to be destroyed before sign-off.

### 3. Data Sharing, Electronic Transmission, and Distribution

1. Briefly describe the Requesting Organization's policies and procedures regarding the sharing, transmission, and distribution of sensitive data files (including Data Sharing Agreements).

All sensitive files are encrypted in transit. hMetrix uses Zix Gateway email encryption for external emails and PGP or AES 256 encryption for files & documents transferred via other media. Due to the configuration of the secure data center and analyst access through VPN, no data leaves the data center during process or analyses. hMetrix employees are explicitly forbidden from retaining client data on endpoints such as the laptops and phones. Data is exclusively stored on the servers in the hMetrix Data Center. hMetrix will only share data externally to other parties covered under this Data Use Agreement and Data Management Plan at the explicit written direction of the Data Requestor (CRISP), following their operational protocols for data sharing and adhering to the technical safeguards and processes as described in this Data Management Plan.

2. Describe the Requesting Organization's policies and procedures be applicable to the physical removal, transport, and transmission of MCDB data files.

hMetrix does not anticipate the need to physically remove, transport or transmit PHI and PII as part of this engagement. Should it be needed, the protocol described in 3.1 above will be employed.

3. By checking the boxes next to the following statements, you are confirming that the following requirements will be met.
- Access to the data will be restricted to authorized users by requiring computer log-on with unique user accounts and passwords.

**For data stored on a network drive and not on your computer hard drive:**

- Access will be restricted by limiting folder access to approved study staff only.
- Any data included in the network backup will be encrypted.

**For data stored on the local hard drive of a computer:**

- When not in use, the computer will be locked in a physically secured office, drawer, cabinet or other container to which access is restricted to authorized study personnel.
- When not in use, data will be encrypted with a key length of at least 256 bits.

4. Describe the Requesting Organization's technical safeguards for data access place:

**Password protocols:**

hMetrix uses a leading password manager and enforces its use to assist employees dealing with frequency changing complex passwords on hundreds of sites. Passwords are audited for complexity and the use of passwords are audited in case it is requ

**Log-on/log-off protocols**

All systems employ automated time-based logout controls. hMetrix employees can only access (log into) secure data systems via a secure remote desktop environment accessed through a dedicated onsite VPN tunnel. Direct access from local machines is not permitted. To improve the security of the authentication process, all hMetrix staff use hardware token-based two-factor security to login to systems. This significantly reduces the risk of phishing and key-stroke logging attacks.

**Session time out protocols**

All software sessions are configured to time out after 30 minutes of inactivity, per CRISP policy.

**Encryption for data in motion and data at rest**

- Data in transit: hMetrix protects data that is in transit using SSL or TLS encryption or VPN encryption. PGP software encrypts data using an hMetrix or client public key for transit over media that are not secured, such as a USB key sent over a courier service. By employing algorithms such as SHA-512, RSA and AES-256 within the TLS, PGP and VPN protocols or standard, hMetrix ensures compliance with current Federal Information Processing Standards, FIPS PUB 140-2 as listed in Annex A and C of the Standard (<https://csrc.nist.gov/csrc/media/publications/fips/140/2/final/documents/fips1402annexa.pdf>).
- Data at rest: hMetrix protects data that is at rest on disk or tape using AES-256 device-level encryption such as SED. SED for disks and similar technology for LTO tapes encrypt data at rest.

**Antivirus and anti-malware products**

hMetrix scans all hardware and software for vulnerabilities 24x7 using the ControlNow platform (<https://www.controlnow.com>) and continuously patches any identified issues. hMetrix also implements additional network-based antivirus scanners to examine network traffic and activity. Antivirus and antimalware software (Bitdefender) are installed on all employee local machines and server hardware as appropriate and receive updated definitions and patches on a regular basis.

5. If applicable, describe the Requesting Organization's physical safeguards for data access and check all security features listed below that are present in the room containing MCDB data files:

- Recorded video
- Access log of all individuals entering the room
- Secure server rack
- Access control limiting access only to authorized individuals

6. If applicable, identify the data transmission method(s) you plan to use.

- VPN
- Secure FTP

- Encrypted email delivery system
- Other, please specify and identify why this meets minimum data security requirements below:

7. Describe the Requesting Organization's policies and procedures to protect sensitive data files when individual staff members of project teams (including additional collaborating organizations) terminate their participation on a project. (May include staff exit interviews and immediate access termination).

All access to systems is immediately removed for a terminated employee. These procedures include the immediate and mandatory return of the two factor physical security token, removal of VPN access, if applicable, and physical equipment return and other forms of access.

#### 4. Completion of Research Tasks And Data Destruction

Applicant must agree that the MCDB data, all copies and backups must be destroyed immediately after the period of time necessary to fulfill the requirements of the data request in accordance with the terms and conditions of the Data Use Agreement. All data destruction must follow and conform to [NIST Special Publications 800-88, Guidelines for Media Sanitization](#).

1. Describe the Requesting Organization's process to complete the Certificate of Data Destruction form and the Requesting Organization's policies and procedures to destroy data files upon completion of the project.

hMetrix houses all data within a secure data center with an encrypted backup copy of software programs stored off-site. Upon engagement completion or client request, hMetrix deletes all data from the computers in the data center. The backup copy of data that is stored on

2. If a copy of the data is needed to be maintained for a longer period, please provide the reason a longer time period is necessary.

n/a

## ATTACHMENT E: USE OF CONTRACTORS AND/OR CONSULTANTS (External Entities)

Provide the following information for all consultant and contractors who will have access to the MCDB data. The Requesting Organization must have a written agreement with the contractor/consultant to ensure the use of MCDB data to the approved project(s) of this application as well as the privacy and security standards set forth in the Data Use Agreement. MCDB data may not be shared with any third party without prior written consent from MHCC, or an amendment to this Application.

<b>Entity</b>	<input type="checkbox"/> Contractor <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Consultant		
Organization Name	hMetrix, LLC		
Title	Director, Product Strategy		
Website			
Contact Person	Nathan Hedberg		
E-Mail Address	nate@hmetrix.com		
Telephone Number	510.384.2713		
Mailing Address	150 Monument Road, #600		
City/Town	Bala Cynwyd	State	PA
Zip Code	19004		
Term of Contract	2016 - Ongoing		

1. Describe the tasks and products assigned to this entity for this project.

AIM 1: Compare Maryland Medicare and Commercial spending in Ambulatory Surgery by Maryland region an in comparison to national averages AIM 2: To investigate the impact of Maryland's efforts to improve care delivery and outcomes related to first episode psychosis (FEP) through implemen

2. Describe the qualifications of this entity to perform and complete the tasks.

hMetrix is a healthcare data management and analytics firm whose principals have over 25 years of experience in collecting, validating, hosting, processing, and analyzing data from hospitals. For the last 15 years, hMetrix has grown and thrived by providing data processing, and subsequent analyti

3. Describe the Requesting Organization's oversight and monitoring of the activities and actions of this entity for this project, including how you will ensure the privacy and security of the MCDB data to which the consultant or contractor has access.

hMetrix has a security infrastructure which undergoes annual SOC 2 Type Audit review and regular external security risk & HIPAA standards assessment and external network penetration testing. hMetrix is also currently undergoing EHNAC P&S and TDRAAP accreditation.

4. Will this entity have access to or store the MCDB data at a location other than the data custodian location, off-site server and/or database?  Yes  No.

If yes, a separate Data Management Plan **must** be completed by this contractor/consultant.

**[INSERT A NEW SECTION FOR ADDITIONAL CONTRACTOR/CONSULTANT ENTITIES NEEDED]**

**ATTACHMENT F: APPLICANT QUALIFICATIONS**

1. Describe previous experience using claims data. This question should be answered by the primary investigator/project manager and should encompass the experience of the entire project team who will be using the data.

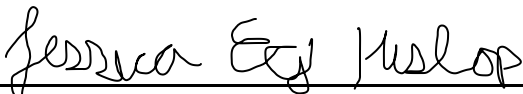
2. Resumes/CVs: When submitting your Application package, include résumés or curricula vitae of the principal investigator/project manager and any project team with relevant experience

**ATTACHMENT G: OBLIGATIONS AND ATTESTATION**

ATTESTATION OF APPLICANT


I, Jessica Heslop, Applicant, solemnly affirm under penalties of perjury that the information contained in the Application its attachments, and this Attestation, is true and correct to the best of my knowledge, information and belief and that the requested MCDB data is the minimum necessary to accomplish the Project. I accept my obligation to comply with all requirements in this Application and attachments, including:

- (1) Compliance with all data privacy and security obligations;
- (2) Execution of a Data Use Agreement approved by MHCC-staff prior to receipt of the requested data;
- (3) Responsibility for assuring that the data has been destroyed at the conclusion of the project in accordance with the terms and conditions of the Data Use Agreement;
- (4) Responsibility for assuring that specified MHCC staff is notified within 30 days when any person who has access to the MCDB data is removed from or added to the MHCC-approved Project;
- (5) Responsibility for assuring that each required report is sent to the MHCC staff within the time period specified in the Data Use Agreement; and
- (6) Continuing compliance with the Data Management Plan.

Applicant's signature:	
Printed Name:	Jessica Heslop
Title:	Program Manager
Date:	June 9, 2021

ATTESTATION OF REQUESTING ORGANIZATION

I, Jessica Heslop, \_\_\_\_\_ of CRISP, the Requesting Organization in this Application, have been duly authorized by the Requesting Organization to execute this attestation on its behalf. I solemnly affirm under penalties of perjury that the information contained in the Application, its attachments, and this Attestation, is true and correct to the best of my knowledge, information and belief.

Signature of authorized representative of the Requesting Organization:	
Printed Name:	Jessica Heslop
Title:	Program Manager
Date:	June 9, 2021

## ATTACHMENT E: USE OF CONTRACTORS AND/OR CONSULTANTS (External Entities)

Provide the following information for all consultant and contractors who will have access to the MCDB data. The Requesting Organization must have a written agreement with the contractor/consultant to ensure the use of MCDB data to the approved project(s) of this application as well as the privacy and security standards set forth in the Data Use Agreement. MCDB data may not be shared with any third party without prior written consent from MHCC, or an amendment to this Application.

<b>Entity</b>	<input type="checkbox"/> Contractor <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Consultant		
Organization Name	hMetrix, LLC		
Title	Director, Product Strategy		
Website			
Contact Person	Nathan Hedberg		
E-Mail Address	nate@hmetrix.com		
Telephone Number	510.384.2713		
Mailing Address	150 Monument Road, #600		
City/Town	Bala Cynwyd	State	PA
Zip Code	19004		
Term of Contract	2016 - Ongoing		

1. Describe the tasks and products assigned to this entity for this project.

AIM 1: Compare Maryland Medicare and Commercial spending in Ambulatory Surgery by Maryland region an in comparison to national averages AIM 2: To investigate the impact of Maryland's efforts to improve care delivery and outcomes related to first episode psychosis (FEP) through implemen

2. Describe the qualifications of this entity to perform and complete the tasks.

hMetrix is a healthcare data management and analytics firm whose principals have over 25 years of experience in collecting, validating, hosting, processing, and analyzing data from hospitals. For the last 15 years, hMetrix has grown and thrived by providing data processing, and subsequent analyti

3. Describe the Requesting Organization's oversight and monitoring of the activities and actions of this entity for this project, including how you will ensure the privacy and security of the MCDB data to which the consultant or contractor has access.

hMetrix has a security infrastructure which undergoes annual SOC 2 Type Audit review and regular external security risk & HIPAA standards assessment and external network penetration testing. hMetrix is also currently undergoing EHNAC P&S and TDRAAP accreditation.

4. Will this entity have access to or store the MCDB data at a location other than the data custodian location, off-site server and/or database?  Yes  No.

If yes, a separate Data Management Plan **must** be completed by this contractor/consultant.

**[INSERT A NEW SECTION FOR ADDITIONAL CONTRACTOR/CONSULTANT ENTITIES NEEDED]**

## ATTACHMENT D: DATA MANAGEMENT PLAN

### Certification

The undersigned certifies and agrees as follows:

- The data will be used only for approved purposes of analysis and presentation.
- The Organization will comply with all administrative, technical, and procedural policies and physical safeguards established to protect the confidentiality of the data and to prevent unauthorized access to the data.
- The data will be encrypted at rest and on motion on storage media (backup tapes, local hard drives, network storage, et al.) with at least an AES-256 standard or stronger.
- The Organization understands and agrees that any intentional breach of confidentiality will result in termination of the Data Use Agreement.
- Anti-virus software or service is active on any server or endpoint containing the MCDB data.
- Staff with access to PHI or other sensitive data have received all relevant training

The Organization has policies and procedures in place to address:

- The sharing, transmission, and distribution of PHI
- The physical possession and storage of PHI
- The destruction of PHI upon completion of data use
- Confidentiality agreements with each individuals, including contractors, who will access PHI
- Agreements governing the use and disclosure of PHI with all non-employees who will access PHI

**Confirm you certify and agree to the above statement**

### 1. Responsible Individuals

a. Provide the name(s) of custodian responsible for receiving, organizing, storing, or archiving data.

Name					
Title					
E-Mail Address					
Telephone Number					
Organization Name					
Mailing Address					
City/Town		State		Zip Code	

b. Provide the name of the person who will notify MHCC of any breach of the MCDB data, Data Use Agreement or the Data Management Plan

Name					
Title					
E-Mail Address					
Telephone Number					
Organization Name					
Mailing Address					
City/Town		State		Zip Code	

c. Provide the name of the person responsible for ensuring proper data destruction upon the termination of the Data Use Agreement, and submission of the Certification of Data Destruction.

Name					
Title					
E-Mail Address					
Telephone Number					

Organization Name					
Mailing Address					
City/Town		State		Zip Code	

- d. Provide the name of the person who will notify MHCC of any project staffing changes, maintain the roster of staff who have formal, documented permission to access specific files for specific purposes, and ensure that all individuals with access to the data comply with the Data Use Agreement.

Name					
Title					
E-Mail Address					
Telephone Number					
Organization Name					
Mailing Address					
City/Town		State		Zip Code	

## 2. Physical Possession and Storage of Data Files

1. List how the data will be stored.
  - Cloud
  - Physical location(s)
  - Both
2. Provide the delivery address for the data, including the location where the data will be stored.

### i. Delivery Address

Address					
City/Town					
State		Zip Code			

### ii. Storage Address

Address					
City/Town					
State		Zip Code			

3. Provide the name and address of the Cloud Service Provider

Address					
City/Town					
State		Zip Code			

4. Describe the name and data security assessment level of each physical location and the Cloud Service Provider where the data will be stored. Provide evidence that the proposed computing environment meets or exceeds NIST 800-53v4 security standards. Identify all certifications held by entities that will store or hold data.
  - a) SOC 2 Type Audit
  - b) HITRUST Certification
  - c) ISO 27001 Audit Certification
  - d) Independent external HIPAA standards Assessment
  - e) SSAE 16 Overview, and/or
  - f) FedRAMP Certification

--

- 5. Has each individual who will access the data agreed to the Request Organization's privacy and security rules when using MCDB data files?  Yes  No
- 6. Within the last 12 months, has each individual who will access MCDB data received training on the proper handling of protected health information and/or personal data?  Yes  No. If no provide a brief description of the circumstances and detail the training that each such person will receive and by what date.

- 7. Explain the infrastructure (facilities, hardware, software, etc.) that will secure the MCDB data files.

- 8. Briefly describe the policies and procedures regarding the physical possession and storage of MCDB data files.

- 9. Briefly describe the system or the process to track the status and roles of the individuals with access to the MCDB data files.

- 10. Briefly describe physical and technical safeguards that will be used to protect MCDB data files.

- 11. Briefly describe how the data will be backed up and how back up files will be managed.

**3. Data Sharing, Electronic Transmission, and Distribution**

- 1. Briefly describe the Requesting Organization's policies and procedures regarding the sharing, transmission, and distribution of sensitive data files (including Data Sharing Agreements).

- 2. Describe the Requesting Organization's policies and procedures be applicable to the physical removal, transport, and transmission of MCDB data files.

--

3. By checking the boxes next to the following statements, you are confirming that the following requirements will be met.
- Access to the data will be restricted to authorized users by requiring computer log-on with unique user accounts and passwords.

**For data stored on a network drive and not on your computer hard drive:**

- Access will be restricted by limiting folder access to approved study staff only.
- Any data included in the network backup will be encrypted.

**For data stored on the local hard drive of a computer:**

- When not in use, the computer will be locked in a physically secured office, drawer, cabinet or other container to which access is restricted to authorized study personnel.
- When not in use, data will be encrypted with a key length of at least 256 bits.

4. Describe the Requesting Organization's technical safeguards for data access place:

Password protocols:

--

Log-on/log-off protocols

--

Session time out protocols

--

Encryption for data in motion and data at rest

--

Antivirus and anti-malware products

--

5. If applicable, describe the Requesting Organization's physical safeguards for data access and check all security features listed below that are present in the room containing MCDB data files:

- Recorded video
- Access log of all individuals entering the room
- Secure server rack
- Access control limiting access only to authorized individuals

6. If applicable, identify the data transmission method(s) you plan to use.

- VPN
- Secure FTP

- Encrypted email delivery system
- Other, please specify and identify why this meets minimum data security requirements below:

7. Describe the Requesting Organization's policies and procedures to protect sensitive data files when individual staff members of project teams (including additional collaborating organizations) terminate their participation on a project. (May include staff exit interviews and immediate access termination).

#### 4. Completion of Research Tasks And Data Destruction

Applicant must agree that the MCDB data, all copies and backups must be destroyed immediately after the period of time necessary to fulfill the requirements of the data request in accordance with the terms and conditions of the Data Use Agreement. All data destruction must follow and conform to [NIST Special Publications 800-88, Guidelines for Media Sanitization](#).

1. Describe the Requesting Organization's process to complete the Certificate of Data Destruction form and the Requesting Organization's policies and procedures to destroy data files upon completion of the project.

2. If a copy of the data is needed to be maintained for a longer period, please provide the reason a longer time period is necessary.

## ATTACHMENT E: USE OF CONTRACTORS AND/OR CONSULTANTS (External Entities)

Provide the following information for all consultant and contractors who will have access to the MCDB data. The Requesting Organization must have a written agreement with the contractor/consultant to ensure the use of MCDB data to the approved project(s) of this application as well as the privacy and security standards set forth in the Data Use Agreement. MCDB data may not be shared with any third party without prior written consent from MHCC, or an amendment to this Application.

<b>Entity</b>	<input type="checkbox"/> Contractor			<input type="checkbox"/> Subcontractor			<input type="checkbox"/> Consultant		
Organization Name									
Title									
Website									
Contact Person									
E-Mail Address									
Telephone Number									
Mailing Address									
City/Town				State			Zip Code		
Term of Contract									

1. Describe the tasks and products assigned to this entity for this project.

2. Describe the qualifications of this entity to perform and complete the tasks.

3. Describe the Requesting Organization's oversight and monitoring of the activities and actions of this entity for this project, including how you will ensure the privacy and security of the MCDB data to which the consultant or contractor has access.

4. Will this entity have access to or store the MCDB data at a location other than the data custodian location, off-site server and/or database?  Yes  No.

If yes, a separate Data Management Plan **must** be completed by this contractor/consultant.

**[INSERT A NEW SECTION FOR ADDITIONAL CONTRACTOR/CONSULTANT ENTITIES NEEDED]**

# Advanta Government Services, LLC

## APPENDICES A. RESUMES

### Appendix A.1 Senior Economist – Maurice (Mark) Moffett

#### Maurice (Mark) Moffett, Ph.D., Health Economist

##### Professional Summary

Mark Moffett has over 18 years of experience conducting economic, policy, and health service research projects. He completed his MA and PhD in Economics at the University of New Mexico and completed his post-doctoral training through the Veteran Affairs Office of Health Service Research & Development (VA HSRD). Dr. Moffett has directed the econometric analysis, forecasting, cost-effectiveness modeling, and health policy analysis on numerous projects and has been funded through CMS, NIH, AHRQ, NSF, and state contracts. Dr. Moffett has extensive experience with claims, electronic medical record, and other types of administrative data. He has 25 peer-reviewed articles and published reports with the United States-Mexico Border Health Commission, Canadian Agency for Drugs and Technologies in Health, American Association of Medical Colleges, National Council on Compensation Insurance, New Mexico Health Care Workforce Committee, and New Mexico Department of Labor. At AGS, Dr. Moffett serves as a subject matter expert for the firm's projects with the Health Services Cost Review Commission, including Project Director and Senior Health Economist for the Outcomes Based Credit Cost Actuarial contract and Senior Economist on the Inpatient/Outpatient Data Abstract Review. Dr. Moffett also serves as a Senior Economist on AGS's contract with the Maryland Health Care Commission and for the firm's affiliate company, Livanta LLC. He has the training, skills, and experience to complete the analysis and reporting needs of this project.

##### Qualifications and Experience

**Advanta Government Services LLC** Senior Economist 2019 - Present

- Provides economic and statistical analysis, econometric modeling, research, writing, advice, and oversight for projects conducted by AGS and its affiliated companies.
- Serves as project director and senior economist for the HSCRC Outcomes-based Credit Actuarial Estimation task order contract and subject matter expert for the firm's recent contract with the Maryland Health Care Commission entitled, Quality Measures to Support Maryland Healthcare Performance.

##### **New York University Robert F. Wagner Graduate School of Public Service**

Senior Lecturer of Health Administration 2020 - Present

- Teaches courses related to health policy, health systems, statistics, and health economics in the Master of Health Administration program.

**National Council on Compensation Insurance** Senior Economist 2017 - 2019

- Supported the mission of NCCI through research on the economic and actuarial factors that impact the workers compensation system such as social insurance, health services, business cycles, labor markets, financial markets, and demographic, and regulatory change.
- Used medical claims from 38 states plus the District of Columbia to estimate the effects of hospital consolidation on health utilization and inpatient costs of care.

##### **University of New Mexico Health Sciences Center**

Health Economist/Research Assistant Professor 2008 - 2017

- Conducted economic and health service research on numerous projects.

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

- Evaluated clinical and economic outcomes using Medicare, Medicaid, and commercial claims data.
- Directed the data analysis for the New Mexico Health Workforce Committee.

**West Virginia University**      Assistant Professor of Pharmacy      2006 - 2008

- Taught health economics, cost-effectiveness modeling, and health services research methods in the graduate program.
- Served as a collaborator and peer mentor on several externally funded research projects.

**Baylor College of Medicine**      Assistant Professor of Medicine      2003 - 2006

- Acted as research team leader, economic content mentor, and econometric modeling lead for multiple projects using survey, direct solicitation, and administrative data.

**Michael E. DeBakey Veteran Affairs Medical Center**      Research Economist      2003 - 2006

- Conducted econometric analysis and cost-effectiveness modeling using inpatient, outpatient, and pharmacy records from the VA data repository.

**St. Cloud State University**      Visiting Assistant Professor of Economics      2002 - 2003

- Taught introductory economics and managerial economics in the undergraduate and econometric methods in the graduate programs.

**New Mexico Department of Labor**      Labor Economist      2001 - 2002

- Responsible for the impact analysis of mass layoffs and assessment of labor turnover in various industries in New Mexico.
- Turnover analysis used the statewide unemployment insurance database for individual, firm, and industry level assessment.

**Intuit, Inc.**      Financial Analyst      1995-1998

- Combined sales and performance data to provide key performance indicators for individual, team, and site reports.
- Improved the forecast of salesforce need through improved modeling of queue dynamics.
- Improved call volume forecasts using a vector autoregressive model of marketing efforts.

### ADDITIONAL EXPERIENCE

- Senior Fellow, New Mexico Center for the Advancement of Research Engagement and Science on Health Disparities
- Senior Fellow, Robert Wood Johnson Foundation Center for Health Policy at the University of New Mexico (UNM)
- Member, UNMHSC Health Care Reform Task Force
- Member, Clinical and Translational Sciences Center (CTSC) Comparative Effectiveness Research Group
- Member, UNM Faculty Senate Research Policy Committee Advisor, New Mexico Health Workforce Committee

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

- Member, New Mexico All-Payer Claims Database (APCD) Key Stakeholder Committee Member, AcademyHealth Health Workforce Interest Group Advisory Committee Member, Technical Advisory Group (TAG) for Human Resources for Health (HRH) 2030 Member, Advisory Board for New Mexico Area Health Education Center

### **Relevant Education**

- Post-Doc, Health Services Research, VA HSR&D/Baylor College of Medicine, 2006
- PhD, Economics (Public Economics & Econometrics), University of New Mexico, 2002
- MA, Economics, University of New Mexico, 1999
- BSBA, Business Economics, Northern Arizona University, 1992

### **Selected Peer-Reviewed Articles**

1. Moffett ML, Bohara A. Hospital Quality Oversight By The Joint Commission On The Accreditation Of Healthcare Organizations. Eastern Economic Journal, 2005 Fall; 31(4): 629-647.
2. Moffett ML, Morgan RO, Ashton CM. Strategic opportunities in the oversight of the U.S. hospital accreditation system. Health Policy. 2005 Dec; 75(1):109-115.
3. Horn BP, Crandall C, Moffett ML, Hensley M, Howarth S, Binder D, Sklar D. The Economic Impact of Intensive Care Management for High-Cost Medically Complex Patients: An Evaluation of New Mexico's Care One Program. Population Health Management, 2016; 19(6): 398-404.
4. Whetten J, van der Goes DN, Tran H, Moffett M, Colin Semper C, Yonas H. Cost- effectiveness of Access to Critical Cerebral Emergency Support Services (ACCESS): a neuro-emergent telemedicine consultation program. Journal of Medical Economics. 2018; 21(4): 398-405.
5. Novak L, Moffett ML. Caregivers Reduce Readmissions When Patients Fear Hospital Discharge. Journal of Health Care Compliance, 2020; 22 (3), 61-65.

### **Selected Published Reports and White Papers**

1. Moffett ML. New Mexico Labor Market Dynamics. New Mexico Department of Labor – Labor Market Review, 2002.
2. Moffett ML. Industry Labor Flows in New Mexico. New Mexico Business – Current Economic Report, Bureau of Business and Economic Research (University of New Mexico), 23 (6), 2002.
3. Johnson M, Henderson L, Yu HJ, Campbell J, Moffett M, Peterson N, Espadas D, Deswal A. Can Increased Spending on Medications Save Lives and Money? Health Policy Research newsletter (Rice University), 1(2), 2006.
4. Suarez-Almazor ME, Ortiz Z, Lopez-Olivo M, Moffett M, Pak C, Skidmore B, Kimmel B, Kallen M, Cox V. Long-term clinical and cost-effectiveness of infliximab and etanercept for rheumatoid arthritis [Technology Overview no 29]. Ottawa: Canadian Agency for Drugs and Technologies in Health, 2007.
5. United States-Mexico Border Health Commission Report. Contributors: Cacari Stone L, Bruna S, Boursaw B, Moffett M, Baker J. U.S. National Health Care Reform and the US- Mexico Border: Challenges and Opportunities. A White Paper for Congress, United States- Mexico Border Health Commission. USDHHS. December 7, 2009.

## Advanta Government Services, LLC

6. Moffett ML, Larson RL. New Mexico Health Care Workforce Data Collection and Analysis. White paper for the Association of American Medical Colleges with support from support by NIH grant 1U24MD006960.
7. New Mexico Health Care Workforce Committee 2017 Annual Report.
8. The Impact of Hospital Consolidation on Medical Costs. National Council on Compensation Insurance - Quarterly Economic Briefing, 2018.

### **Recognition**

- Volunteer Graduate Faculty Award, University of New Mexico College of Pharmacy
- J. Raymond Stewart Award in Economics, University of New Mexico Department of Economics
- Three Percent Fellowship, University of New Mexico Department of Economics
- Regent's Endowed Fellowship University of New Mexico

# Advanta Government Services, LLC

## Appendix A.2 Chief Statistician - Dana Keller

**Dana K. Keller, Ph.D.**  
**Chief Statistician**

### SUMMARY

Dr. Keller is well established as a national health care statistician and research methodologist.

He has spent his career transforming policy relevant monitoring measures and tools into management-friendly instruments of targeted quality improvement. When the Blueprint for the CMS Measures Management System was being conceptualized at the turn of the millennium, Dr. Keller was asked to create an omnibus framework through which CMS' thousands of performance measures could be managed over time and have the rate of expansion controlled. When setting up performance dashboards across several contracts, Dr. Keller would ensure that the policy relevant issues were of sufficient granularity to be able to identify the actual sources of non-conformance within relevant datasets.

Referring to Dr. Keller's ability to evaluate inferred traits, such as knowledge attainment and performance measurement, the American Institutes for Research® said, "The major comprehensive work in this field has been performed by Dana Keller (1995)."<sup>45</sup> CMS, through Siera Gollen, MSN, RN, CMS QISMC Project Director, on an open call with the nation's Medicare Advantage MCOs (then called Medicare + Choice Organizations), stated that Dr. Keller is "a national resource" for sampling and extrapolation methods and techniques, and that CMS would agree to any of Dr. Keller's decisions in that regard. As a nationally recognized expert for the sampling and extrapolation of healthcare data, when HHSC-OIG (Office of the Inspector General in Texas) wanted to fully overhaul its sampling and extrapolation for the detection and prosecution of Medicaid fraud, waste, and abuse, they specifically recruited Dr. Keller for the job, even though the University of Texas in Austin is just down the street. Dr. Keller has also directed the sampling and extrapolations for the Western Integrity Center, a Zone Program Integrity Contractor, and a Medicaid Integrity Contractor.

Lastly, with over 23 years of hands-on experience with Medicare, Medicaid, and TRICARE contracts, Dr. Keller's healthcare experience ranges from creating the research protocols for the Centers for Medicare & Medicaid Services (CMS) Boston Regional Office Diabetes Project (1997) to serving as Chief Statistician for the national CMS Medicaid Payment Error Rate Measurement contract for Medicaid (PERM) to directing the analyses for a \$100 million healthcare dispute between a regional provider and a large insurer. From descriptive statistics to cutting-edge hierarchical propensity models, Dr. Keller's chosen methodologies are contextually defensible and policy relevant. His reliance on empirical literature for evidence-based approaches conserves resources by focusing on the most promising and authoritative methodologies, whenever available.

### EXPERIENCE

**Advanta Government Services LLC, Chief Statistician, 2011 – Present**

Chief Statistician for all state and commercial contracts held by the firm.

From 2013- current, Statistician Advisor and Senior Health Policy Analyst for the State of Maryland, Maryland Health Care Commission, Quality Measures to Support Maryland Healthcare Performance

---

<sup>45</sup> Lanahan L, McGrath DJ, McLaughlin M, Burian-Fitzgerald M, Salganik L, 2000. American Institutes for Research®, Fundamental Problems in the Measurement of Instructional Processes: Estimating Reasonable Effect Sizes and Conceptualizing What is Important to Measure. White paper.

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

(formerly Quality Measures Data Center) contract. Provides health policy expertise and leads the sampling and extrapolation efforts for the entire contract. From 2018 to current, Chief Statistician for State of Maryland, Health Services Cost Review Commission Inpatient/Outpatient Data Abstract Review contract.

From 2011-2016 Chief Statistician for the Maryland Health Care Commission (MHCC) Healthcare Associated Infections (HAI) Data Validation and Chart Audit contract.

Designed the complex sampling methodologies to achieve specified policy aims, including the degree to which laboratory-confirmed bloodstream infections meeting CLABSI (central-line associated blood stream infection) criteria were not reported as CLABSI events to the National Healthcare Safety Network (NHSN) of the Centers for Disease Control and Prevention (CDC). Chief Statistician for the appended project examining related data quality. During the same period, was Chief Statistician for a state of Delaware Validation Study of Data Reported to the NHSN of the CDC.

Subject Matter Expert and Expert Witness for over a \$100 million dispute between a regional provider and a regional insurer.

### **Livanta LLC, Chief Statistician, 2007 – Present**

From 2014 – present, Chief Statistician for the Centers for Medicare & Medicaid Services (CMS), Beneficiary and Family-Centered Care Quality Improvement Organization Contract, 11<sup>th</sup> and 12<sup>th</sup> Scope of Work. Formerly, Chief Statistician for the CMS Medicaid Payment Error Rate Measurement Statistical Contractor (PERM SC); the CMS Retiree Drug Subsidy contract (RDS); and the CMS Recovery Audit Contractor (RAC) Validation Contract (RVC).

### **Halcyon Research, Inc., President, 2004 – Present**

Offer statistical and methodological consulting and analysis within the health care industry, specializing in the preparation of Federal and State proposals, protocols, evaluations, reports, and presentations for Medicare, Medicaid, and TRICARE. Clients' contracts often contain complex problems requiring comprehensible solutions across a wide range of stakeholder audiences.

### **Health Integrity, LLC, Chief Statistician, 2012 – 2018**

Chief Statistician for the Audit Medicaid Integrity Contract (MIC) and the Zone 4 Zone Program Integrity Contractor (ZPIC). Responsible for final approval of sampling methodologies, samples, overpayment estimation methodologies, net overpayment calculation, all supporting documentation, and providing testimony and expert reports in support of audit findings for Administrative Law Judge (ALJ) hearings, including follow-up reviews of related courtroom testimony and replies and responses to the ALJ.

### **Health Services Advisory Group, Inc., Chief Scientific Advisor and Lead Statistician, 2004 – 2016**

Chief Scientific Advisor and Lead Statistician for Medicare, Medicaid, and/or TRICARE contracts. Authored BBA-compliant Medicaid Annual Technical Reports for approximately a dozen States and the TRICARE annual quality and patient safety reports for six years. Primary author for sections on new measurement development, evaluation, documentation, monitoring, and retirement, as well for data set quality control for reliability, validity, comprehensiveness, and completeness in A Blueprint for the CMS Measures Management System.

### **Delmarva Foundation, Chief Statistician, 1997 – 2004**

Developed and supervised the Foundation's approaches to assessing quality improvement and performance for Medicare and Medicaid contracts. The wide variety of quantitative research skills used included: psychometrics, biostatistics, econometrics, hierarchical linear modeling, structural equation

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

modeling, survey design and analysis, sampling methodology, and research design for policy and program evaluation. Qualitative skills include Delphi Technique and a wide variety of hermeneutic approaches to strategic inquiry.

### **ADDITIONAL EXPERIENCE**

**Texas HHSC-OIG, Trial Preparation Trainer/Consultant, 2016 – Present**

Trial preparation trainer/consultant for sampling and extrapolation methodologies for fraud, waste, and abuse cases.

**Chase Consulting Group, Chief Statistician, 2015 – Present**

Chief Statistician for sample extraction and extrapolation for fraud, waste, and abuse in Medicare.

**ESRD Network of New England, Consulting Scientist and Statistician, 2007– 2014**

Consulting Scientist and Statistician for quality improvement evaluations.

**Virgin Islands Medical Institute, Inc., Chief Statistician and Research Methodologist, 2004 – 2014**

Chief Statistician and Research Methodologist for Medicare QIO contract.

**Better Quality Indicators (BQI) project for CMS, Lead Statistician, 2008 – 2009**

**EQRO, Chief Statistician, 2008-2009**

Chief Statistician for annual reporting cycle in Pennsylvania.

**Western Integrity Center, Chief Statistician, 2008 – 2009**

Chief Statistician for fraud and abuse detection and prosecution in Medicare, 2008 – 2009

### **PUBLICATIONS**

*The Tao of Statistics: A Path to Understanding (With No Math)*. SAGE Publications, 2015, 2<sup>nd</sup> edition. Covers basic to complex statistics from a conceptual perspective for non-mathematicians.

*The Tao of Research: A Path to Validity*. SAGE Publications, 2009. With Mary Lou Casadevall-Keller. Quantitative research and qualitative inquiry from the perspective of issues that interfere with outcome validity.

### **SELECTED ARTICLES**

1. Arday D.R., Fleming BB, Keller DK, Pendergrass PW, Vaughn RJ, Turpin JM, Nicewander DA., (2002). Variation in Diabetes Care among States: Do patient characteristics matter? *Diabetes Care*. Dec, 25(12):2230-7.
2. Fleming, B., MD, PhD; Silver, A., MD, MPH; Ocepek-Welikson, K., MPhil; and Keller, D., PhD. (2004). The Relationship between Organizational Systems and Clinical Quality in Diabetes Care. *American Journal of Managed Care*. December.
3. National Research Panel Member. (1999). *Diabetes Compendium of Best Practices, Taking on Diabetes*, a joint initiative of the American Association of Health Plans and the American Diabetes Association, CMS.
4. National Research Review Member, (2001). *Principles of Research for Evaluating Quality Assessment Performance Improvement Projects*, for national use by the 10 CMS Regional Offices, CMS.

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

### **RECOGNITION**

- Publicly named by CMS as “a national resource” for complex sampling, statistical, and methodological issues in applied performance settings for Medicare managed care plans functioning under the Quality Improvement System for Managed Care (QISMC).
- Selected by the Joint Chiefs of Staff to present clinical quality, patient safety, and quality improvement planning, implementation, and documentation training to selected TRICARE managed care support contractor staff and their management.
- State of Delaware, Governor’s Panel of Evaluation Experts.
- American Institutes for Research in Fundamental Problems in the Measurement of Instructional Processes: Estimating Reasonable Effect Sizes and Conceptualizing What is Important to Measure (2005) states: “The major comprehensive work in this field has been performed by Dana Keller (1995).”

### **REQUESTED REVIEWER/PRESENTER**

American Health Quality Association, National and Regional End-Stage Renal Disease Networks (including as plenary speaker for the annual conference), several of the nation’s Quality Improvement Organizations, John Wiley & Sons, Inc., National Center for Educational Statistics, Educational Testing Service (ETS), American Educational Research Association, and Eastern Educational Research Association and was Committee Chair or Supervising Research Professor for over 100 accredited doctoral dissertations.

### **EDUCATION**

PhD, Measurement, Statistics, & Program Evaluation, University of Delaware  
 MA, Measurement, Statistics, & Program Evaluation, University of Delaware  
 BA, Sociology, Tufts University

# Advanta Government Services, LLC

## Appendix A.3 Population Health and Public Policy Advisor - Camille Bash

Camille Rose Bash, Ph.D., CPA, MBA, MA, FHFMA, NHA

### Maryland Focus:

2013-2020	MHA Council on Financial Policy
2019-2020	HSCRC CTI
2023-2020	TLC-MD 3 county 7 hospital Partnership – Founding Member
2012-2020	Treasurer Doctors Community Hospital

### Business Experience:

07-09 to 08-2020 *Doctors Community Hospital and Affiliates, Lanham, Maryland*

A \$249 million health care organization to include a 200-bed acute care hospital, a 130- bed rehabilitation and nursing home, a Foundation, an ACO, CIN, ambulatory professional services, a cancer center, a 10-bed sleep center and a for-profit venture affiliate. The for-profit programs include a radiology center, two surgery centers, and an MSO serving the physicians and population of Prince Georges County since 1975.

Responsible to the President/CEO and Finance Committees for the strategic management of all corporate financial, MHA and HSCRC relationships, revenue cycle management, tax reporting, insurance captive, and regional transformation with seven hospitals (TLC-MD).

- The operating revenue has grown from \$195 million in 2013 to \$249 million planned for 2018 with the addition of the ACO, CIN, multi-specialty ASC, expanded surgical and medical practices and continued improvements in quality for the GBR levels.
- In 2016 and 2017, we were the first hospital in Maryland to use a new debt private placement process for bonds already advanced refunded that achieved an annual interest expense savings of over \$1.4 million for the next 14 years.
- In 2016, added over 30 primary care physicians to ambulatory professional programs.
- In 2015, the hospital acquired an existing ACO. As Treasurer, I assisted with the expansion into a CIN thru a Medicaid product in 2017. We are expecting over \$3 million in CMS rewards this year.
- In 2015, the hospital achieved fifth best hospital in achieving reduction of readmissions.
- From 2014 to current, leads the effort to bring together seven hospitals to form a care coordination program, TLC-MD, which received an HSCRC \$1.0 million annual grant.
- In 2014, put in the first DCH application for the Maryland Hospital Association Capital Bond program and have successfully received grants through 2016 to expand the ambulatory care programs.
- In 2013 and 2014, the COO and I implemented a cost savings program that identified over \$8 million in annual savings.
- In 2013, we were the first hospital to sign the new GBR that included over \$10 million added to the prior year's rate order because of documenting technical issues from prior three years.
- In 2013, the COO and I negotiated the acquisition of an orthopedics practice that supported the hospital in prior years by over \$4 million of surgeries. As of this 2017, the program has grown to \$6 million, to include vascular, general surgery, breast, and bariatric surgery programs.
- In 2012, I assisted in reducing sickle cell readmissions of 33% to less than 10%, resulting in an HSCRC improvement reward.
- In 2009 and 2010, implemented paperless financial AP and reporting systems.
- Hired in 2009 as the replacement for the retiring CFO and promoted in May 2012.

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

### **Treasurer/Chief Financial Officer/Vice President Finance**

11-05 to 2-09 *Catholic Charities of the Archdiocese of Washington, DC*

A \$57 million social service organization delivering social service programs to the Maryland and DC communities through 1000 employees and 11 related entities.

#### **Treasurer/Chief Financial Officer/Vice President Finance**

Responsible to the President/CEO and Finance Committees for the strategic management of all corporate financial, internal auditing, tax reporting, and management information systems.

Functional responsibilities include payroll, accounts payable, general accounting, fixed assets, information technology, grants and contracts management, HUD fiscal management, budgeting, internal audit, treasury management, foundation accounting, and supporting programs in their understanding of financial statements.

During the years, I lead achievements that resulted in over \$1 million dollars of cost recoveries, upgraded fiscal computer systems, installed budgeting and reporting software systems, installed electronic document management with workflow for a “green” finance department, implemented ADP PR and ADP E-time, implemented a corporate credit card, improved reporting to the Finance Committees, and reduced KPMG tax and audit costs through consolidating the eleven general ledgers.

Worked with key Catholic Charities CFO’s to accomplish improved asset management during the economy’s 2008 downturn.

12-04 to 10-05 *MedLINK Hospital and Nursing Center, Washington, DC*

A 60-bed long term acute hospital and 117 bed nursing home mainly serving the Medicare, Medicaid, and charitable patients of the community since 1992.

#### **Chief Operating Officer/Administrator/Corporate Compliance Officer**

Responsible to the President/Owner for the operations of the hospital and the nursing home.

Functional responsibilities include nursing, ancillary departments, engineering and environmental departments, and support departments in the accomplishment of strategic and operational goals, including all licensing and governmental relationships.

9-99 to 10-04 *The Washington Home and Community Hospices, Washington, DC*

A 192-bed nursing home, 9 bed hospice unit, and Hospice program of 220 patients residing in DC, Maryland, and Virginia.

#### **Executive Vice President, Chief Financial Officer, Corporate Compliance Officer**

Responsible to the President/CEO for the strategic management of all corporate financial, human resources, information technology, and staff development functions. Functional responsibilities include strategic management planning, nurturing financial relationships, advising the chairman of the Finance Committee, and comprehensive financial control of all corporate activities.

- During the 5 years, I assisted with the purchase of the MedStar’s VNA Hospice tri-state hospice programs, recovered 4 years of Medicare Fixed Asset cost adjustments, and applied for and received 7 years of Medicaid cost exceptions.
- Most recently, documented errors in the DC Medicaid system and recovered over \$10M for the 21-nursing home. In addition, began the efforts in DC to increase reimbursement to the nursing home industry by over \$25M from federal funds.

7-95 to 1999 *BHS Management Inc. and MedLINK Hospital and Nursing Center, Washington, DC*

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

A 35-bed long term acute hospital and an outpatient hospital-based clinic mainly serving the Medicare, Medicaid, and charitable patients of the community since 1995, with a nursing facility that opened in 1992.

### **Chief Financial Officer**

Responsible to the President/Owner for the strategic management of all corporate financial functions including the leading of the controller, directors, managers, and staff members in the accomplishment of the hospital, nursing home and ancillary financial and business operations.

I assisted in negotiating all contracts to start up the Hospital. Worked with the community in the understanding of the long-term hospital's mission. Improved on the financial operations for the organization, to include reclaiming substantial costs denied by Medicare in early Nursing Home operations.

9-87 to 3-95 *Children's National Medical Center, Washington, DC*

A 250 bed teaching children's hospital in Washington, DC

2-91 to 3-95 **Vice-president of Business Operations**

Responsible to the Chief Financial Officer for the management of over 100 staff members including directors and managers in the accomplishment of the hospital's patient accounting business operations

9-87 to 2-91 **Director of Financial Services**

Responsible to the Controller for the management of thirty staff members including 4 Managers in the accomplishment of directing and coordinating all hospital activities concerning financial administration, general accounting, funds accounting, and financial reporting.

3-87 to 9-87 *Mary Immaculate Hospital (110 Beds), Newport News, Virginia*

A 110-bed religious community hospital serving the local community.

**Vice President Fiscal Services**

Responsible to the Senior Vice President for the organizing, planning, directing, and evaluating the hospital's financial functions.

1-86 to 3-87 *Eastern Virginia Medical Authority, Norfolk, Virginia*

### **Assistant Director of Finance**

Responsible to the Director of Finance for the accomplishment of the fiscal affairs throughout the Authority, to include the direct management of payroll, accounts payable, general accounting and student receivables.

2-82 to 8-85 *R.E. Thomason General Hospital, El Paso, Texas*

**Controller**

A 300-bed county teaching hospital and outpatient facility. Reported to CFO.

7-81 to 2-82 *Region XIX, El Paso, Texas*

**Financial Analyst**

A computer-based organization in the accomplishment of computer needs for the school district of El Paso and Ysleta.

2-80 to 6-81 *The Jewish Hospital of St. Louis*

**Assistant to the Financial Vice President**

A 300-bed teaching hospital and outpatient facility within the Washington University Medical Center. Responsible to the Financial Vice President (CFO) for comprehensive computer systems evaluation, implementation and staffing various directorates, facilitating the transition from SHAS and MCSI to SMS

2-78 to 2-80 *Department of Internal Medicine*

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

### **Manager of Accounts Receivable**

A department of Washington University School of Medicine within the Washington University Medical Center.

4-77 to 11-77 *Texas Tech University Hospital, Lubbock, Texas*

### **Accounting Supervisor**

A university with a medical plan, that included only the department of family practice in 1977.

11-76 to 3-77 *West Texas Council of Governments, El Paso, Texas*

### **Senior Accountant**

A government organization responsible for the administration of city grants.

7-76 to 11-76 *Hotel Dieu, El Paso, Texas*

### **Accounts Payable Clerk**

A 200-bed religious community hospital serving the El Paso County community.

8-75 to 1-76 *Lerner's, El Paso, Texas*

### **Assistant Manager in Training**

A nationwide woman's apparel store.

4-75 to 8-75 *Urban Research Group, Austin, Texas*

### **Management Consultant**

An organization funded by city grants to document issues associated with Austin's urban situations.

### **Software Proficiency**

- 2009- Meditech, Insights/HCI, PaperStore
- 2005 Great Plains, ADP PR, ADP E-time, Kwik Tag Scanning
- 2004 Microsoft - FRx Financials and Forecaster Budgeting – Partner for Accounting Systems
- 1999-04 Advanced Answers on Demand – Long Term Care, Assisted Living and Hospice
- 2004 Suncoast – Hospice Clinical and Accounts Receivable Management
- 1978-99 Other hospital accounting systems: HBOC, HBO, McKesson, IBM, SMS, MCSI

### **Miscellaneous**

- 2015-20 Organizer of Regional Coalition (TLC-MD) to support Pop Health in Maryland
- 2013-19 Member of Financial Policy Council with Maryland Hospital Association
- 2013-16 Chairman of CFO Collaboration, HCNCA
- 2012 Maryland Chapter of the Healthcare Financial Management Association – Director
- 2002-03 Healthcare Financial Management Association – UK/US Exchange Member
- 2002-03 District of Columbia Certificate of Need Board Candidate
- 2001 Healthcare Financial Management Association – National Nominating Committee
- 2000-04 DC Healthcare Association – Payment for Services Committee Chairman
- 2000 Healthcare Financial Management Association - Chapter Liaison Representative
- 1998 Healthcare Financial Management Association - National Advisory Council
- 1997 Washington, DC Chapter of the Healthcare Financial Management Assoc. - President
- 1997 Saint User Group (HBOC) - Finance Chair
- 1995 The Matrix Group - Consultant
- 1990-91 Howard Community College, CPA Certification Program - Honor Student
- 1989-90 Control Data Systems Board Member - Vice President
- 1983-86 National Association of Accountants - Vice President
- 1982-84 El Paso Chapter of the Healthcare Financial Management Assoc. – Sec-

Use or disclosure of data contained on this sheet is subject to the restriction on the cover sheet of this proposal.

## Advanta Government Services, LLC

### Treasurer/VP/President

- 1983-84 Reserve Officers' Association Ladies - President, El Paso Chapter
- 1978-04 Medical Group Management Association - Member
- 1977-04 Healthcare Financial Management Association - Member

### Education:

- 2013 PhD – Public Policy and Administration, Walden University
- 2001 University of Maryland – Nursing Home Administration Coursework
- 1990 Howard County Community College, Maryland – CPA Track
  - 1980 MBA University of Missouri at St. Louis
  - 1978 MA in Healthcare Administration Webster University, Missouri
  - 1975 BBA University of Texas at Austin

### Licenses and Accreditations:

- 2003 Licensed Nursing Home Administrator
- 1995 FHFMA Fellow in the Healthcare Financial Management Association
- 1995 CMPA Certified Manager of Patient Accounting
- 1992 Certified Public Accountant (CPA)

## ATTACHMENT D: DATA MANAGEMENT PLAN

### Certification

The undersigned certifies and agrees as follows:

- The data will be used only for approved purposes of analysis and presentation.
- The Organization will comply with all administrative, technical, and procedural policies and physical safeguards established to protect the confidentiality of the data and to prevent unauthorized access to the data.
- The data will be encrypted at rest and on motion on storage media (backup tapes, local hard drives, network storage, et al.) with at least an AES-256 standard or stronger.
- The Organization understands and agrees that any intentional breach of confidentiality will result in termination of the Data Use Agreement.
- Anti-virus software or service is active on any server or endpoint containing the MCDB data.
- Staff with access to PHI or other sensitive data have received all relevant training

The Organization has policies and procedures in place to address:

- The sharing, transmission, and distribution of PHI
- The physical possession and storage of PHI
- The destruction of PHI upon completion of data use
- Confidentiality agreements with each individuals, including contractors, who will access PHI
- Agreements governing the use and disclosure of PHI with all non-employees who will access PHI

**Confirm you certify and agree to the above statement**

### 1. Responsible Individuals

a. Provide the name(s) of custodian responsible for receiving, organizing, storing, or archiving data.

Name	Ricky Ip				
Title	Data Security Officer				
E-Mail Address	rip@acumenllc.com				
Telephone Number	650-558-8882 x 1229				
Organization Name	Acumen, LLC				
Mailing Address	500 Airport Boulevard, Suite 365				
City/Town	Burlingame	State	CA	Zip Code	94010

b. Provide the name of the person who will notify MHCC of any breach of the MCDB data, Data Use Agreement or the Data Management Plan

Name	Ricky Ip				
Title	Data Security Officer				
E-Mail Address	rip@acumenllc.com				
Telephone Number	650-558-8882 x 1229				
Organization Name	Acumen, LLC				
Mailing Address	500 Airport Boulevard, Suite 365				
City/Town	Burlingame	State	CA	Zip Code	94010

c. Provide the name of the person responsible for ensuring proper data destruction upon the termination of the Data Use Agreement, and submission of the Certification of Data Destruction.

Name	Ricky Ip				
Title	Data Security Officer				
E-Mail Address	rip@acumenllc.com				
Telephone Number	650-558-8882 x 1229				

Organization Name		Acumen, LLC			
Mailing Address		500 Airport Boulevard, Suite 365			
City/Town	Burlingame	State	CA	Zip Code	94010

- d. Provide the name of the person who will notify MHCC of any project staffing changes, maintain the roster of staff who have formal, documented permission to access specific files for specific purposes, and ensure that all individuals with access to the data comply with the Data Use Agreement.

Name		Ricky Ip			
Title		Data Security Officer			
E-Mail Address		rip@acumenllc.com			
Telephone Number		650-558-8882 x 1229			
Organization Name		Acumen, LLC			
Mailing Address		500 Airport Boulevard, Suite 365			
City/Town	Burlingame	State	CA	Zip Code	94010

## 2. Physical Possession and Storage of Data Files

- List how the data will be stored.
  - Cloud
  - Physical location(s)
  - Both
- Provide the delivery address for the data, including the location where the data will be stored.

### i. Delivery Address

Address	500 Airport Boulevard, Suite 365			
City/Town	Burlingame			
State	CA	Zip Code	94010	

### ii. Storage Address

Address	500 Airport Boulevard, Suite 365			
City/Town	Burlingame			
State	CA	Zip Code	94010	

- Provide the name and address of the Cloud Service Provider

Address				
City/Town				
State		Zip Code		

- Describe the name and data security assessment level of each physical location and the Cloud Service Provider where the data will be stored. Provide evidence that the proposed computing environment meets or exceeds NIST 800-53v4 security standards. Identify all certifications held by entities that will store or hold data.
  - SOC 2 Type Audit
  - HITRUST Certification
  - ISO 27001 Audit Certification
  - Independent external HIPAA standards Assessment
  - SSAE 16 Overview, and/or
  - FedRAMP Certification

Acumen holds an 'Authority to Operate' designation from the Centers for Medicare and Medicaid Services (CMS) and is designated as a FISMA-moderate level secure environment. Acumen's data center undergoes annual assessments of controls performed by an independent FedRAMP third-party assessment organization auditor. Acumen is currently "FedRAMP In Progress" with sponsorship by CMS and anticipates being fully FedRAMP certified before the end of this calendar year

5. Has each individual who will access the data agreed to the Request Organization's privacy and security rules when using MCDB data files?  Yes  No
6. Within the last 12 months, has each individual who will access MCDB data received training on the proper handling of protected health information and/or personal data?  Yes  No. If no provide a brief description of the circumstances and detail the training that each such person will receive and by what date.

7. Explain the infrastructure (facilities, hardware, software, etc.) that will secure the MCDB data files.

Acumens IT infrastructure is designed to securely store and process claims data, consisting of: (1) non-interactive machines, which operate as code libraries and provide database hosting and web services, (2) interactive machines to run terminal services, providing users with a secure environment to perform data-related tasks that do not require processing power, (3) data processing machines offering the significant processing power required for analysis programs to run efficiently, and (4) data repository machines engineered for storage efficiency and security. To work with authorized claims data, our staff log in to our interactive machines via a virtual private network (VPN) connection and, from a given interactive machine, have the ability to access processing machines to run analyses. This login process entails multifactor authentication, requiring our staff to submit a unique username, a login password that expires every 60 days as well as satisfies password complexity requirements set forth in IA-5(1) Password-Based Authentication of the CMS ARS 2.0, and a six-digit code from a RSA SecurID hardware token plus six digit personal identification number that our staff configure.

8. Briefly describe the policies and procedures regarding the physical possession and storage of MCDB data files.

Acumens data storage rooms are windowless, wire mesh-encased, and cipher-locked rooms that physically restrict all access to sensitive data, copies of data, as well as the machines that store and process data, to a small number of staff members with data management and data system responsibilities. To ensure that these staff members should have physical access permissions to our secure data rooms, our Director of IT work with our data security staff to review the list of employees authorized to physically access our secure rooms every 180 days and/or whenever job duties evolve. In addition to this physical access monitoring, we use separation of duties to enhance our physical security protocols. For example, we have established logical data access roles (that is, roles for accessing data electronically) as well as physical data access roles (that is, roles for accessing the hardware and/or media that stores electronic data), and ensured that staff members cannot occupy both roles. This prevents employees from gaining unauthorized access to secure data either physically or electro

9. Briefly describe the system or the process to track the status and roles of the individuals with access to the MCDB data files.

Acumen identifies project team roles and statuses in an internal project tracking tool that specifies each team member, their specific project role, their system access group permissions, and their current status (whether Active, On Leave, or Removed). To determine staff statuses, we leverage manager-based clearance of paid time off (PTO); for roles, we use our access group request process to appropriately manage staff job duties.

10. Briefly describe physical and technical safeguards that will be used to protect MCDB data files.

Acumen has implemented end-to-end physical and technical safeguards that protect all claims data files that we receive as part of an HHS contract and/or grant. Per physical data storage, our security measures prevent unauthorized logical access to CMS data as well as unauthorized handling of physical copies of data files. We store all physical (removable) disks and tapes containing restricted data in locked cabinets within our limited-access Secure Data Room. We also house all computer systems containing data hard drives and other online data storage facilities within our limited-access Secure Data Room. In terms of logical access to data, we require that all processing, computation, and analytical work using sensitive data occur on computer resources requiring multifactor authentication. To access these resources, our staff must first establish a virtual private network (VPN) connection, using a unique username and passcode (that is, a six-digit personal identification number (PIN) and RSA SecurID hardware token code). Once connected to our secure network, our staff must then log in to the machine using their username and a login password that expires every 60 days as well as satisfies password complexity criteria. Once connected to a machine, our researchers conduct all data processing, computation, and analysis within that remote desktop environment, which does NOT contain any programs that transmit information in clear (unencrypted) text, such as "telnet" and "ftp," or directly connect to the Internet. In addition, a dedicated firewall allows remote external communications only in encrypted form and prevents unauthorized intrusions into the computer systems.

11. Briefly describe how the data will be backed up and how back up files will be managed.

Data is backed up on an encrypted media using AES-256 encryption. The data is backed up incrementally on a daily basis and a full back-up on a weekly basis.

### 3. Data Sharing, Electronic Transmission, and Distribution

1. Briefly describe the Requesting Organization's policies and procedures regarding the sharing, transmission, and distribution of sensitive data files (including Data Sharing Agreements).

Acumen only shares, transmits, or distributes data files in accordance with the terms of its contracts and/or grants. Acumen works to de-identify the data as much as possible and will only provide research files and aggregated reports.

2. Describe the Requesting Organization's policies and procedures be applicable to the physical removal, transport, and transmission of MCDB data files.

A highly trained member of Acumens ADIS team handles all physical transmissions of confidential claims data using the DARTS and ADIS reference tracking systems. Specifically, the ADIS team member ensures that (i) all physical PHI and PII transmissions are encrypted with 256-bit Advanced Encryption Standard (AES) level of encryption; (ii) that passwords are communicated through a medium separate from the encrypted file medium; and (iii) that the recipient is listed as an authorized User or Custodian. To enforce this process, the ADIS team member prepares all distribution tasks and writes all data files to media using Acumens internally developed DARTS. This records management process ensures comprehensive task tracking and leaves little room for corruption of data files. We document these procedures, as well as the policies governing them, in Sections 5.2.6 and 5.2.7 of our Information Security Reference; Sections 10, 12, and 13 of our Information System Operations Manual for Technical Teams; and the Physical and Environmental Protection (PE) controls within our CMS-mandated System Security Plans (SSPs), which are accessible in CFACTS 2.0.

3. By checking the boxes next to the following statements, you are confirming that the following requirements will be met.
- Access to the data will be restricted to authorized users by requiring computer log-on with unique user accounts and passwords.

**For data stored on a network drive and not on your computer hard drive:**

- Access will be restricted by limiting folder access to approved study staff only.
- Any data included in the network backup will be encrypted.

**For data stored on the local hard drive of a computer:**

- When not in use, the computer will be locked in a physically secured office, drawer, cabinet or other container to which access is restricted to authorized study personnel.
- When not in use, data will be encrypted with a key length of at least 256 bits.

4. Describe the Requesting Organization’s technical safeguards for data access place:

<b>Password protocols:</b>
<p>Accessing a machine within the Data Zone thus requires users to possess three valid password credentials: 1) a personal workstation password, 2) a Data Zone firewall passcode to connect to the Data Zone VPN, and 3) a server connection password to</p>
<b>Log-on/log-off protocols</b>
<p>To process and analyze data within the Data Zone, our research staff must connect to a virtual private network (VPN)—which requires a token-based passcode—from their office workstations, then establish a Remote Desktop connection—which requires a Data Zone-specific password—to a project-dedicated machine within our Data Zone. Once connected to a Data Zone machine, our researchers conduct all processing and analysis within that remote desktop environment; as such, access to the Data Zone from a personal workstation is terminal-only, meaning authorized staff have the ability to interface and process sensitive data without the ability to copy or remove data from the secure environment</p>
<b>Session time out protocols</b>
<p>As an additional security measure, three consecutive invalid logins within 15 minutes as well as 15 minutes of inactivity automatically locks users out of their workstation or Data Zone machine.</p>
<b>Encryption for data in motion and data at rest</b>
<p>At Rest: via Bitlocker which implement established full disk encryption using a 256-bit AES cryptographic algorithm. In Motion: various 256-bit WES cryptographic methods including HTTPS, IPSec, and RD Protocol over TLS 1.2</p>
<b>Antivirus and anti-malware products</b>
<p>Symantec Endpoint Protection</p>

5. If applicable, describe the Requesting Organization’s physical safeguards for data access and check all security features listed below that are present in the room containing MCDB data files:

- Recorded video
- Access log of all individuals entering the room
- Secure server rack
- Access control limiting access only to authorized individuals

6. If applicable, identify the data transmission method(s) you plan to use.

- VPN
- Secure FTP

Encrypted email delivery system

Other, please specify and identify why this meets minimum data security requirements below:

7. Describe the Requesting Organization's policies and procedures to protect sensitive data files when individual staff members of project teams (including additional collaborating organizations) terminate their participation on a project. (May include staff exit interviews and immediate access termination).

When a member of a research team or collaborating organization terminates his or her affiliation with a research project, Acumens data security team removes the credentials of that user from all access groups. If the person is an Acumen staff member that Acumen has term

#### 4. Completion of Research Tasks And Data Destruction

Applicant must agree that the MCDB data, all copies and backups must be destroyed immediately after the period of time necessary to fulfill the requirements of the data request in accordance with the terms and conditions of the Data Use Agreement. All data destruction must follow and conform to [NIST Special Publications 800-88, Guidelines for Media Sanitization](#).

1. Describe the Requesting Organization's process to complete the Certificate of Data Destruction form and the Requesting Organization's policies and procedures to destroy data files upon completion of the project.

At the close of the project, the Acumen Project Manager identifies a need to delete the data used and/or generated during the project. A member of the Acumen security team destroys any physical materials by shredding them in a cross-cut shredder and erases electronic c

2. If a copy of the data is needed to be maintained for a longer period, please provide the reason a longer time period is necessary.

n/a - maintaining data for a longer period is not a requirement

## ATTACHMENT E: USE OF CONTRACTORS AND/OR CONSULTANTS (External Entities)

Provide the following information for all consultant and contractors who will have access to the MCDB data. The Requesting Organization must have a written agreement with the contractor/consultant to ensure the use of MCDB data to the approved project(s) of this application as well as the privacy and security standards set forth in the Data Use Agreement. MCDB data may not be shared with any third party without prior written consent from MHCC, or an amendment to this Application.

<b>Entity</b>	<input type="checkbox"/> Contractor <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Consultant				
Organization Name	Acumen, LLC				
Title	Data Security Officer				
Website					
Contact Person	Ricky IP				
E-Mail Address	rip@acumenllc.com				
Telephone Number	650-558-8882 x1229				
Mailing Address	500 Airport Boulevard, Suite 365				
City/Town	Burlingame	State	California	Zip Code	94010
Term of Contract	04/01/2021 - 12/31/2021				

1. Describe the tasks and products assigned to this entity for this project.

AIM 2: To investigate the impact of Maryland's efforts to improve care delivery and outcomes related to first episode psychosis (FEP) through implementing evidence-based treatment.

2. Describe the qualifications of this entity to perform and complete the tasks.

Acumen has extensive experience using Medicare and Medicaid claims data. Acumen understands the nuanced approaches required to efficiently extract data to inform meaningful results. Acumen also has extensive statistical and analytic tools and expertise at its disposal and conducts a wide range of data analysis.

3. Describe the Requesting Organization's oversight and monitoring of the activities and actions of this entity for this project, including how you will ensure the privacy and security of the MCDB data to which the consultant or contractor has access.

Acumen is an official CMS Data Center and has a security infrastructure compliant with the Federal Information Security Modernization Act (FISMA) and the Health Insurance Portability and Accountability Act (HIPAA). Acumen's data team will successfully execute DUA and monitor data utilization to ensure strict adherence. Acumen meticulously documents all quality control and validation processes and analysis.

4. Will this entity have access to or store the MCDB data at a location other than the data custodian location, off-site server and/or database?  Yes  No.

If yes, a separate Data Management Plan **must** be completed by this contractor/consultant.

**[INSERT A NEW SECTION FOR ADDITIONAL CONTRACTOR/CONSULTANT ENTITIES NEEDED]**