



Contract Number
15-837 A-1

SAP Number
4400002638

Department of Behavioral Health

Department Contract Representative	Anthony Altamirano
Telephone Number	909-388-0860
Contractor	SAS Institute, Inc.
Contractor Representative	Victoria Clayton
Telephone Number	(919)531-7977
Contract Term	November 3, 2015 – November 2, 2019
Original Contract Amount	\$1,270,901
Amendment Amount	\$1,027,800
Total Contract Amount	\$2,298,701
Cost Center	9204042200

THIS AMENDMENT is entered into in the State of California by and between the County of San Bernardino, hereinafter called the County, and SAS Institute, Inc., the Contractor referenced above, hereinafter called Contractor.

IT IS HEREBY AGREED AS FOLLOWS:

WITNESSETH:

IN THAT CERTAIN **Contract No. 15-837** by and between the County of San Bernardino, a political subdivision of the State of California, and SAS Institute, Inc. for data warehouse mining software maintenance and support services, which Contract first became effective November 3, 2015, the following changes are hereby made and agreed to, effective May 22, 2018:

- I. This Amendment hereby adds a total of One Million Twenty-Seven Thousand Eight Hundred (\$1,027,800) to the County's cost under this Agreement as described in the attached Schedule A.
- II. ARTICLE IX. Duration and Termination Section A., is hereby amended to read as follows:
 - A. The term of this agreement shall be from November 3, 2015 through November 2, 2019 inclusive. Contractor grants County one (1) option to extend the term of this Agreement for a one-year period on the same terms and conditions, with the Annual Software Maintenance Fee not to exceed five percent (5%) per year of the fee then payable by County for the immediately preceding year, by providing notice to Contractor prior to the expiration of the then current term. For the sake of clarity

the software maintenance fee then payable shall be defined to include any additional software maintenance fees approved by the parties pursuant to Section IV. C.

- III. Schedule A – Data Warehouse Mining Outcome Solution Support Pricing Sheet and Payment Schedule is hereby revised and attached.
- IV. ATTACHMENT I – Business Associate Agreement is hereby revised and attached.
- V. ATTACHMENT II – Report of Environmentally Preferable Goods and Services is hereby deleted.
- VI. EXHIBIT A – Data Management and Mining Solution Continuation and Expansion Project is hereby added.
- VII. All other terms, conditions and covenants in the basic agreement remain in full force and effect.

End of Amendment

BOARD OF SUPERVISORS



Robert A. Lovingood, Chairman, Board of Supervisors

Dated: _____

SIGNED AND CERTIFIED THAT A COPY OF THIS
DOCUMENT HAS BEEN DELIVERED TO THE
CHAIRMAN OF THE BOARD

Laura H. Welch
Clerk of the Board of Supervisors
of the County of San Bernardino

By _____
Deputy

(Print or type name of corporation, company, contractor, etc.)

By _____
(Authorized signature - sign in blue ink)

Name _____
(Print or type name of person signing contract)

Title _____
(Print or Type)

Dated: _____

Address _____

FOR COUNTY USE ONLY

Approved as to Legal Form



Bonnie Uphold, Deputy County Counsel

Date _____

Reviewed for Contract Compliance



Natalie Kessee, Contracts Manager

Date _____

Reviewed/Approved by Department



Veronica Kelley, Director

Date _____

Data Warehouse Mining Solution Support Pricing Sheet

Description		Cost
Software Maintenance (4 years)	Software Maintenance	\$1,015,701
Software Enhancements and Professional Services	Pursuant to Approved Change Orders	Not to Exceed \$1,283,000
Total Cost (Not to exceed) per Article IV, Funding		\$2,298,701

Fixed Hourly Rate is defined as **\$200** per hour.

Change Order shall either be based on a time and materials basis or a maximum fixed cost basis.

Time & Materials basis: Contractor shall use the Fixed Hourly Rate for developing price quotes for Change Orders during the term of the agreement and any Change Orders shall be approved by DBH in writing prior to products being provided or services being performed. Time expended in developing price quotes for individual Change Orders is not to exceed 50 hours without prior approval in writing by DBH.

Maximum Fixed Price basis: Fixed Hourly Rate shall be used to calculate the Maximum Fixed Price for all approved Change Orders provided during the term of the agreement.

Payment Schedule for Data Warehouse Mining Solution Support

Annual Software Maintenance (Payable Annually During the Initial Term of the Contract)	
November 3, 2015 through November 2, 2016	\$235,655
November 3, 2016 through November 2, 2017	\$247,437
November 3, 2017 through November 2, 2018	\$259,809
November 3, 2018 through November 2, 2019	\$272,800
Change Orders	
To be initiated at the request of the County of San Bernardino Department of Behavioral Health and documented in an approved Change Order. If on a maximum fixed price basis, payment due upon acceptance of deliverables per agreed upon Change Orders during the term of the Agreement, as set forth in Addendum III. For a time and materials change order, payment terms shall be net sixty (60) days, as set forth in Addendum III. The Parties acknowledge that the Software Maintenance Fees set forth in Schedule A may increase if County licenses software in addition to the Software set forth in Addendum III or if enhancements are made to the Software set forth in Addendum III through the delivery of SAS Services delivered under this Agreement. If the Software Maintenance Fees is subject to increase per approved Change Order, Contractor shall notify County in writing as to any increase prior to the County's license of such additional software or delivery of SAS Services or enhancements of Software which will cause such increase in Software Maintenance Fees, and if County agrees to such increase, the Parties will execute a mutually agreeable amendment to this Agreement to reflect the increase.	Not to exceed \$1,283,000

BUSINESS ASSOCIATE AGREEMENT

Except as otherwise provided in this Agreement, SAS Institute, Inc., hereinafter referred to as Business Associate, may use, access, maintain or disclose Protected Health Information to perform functions, activities or services for or on behalf of the Department of Behavioral Health, hereinafter referred to as the Covered Entity, as specified in this Agreement and the attached **CONTRACT**, provided such use, access, maintenance or disclosure does not violate the Health Insurance Portability and Accountability Act (HIPAA), 42 United States Code (USC) 1320d et seq., and its implementing regulations, including but not limited to, 45 Code of Federal Regulations (CFR) Parts 160, 162, and 164, hereinafter referred to as the "Privacy and Security Rules" and patient confidentiality regulations, including but not limited to, Title 42 of the Code of Federal Regulations Part 2 and the requirements of the Health Information Technology for Economic and Clinical Health Act, as incorporated in Title XIII of the American Recovery and Reinvestment Act of 2009 (ARRA), Public Law 111-5 (HITECH) and any regulations adopted or to be adopted pursuant to HITECH that relate to the obligations of business associates. Business Associate recognizes and agrees it is obligated by law to meet the applicable provisions of HITECH.

I. Definitions

- A. "Breach" means the acquisition, access, use or disclosure of Protected Health Information (PHI) in a manner not permitted under HIPAA (45 CFR Part 164, Subpart E), which compromises the security or privacy of the PHI. An impermissible use or disclosure of PHI is presumed to be a Breach unless the Covered Entity or Business Associate demonstrates that there is a low probability that the PHI has been compromised. A Breach shall not include:
1. Any unintentional acquisition, access or use of PHI by a workforce member or person acting under the authority of Covered Entity or the Business Associate, if such acquisition, access or use was made in good faith and within the scope of authority and does not result in further use or disclosure in a manner not permitted under the Privacy Rule; or
 2. Any inadvertent disclosure by a person who is authorized to access PHI at Covered Entity or Business Associate to another person authorized to access PHI at Covered Entity or Business Associate, respectively, and the information received as a result of such disclosure is not further used or disclosed in a manner not permitted under the Privacy Rule; or
 3. A disclosure of PHI where Covered Entity or Business Associate has a good faith belief that an unauthorized person to whom the disclosure was made would not reasonably have been able to retain such information.
- B. "Business Associate" means with respect to a Covered Entity, a person who:
1. On behalf of such Covered Entity, but other than in the capacity of a member of the workforce of such Covered Entity creates, receives, maintains or transmits PHI for a function or activity involving the use or disclosure of Personally Identifiable Health Information, including claims processing or administration, data analysis, data storage, utilization review, quality assurance, billing, benefit management, practice management, and repricing; or
 2. Provides, other than in the capacity of a member of the workforce of such Covered Entity, legal, actuarial, accounting, consulting, data aggregation, management, administrative, accreditation or financial services to or for

Covered Entity where the provision of the service involves the disclosure of PHI from such Covered Entity to the person.

A Covered Entity may be the Business Associate of another Covered Entity.

- C. "Covered Entity" means a health plan, a health care clearinghouse or a health care provider who transmits any health information in electronic form in connection with a transaction covered by the Privacy and Security Rules.
- D. "Data Aggregation" means, with respect to PHI created or received by a Business Associate in its capacity as the Business Associate of a Covered Entity, the combining of such PHI by the Business Associate with the PHI received by the Business Associate in its capacity as a Business Associate of another Covered Entity, to permit data analyses that relate to the health care operations of the respective Covered Entities.
- E. "Discovered" means a Breach shall be treated as discovered by Covered Entity or Business Associate as of the first day on which such Breach is known to such Covered Entity or Business Associate, respectively, (including any person, other than the individual committing the Breach, that is an employee, officer or other agent of such entity or associate, respectively) or should reasonably have been known to such Covered Entity or Business Associate (or person) to have occurred.
- F. "Electronic Protected Health Information" or "Electronic PHI" means PHI that is transmitted by or maintained in electronic media as defined in the Security Rule.
- G. "HIPAA" means the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191.
- H. "HITECH" means the privacy and security Breach notification provisions applicable to Business Associate under Title XIII of ARRA.
- I. "Individual" means the person who is the subject of PHI, and shall include a person who qualifies as a personal representative in accordance with 45 CFR 164.502(g).
- J. "Individually Identifiable Health Information" means information that is a subset of health information, including demographic information collected from an individual, and;
 - 1. is created or received by a health care provider, health plan, employer or health care clearinghouse; and
 - 2. relates to the past, present or future physical or mental health condition of an individual; the provision of health care to an individual; or the past, present or future payment for the provision of health care to an individual; and
 - (a) that identifies the individual; or
 - (b) with respect to which there is a reasonable basis to believe the information can be used to identify the individual.
- K. "Privacy Rule" means the regulations promulgated under HIPAA by the United States Department of Health and Human Services to protect the privacy of Protected Health Information, including, but not limited to, 45 CFR Part 160 and 45 CFR Part 164, Subpart A and Subpart E.
- L. "Protected Health Information" or "PHI" means Individually Identifiable Health Information transmitted or maintained in any form or medium that (i) is received by Business Associate from Covered Entity, (ii) Business Associate creates for its own

purposes from Individually Identifiable Health Information that Business Associate received from Covered Entity, or (iii) is created, received, transmitted or maintained by Business Associate on behalf of Covered Entity. Protected Health Information excludes Individually Identifiable Health Information in education records covered by the Family Educational Rights and Privacy Act, as amended, 20 U.S.C. Section 1232(g), records described at 20 U.S.C. Section 1232g(a)(4)(B)(iv), and employment records held by the Covered Entity in its role as employer.

- M. "Security Rule" means the regulations promulgated under HIPAA by the United States Department of Health and Human Services to protect the security of the Electronic Protected Health Information, including, but not limited to, 45 CFR Part 160 and 45 CFR Part 164, Subpart A and Subpart C.
- N. "Unsecured PHI" means PHI that is not secured through the use of a technology or methodology specified by the Secretary of the U.S. Department of Health and Human Services.
- O. Any terms capitalized, but not otherwise defined, in this Agreement shall have the same meaning as those terms have under HIPAA, the Privacy Rule, the Security Rule and HITECH.

II. Obligations and Activities of Business Associate

A. Prohibited Uses and Disclosures

Business Associate shall not use, access or further disclose PHI other than as permitted or required by this Agreement and as specified in the attached **CONTRACT** or as required by law. Further, Business Associate shall not use PHI in any manner that would constitute a violation of the Privacy Rule or HITECH. Business Associate shall disclose to its employees, subcontractors, agents, or other third parties, and request from Covered Entity, only the minimum PHI necessary to perform or fulfill a specific function required or permitted hereunder.

Business Associate shall not use or disclose PHI for fundraising or marketing purposes. Business Associate shall not disclose PHI to a health plan for payment or health care operations purposes if the patient has requested this special restriction, and has paid out of pocket in full for the health care item or service to which the PHI solely relates; 42 U.S.C. Section 17935(a) and 45 C.F.R. Section 164.522(a)(1)(i)(A). Business Associate shall not directly or indirectly receive remuneration in exchange for PHI, except with the prior written consent of Covered Entity and as permitted by HITECH, 42 U.S.C. Section 17935(d)(2); and 45 C.F.R. Section 164.508 however, this prohibition shall not affect payment by Covered Entity to Business Associate for services provided pursuant to this Agreement.

B. Permitted Uses and Disclosures

1. Except as otherwise limited in this Agreement, Business Associate may use PHI for the proper management and administration of the Business Associate or to carry out the legal responsibilities of the Business Associate.
2. Except as otherwise limited in this Agreement, Business Associate may use PHI to provide Data Aggregation service to Covered Entity as permitted by 45 CFR Section 164.504(e)(2)(i)(B).
3. Business Associate may use PHI to report violations of law to appropriate Federal and State authorities, consistent with 45 CFR Section 164.502(j)(1).

C. Appropriate Safeguards

Business Associate shall implement the following administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity and availability of PHI that Business Associate creates, receives, maintains or transmits on behalf of Covered Entity; and to ensure that any agent or subcontractor to whom Business Associate provides such information agrees to implement reasonable and appropriate safeguards to protect PHI in accordance with the Security Rule under 45 C.F.R., Sections 164.308, 164.310, 164.312, 164.314 and 164.316:

1. Implement policies and procedures to prevent, detect, contain and correct security violations; identify the security official who is responsible for the development and implementation of the policies and procedures required by this subpart for the Business Associate; implement a security awareness and training program for all members of its workforce; implement policies and procedures to prevent those workforce members who should not have access from obtaining access to Covered Entity's Electronic PHI; implement policy and procedures to address security incidents; establish policies and procedures for responding to an emergency or other occurrence that damages systems that contain Electronic PHI; and perform a periodic technical and nontechnical evaluation in response to environmental or operational changes affecting the security of Electronic PHI, including conducting accurate and thorough assessments of the potential risks and vulnerabilities to the confidentiality, integrity and availability of Electronic PHI, that establishes the extent to which an entity's security policies and procedures meet the requirements of this subpart.
2. Implement policies and procedures to limit physical access to Business Associate's electronic information systems and the facility or facilities in which they are housed, while ensuring that properly authorized access is allowed; implement policies and procedures that specify the proper functions to be performed, and the physical attributes of the surroundings of a specific workstation or class of workstations that can access Electronic PHI; implement physical safeguards for all workstations that access Electronic PHI; restrict access to authorized users; implement policies and procedures that govern the receipt and removal of hardware and electronic media that contain Electronic PHI into and out of a facility and the movement of these items within the facility.
3. Implement technical policies and procedures for electronic information systems that maintain Electronic PHI to allow access only to those persons or software programs that have been granted access rights as specified in 45 C.F.R., Section 164.308 implement hardware, software and/or procedural mechanisms that record and examine activity in information systems that contain or use Electronic PHI; implement policies and procedures to protect Electronic PHI from improper alteration, destruction, unauthorized access or loss of integrity or availability; including but not limited to, encryption of all workstations, laptops and flash drives that store PHI.
4. Enter into written agreements with agents and subcontractors to whom Business Associate provides Covered Entity's PHI that impose the same

restrictions and conditions on such agents and subcontractors that apply to Business Associate with respect to such PHI, and that require compliance with all appropriate safeguards as found in this Agreement.

D. Mitigation

Business Associate shall have procedures in place to mitigate, to the extent practicable, any harmful effect that is known to Business Associate of a use, access or disclosure of PHI by Business Associate, its agents or subcontractors in violation of the requirements of this Agreement.

E. Reporting of Improper Access, Use or Disclosure or Breach

Business Associate shall report to Covered Entity's Office of Compliance any unauthorized use, access or disclosure of Unsecured PHI or any other security incident with respect to PHI no later than one (1) business day upon the discovery of a Breach or suspected Breach consistent with the regulations promulgated under HITECH by the United States Department of Health and Human Services, 45 CFR Part 164, Subpart D. Upon discovery of a Breach or suspected Breach, the Business Associate shall complete the following actions:

1. Provide Covered Entity's Office of Compliance with the following information to include but not limited to:
 - (a) Date the Breach or suspected Breach occurred;
 - (b) Date the Breach or suspected Breach was discovered;
 - (c) Number of staff, employees, subcontractors, agents or other third parties and the titles of each person allegedly involved;
 - (d) Number of potentially affected Patients/Clients; and
 - (e) Description of how the Breach or suspected Breach allegedly occurred.
2. Conduct and document a risk assessment by investigating without reasonable delay and in no case later than five (5) calendar days of discovery of the Breach or suspected Breach to determine the following:
 - (a) The nature and extent of the PHI involved, including the types of identifiers and likelihood of re-identification;
 - (b) The unauthorized person who used PHI or to whom it was made;
 - (c) Whether the PHI was actually acquired or viewed; and
 - (d) The extent to which the risk to PHI has been mitigated.
3. Provide a completed risk assessment and investigation documentation to Covered Entity's Office of Compliance within ten (10) calendar days of discovery of the Breach or suspected Breach with decision whether a Breach has occurred.
 - (a) If a Breach has not occurred, notification to Individual(s) is not required.
 - (b) If a Breach has occurred, notification to the Individual(s) is required and Business Associate must provide Covered Entity with affected Individual(s) name and contact information so that Covered Entity can provide notification.
4. Make available to Covered Entity and governing State and Federal agencies in a time and manner designated by Covered Entity or governing State and Federal agencies, any policies, procedures, internal practices and records relating to a Breach or suspected Breach for the purposes of audit or should the Covered Entity reserve the right to conduct its own investigation and analysis.

F. Access to Protected Health Information

Business Associate shall provide access to PHI in a Designated Record Set to Covered Entity or to an Individual, at the request or direction of Covered Entity and in the time and manner designated by the Covered Entity. If Business Associate maintains PHI in an electronic format, and an individual requests a copy of such information in electronic form, Business Associate shall provide such information in electronic form as required by 45 CFR Section 164.524.

G. Amendment of Protected Health Information

If Business Associate maintains a Designated Record Set on behalf of the Covered Entity, Business Associate shall make any amendment(s) to PHI in a Designated Record Set that the Covered Entity directs or agrees to, pursuant to 45 CFR Section 164.526, in the time and manner designated by the Covered Entity.

H. Access to Records

Business Associate shall make internal practices, books, and records, including policies and procedures and PHI, relating to the use, access and disclosure of PHI received from, or created or received by Business Associate on behalf of, Covered Entity available to the Secretary of the U.S. Department of Health and Human Services, in a time and manner designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy and Security Rules and patient confidentiality regulations. Anything provided to the Secretary shall also be provided to the Covered Entity upon Covered Entity's request.

I. Accounting for Disclosures

Business Associate, its agents and subcontractors shall document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI. Further, Business Associate shall provide to Covered Entity or an Individual, in the time and manner designated by the Covered Entity, information collected in accordance with provision (F.), above, to permit Covered Entity to respond to a request by the Individual for an accounting of disclosures of PHI in accordance with 45 CFR Section 164.528.

J. Destruction of Protected Health Information

Upon termination of this Agreement, Business Associate shall return all PHI required to be retained and return or destroy, with certification of destruction by an officer of Business Associate, all other PHI received from the Covered Entity, or created or received by the Business Associate or its subcontractors, employees or agents on behalf of the Covered Entity. In the event the Business Associate determines that returning the PHI is not feasible, the Business Associate shall provide the Covered Entity with written notification of the conditions that make return not feasible. Business Associate further agrees to extend any and all protections, limitations, and restrictions contained in this Agreement, to any PHI retained by Business Associate or its subcontractors, employees or agents after the termination of this Agreement, and to limit any further use, access or disclosures to the purposes that make the return or destruction of the PHI infeasible.

K. Breach Pattern or Practice by Covered Entity

Pursuant to 42 U.S.C. Section 17934(b), if the Business Associate knows of a pattern of activity or practice of the Covered Entity that constitutes a material Breach or violation of the Covered Entity's obligations under this Agreement, the Business Associate must take reasonable steps to cure the Breach or end the violation. If the steps are unsuccessful, the Business Associate must terminate the Agreement if feasible, or if termination is not feasible, report the problem to the Secretary of DHHS.

L. Costs Associated to Breach

Business Associate shall be responsible for reasonable costs associated with a Breach. Costs shall be based upon the required notification type as deemed appropriate and necessary by the Covered Entity and shall not be reimbursable under the Agreement at any time. Covered Entity shall determine the method to invoice the Business Associate for said costs. Costs shall incur at the current rates and may include, but are not limited to the following:

1. Postage;
2. Alternative means of notice;
3. Media notification; and
4. Credit monitoring services.

M. Direct Liability

Business Associate may be held directly liable under HIPAA for impermissible uses and disclosures of PHI; failure to provide breach notification to Covered Entity; failure to provide access to a copy of Electronic PHI to covered entity or individual; failure to disclose PHI to the Secretary of the U.S. Department of Health and Human Services when investigating Business Associate's compliance with HIPAA; failure to provide an accounting of disclosures and failure to enter into a business associate agreement with subcontractors.

N. Termination for Cause

Covered Entity may, upon written notice to Business Associate, immediately terminate this agreement, and any related agreements, if Covered Entity determines that Business Associate has breached a material term of this agreement. Covered Entity may, upon written notice to Business Associate, allow Business Associate five (5) business days to cure such breach.

III. Obligations of Covered Entity

- A. Covered Entity shall notify Business Associate of any limitation(s) in its notice of privacy practices of Covered Entity in accordance with 45 CFR Section 164.520, to the extent that such limitation may affect Business Associate's use, access or disclosure of PHI.
- B. Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by an individual to use, access or disclose PHI, to the extent that such changes may affect Business Associate's use, access, maintenance or disclosure of PHI.
- C. Covered Entity shall notify Business Associate of any restriction to the use, access or disclosure of PHI that Covered Entity has agreed to in accordance with 45 CFR Section 164.522, to the extent that such restriction may affect Business Associate's use, access, maintenance or disclosure of PHI.

IV. General Provisions

A. Remedies

Business Associate agrees that Covered Entity shall be entitled to seek immediate injunctive relief as well as to exercise all other rights and remedies which Covered Entity may have at law or in equity in the event of an unauthorized use, access or disclosure of PHI by Business Associate or any agent or subcontractor of Business Associate that received PHI from Business Associate.

B. Ownership

The PHI shall be and remain the property of the Covered Entity. Business Associate agrees that it acquires no title or rights to the PHI.

C. Regulatory References

A reference in this Agreement to a section in the Privacy and Security Rules and patient confidentiality regulations means the section as in effect or as amended.

D. Amendment

The Parties agree to take such action as is necessary to amend this Agreement from time to time as is necessary for Covered Entity to comply with the requirements of the Privacy and Security Rules and the Health Insurance Portability and Accountability Act and patient confidentiality regulations.

E. Interpretation

Any ambiguity in this Agreement shall be resolved to permit Covered Entity to comply with the Privacy and Security Rules and patient confidentiality regulations.

F. Indemnification

Business Associate agrees to indemnify, defend and hold harmless Covered Entity and its authorized officers, employees, agents and volunteers from any and all claims, actions, losses, damages, penalties, injuries, costs and expenses (including costs for reasonable attorney fees) that are caused by or result from the acts or omissions of Business Associate, its officers, employees, agents and subcontractors, with respect to the use, access, maintenance or disclosure of Covered Entity's PHI, including without limitation, any Breach of PHI or any expenses incurred by Covered Entity in providing required Breach notifications.

IN WITNESS WHEREOF, the Parties have executed this Agreement to be effective as of the Effective Date.

COVERED ENTITY

County of San Bernardino

BUSINESS ASSOCIATE

SAS Institute, Inc.

Signature

Signature

Dated

Dated

Robert A. Lovingood

Name

Name

Chairman, Board of Supervisors

Title

Title



County of San Bernardino Department of
Behavioral Health (SBC/DBH)

Data Management and Mining Solution Continuation and Expansion Project

Advanced Analytics Lab

Version X April 30, 2018

1 Introduction and Overview

The San Bernardino County Department of Behavioral Health (SBC DBH) is currently partnered with SAS on the design and development of a data warehouse, reporting, and analytics environment that provides the SBC DBH with an advanced set of capabilities for managing its operations. This Data Management and Data Mining solution is referred to as the SBC DBH “Outcomes Solution”. The ultimate vision for SBC DBH is to implement a system where providers and clients are able to make informed treatment decisions. Having an array of secure data, reports, and tools accessible allows a clinician to make well-informed decisions when considering and recommending treatment options. The specific needs this solution addresses are as follows:

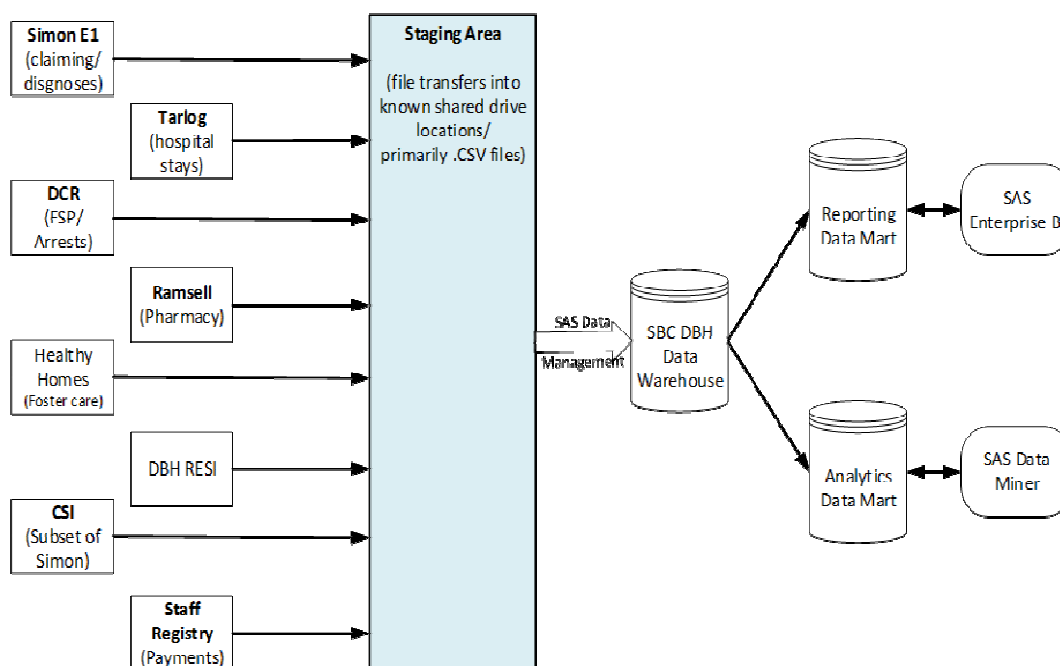
- Implementation of a data warehouse model and a data mining model
- The means to create and deliver desired standardized reporting
- Highly graphic interactive dashboards
- The ability to evaluate client data for trends

1.1 Current Capabilities of the Outcomes Solutions

The current solution provides the following capabilities:

- Extracts and loads identified core data into a data warehouse and includes processes to load tables with new, updated, and identified delete records
- Profiles and monitors data to ensure the quality and integrity of information
- Provides a set of analytical tools to convert large amounts of data into accurate, useable analytic models
- Uses predictive and descriptive modeling techniques and scoring methods for data exploration and analysis
- Provides a common repository of models that enables sharing across the enterprise
- Provides reporting and dashboard that empowers end users to create new content
- Establishes reporting that is repeatable
- Surfaces this information in various formats such as a web portal, iPads, Microsoft Office, and PDF

Figure 1 below presents an architectural overview of the major components of the Outcomes Solution as it exists today.



1.2 Continuation and expansion of the Outcomes Solution

SBC DBH is interested in expanding the current Outcomes Solution to include data from existing and new data sources. To accomplish this this expansion, the county wishes to utilize the established project pool with SAS to complete the remaining active elements of the expansion project per the change request approved February 28, 2018 and March 16, 2018 to upgrade the Outcome Solution environment and provide for its continuous operation with data from the replacement Behavioral Health Information System (BHMIS) that becomes operational January 2, 2019.

The scope of this project is to include re-mapping of the existing data elements from the County's underlying systems with those from new systems as well as the incorporation of additional Drug and Alcohol data elements where required to ensure the proper operation of the Outcomes Solution, and replacement of the data currently being received regarding hospital stays, the inclusion of treatment authorizations and services provided through the DBH Fee For Service Network. Additional programming support will be needed in preparation for an Electronic Health Record and for the inclusion of outcome data from Objective Arts in subsequent change requests.

Specific activities that will be performed will be defined by an individual Scope of Work for each project and will include, but are not limited to:

- Technical assistance in the re-installation and migration of the Outcomes Solution from outdated and out of warranty server installations to streamlined, state of the art virtualized server environments.

- Expansion of the data models for the DBH data warehouse and analytics data mart as needed
- Re-development of the processes to transfer data from underlying systems to the staging area as applicable.
- Re-development of the ETL/data integration routines to transfer data from the staging area to the DBH data warehouse
- Re-development of the ETL/data integration routines to transfer data from the DBH data warehouse to the analytics data mart
- Assistance and consultation in the assessment and preparation work to be able to include new health data fields from the BHMIS and outcomes data from Objective Arts

Figure 2 below presents the architecture of the expanded Outcomes Solution including the new data sources (Netsmart) and the incorporation of Visual Analytics into the architecture.

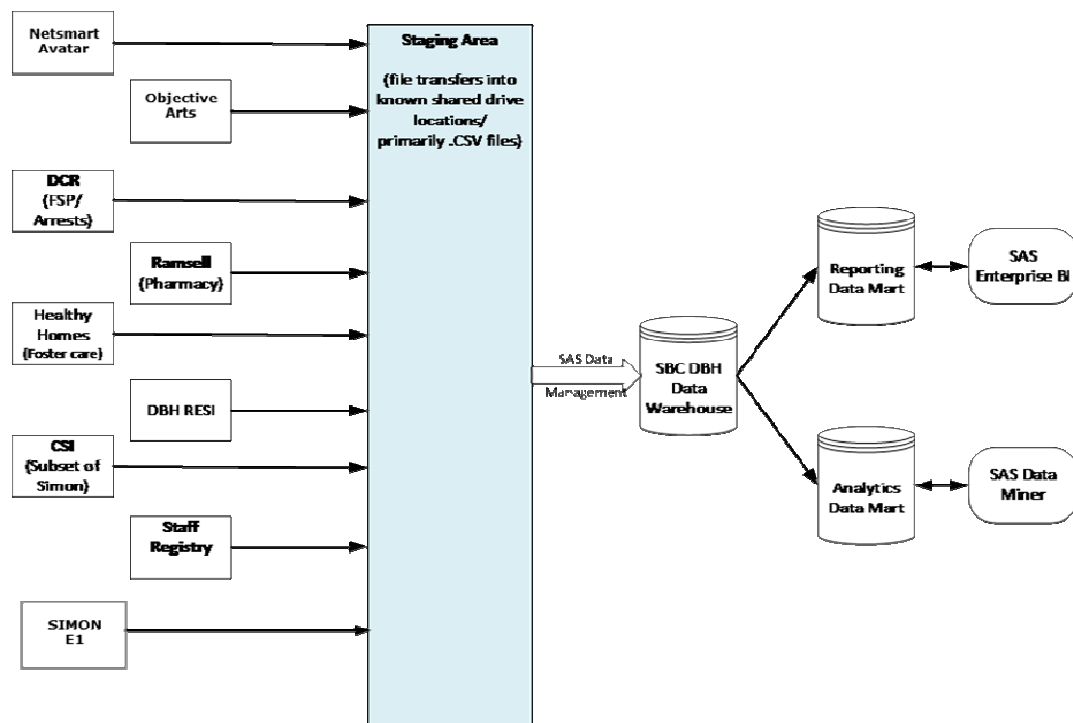


Figure 2: Outcomes Solution Expansion Architecture

2 Continuation Project Approach and Timeline

SBC DBH and SAS share the goal that the continuation must be on-line and operational by January 2, 2019. In order to accomplish that goal, the following high-level project approach and timeline has been developed:

- Server migration and solution upgrade to current software versions
- Phase 0: Analysis and Architecture Definition (approximately 2 months)
- Phase 1: Design (approximately 4 months, concurrent with phase 0)
- Phase 2: Build (approximately 4 months)
- Phase 3: Implementation (approximately 2 months)

Within the first two weeks of project activities, the SAS project manager and the SB DBH project manager will jointly develop a detailed project plan for the Analysis and Architecture Definition phase activities. Upon completion of this first phase, a detailed plan for the remainder of the project will be developed.

2.1 Analysis and Architecture Definition Continuation Phase (Phase 0)

The purpose of the analysis and architecture phase is to define the architecture of the Outcomes Solution system and to develop a detailed plan to implement the new BHMIS into that system. SAS will interact closely with SB DBH and their vendor Netsmart during this phase to develop the following three deliverables:

Functional Specification/Scoping Document. A definition of the functionality of the Outcomes Solution Continuation from the perspective of the users of the system. This includes the following items:

- Identification of new data fields for incorporation into the warehouse
- Summary of all interview sessions conducted between SAS and SBC DBH

Architecture Document. A specification of the architectural configuration of the Outcomes Solution Continuation. This includes the following items:

- Definitions of the physical architecture of the solution including identification of the various environments (e.g., development, test, production) and the configuration of the servers and storage components of those environments.
- Definitions of the software configurations (SAS and other vendor software) required for each environment.

Detailed Project Plan. A mutually agreed to detailed implementation plan for the remainder of the project including a project schedule and detailed definitions of SAS and County responsibilities to implement the Outcomes Solution Continuation.

Completion. The Analysis and Architecture Definition Phase will be complete upon the delivery of the Functional Specification/Scoping Document, the Architecture Document and the Detailed Project Plan.

2.2 Design Continuation Phase (Phase 1)

During the Design Phase, SAS will perform the following activities:

- Data Repository Design
- ETL Design
 - o Source to Target Mappings
 - o Initial Load
 - o Incremental Loads
- Analytics Data Assessment & Model integrity check

The analysis performed as part of these analyses will be documented in the Detailed Design Specification document.

Completion. The Design phase will be complete upon the delivery of the Detailed Design Specification Document.

2.3 Build Phase (Phase 2)

During the Design Phase, SAS will perform the following activities:

- Data Repository Build
 - o Build physical data model
 - o Develop and test ETL
 - o Configure Metadata
- Business Intelligence Layer Development and Testing
 - o SAS Management Console Configuration
 - o Test existing San Bernardino reports and dashboards
- Analytics Layer Development and Testing
 - o Re-build existing San Bernardino analytical models as required
- User Acceptance Testing

Completion. The Build Phase will be complete upon Successful completion of user acceptance testing.

2.4 Implementation Phase (Phase 3)

During the Acceptance Phase, SAS will perform the following activities:

- Prepare production environment and migrate deployment to production
 - o Data repository deployment
 - o Final data conversion
 - o Application and analytic model deployment
- System testing/verification and security confirmation
- User acceptance testing/validation of production environment
- Final documentation
- End-use training workshops

3 Expansion Project Approach and Timeline (Phase 4)

3.1 Architecture and Design for Expansion Phase

The purpose of the architecture and design phase is to define the architecture of the Outcomes Solution system and to develop a detailed plan to implement the new clinical data from the BHMIS and outcomes data from Objective Arts into that system. SAS will interact closely with SB DBH and their vendors Netsmart and Objective Arts during this phase to develop the following three deliverables:

Functional Specification/Scoping Document. A definition of the functionality of the Outcomes Solution Expansion from the perspective of the users of the system. This includes the following items:

- Identification of new data fields for incorporation into the warehouse
- Identification and high-level specification of new reports and dashboards
- Summary of all interview sessions conducted between SAS and SBC DBH

Architecture Document. A specification of the architectural configuration of the Outcomes Solution Continuation. This includes the following items:

- Definitions of the physical architecture of the solution including identification of the various environments (e.g., development, test, production) and the configuration of the servers and storage components of those environments.
- Definitions of the software configurations (SAS and other vendor software) required for each environment.

Detailed Project Plan. A mutually agreed to detailed implementation plan for the remainder of the project including a project schedule and detailed definitions of SAS and County responsibilities to implement the Outcomes Solution Continuation. Completion. The Analysis and Architecture Definition Phase will be complete upon the delivery of the Functional Specification/Scoping Document, the Architecture Document and the Detailed Project Plan.

3.2 Design for Expansion Phase

During the Design Phase, SAS will perform the following activities:

- Data Repository Design
- ETL Design
 - o Source to Target Mappings
 - o Initial Load
 - o Incremental Loads
- Analytics Data Assessment & Model integrity check

The analysis performed as part of these analyses will be documented in the Detailed Design Specification document.

Completion. The Design phase will be complete upon the delivery of the Detailed Design Specification.

4 Roles and Responsibilities

4.1 San Bernardino DBH Responsibilities

1. SBC DBH will provide SAS with a data dictionary and entity-relationship diagram of the new Netsmart BHMIS in PDF format.
2. SBC DBH will provide SAS with the latest version of documentation on the Outcomes Solution as it currently exists in production.
3. SBC DBH will provide SAS with access to technical and business staff for the purpose of answering questions regarding current system configuration and usage as well as new requirements for the Outcomes continuation and expansion project.
4. SBC DBH will provide end user staff for acceptance testing of the Outcomes Solution.
5. SBC DBH will be responsible for providing all data sets.

4.2 SAS Responsibilities

In addition to the items and services noted in Section 2 above, SAS will also provide:

1. Customer service representatives will be available to DBH 24 hours a day, 7 days a week.
2. Project status reports will be distributed to the SB DBH Project Manager on a weekly basis.
3. Project status meetings will be held on a weekly basis
4. Any necessary changes to the project scope/outline will be presented to DBH in a timely manner; no material changes will be made without an agreed to plan and a change requests signed by DBH and SAS.
5. SAS will provide the following staff to coordinate with DBH as needed:
 - Project Manager
 - Technical Lead/Architect
 - Data Integration Developers
 - Analytical Consultants
 - Business Intelligence Consultants

5 Pricing and Assumptions

SAS will provide the deliverables identified in this document for a fixed price not to exceed \$755,000 inclusive. As described in Section 2 above, the detailed scope and requirements of the continuation system will be finalized at the conclusion of the Analysis and Architecture Definition Phase and will be documented in the deliverables produced during that phase. Upon acceptance by SB DBH, these deliverables will constitute the complete baselined specification for this Outcomes Continuation project.

5.1 Payment Schedule

Upon execution of this agreement, SAS will invoice the county for the amount not to exceed \$755,000. Payments will be due based on the payment schedule below.

	Milestone	Payment
June 1, 2018	Completion of Project Phase 0	\$52,500
July 1, 2018	Completion of Server Migration Assistance	\$130,000
July 1, 2018	Completion of Continuation Project Phase 1	\$61,250
October 1, 2018	Completion of Continuation Project Build Phase 2	\$350,000
December 1, 2018	Completion and Final Continuation Project Phase 3 Signoff	\$132,500
June 1, 2019	Expansion Project Phase 4 Design	\$28,750
		\$755,000