# STATE OF ARKANSAS
## PROFESSIONAL CONSULTANT SERVICES CONTRACT

| CONTRACT # | 4600-120142 | FEDERAL I.D. # | 1-716046242-A1 |
|---|---|---|---|
| VENDOR # | 9901500001 | MINORITY VENDOR | YES ☐ NO ■ |

1. **PROCUREMENT:**

Check ONE appropriate box below for the method of procurement for this contract:

☐ ABA Criteria ■ Request for Proposal ☐ Competitive Bid ☐ Request for Qualifications

☐ Intergovernmental ☐ Emergency

☐ Sole Source by Justification *(Justification must be attached)* ☐ Sole Source by Intent to Award

☐ Sole Source by Law - Act # _____ or Statute #: _____

2. **TERM DATES:**

The term of this agreement shall begin on 05/19/2014 (mm/dd/yyyy) and shall end on 6/30/2015 (mm/dd/yyyy).

3. **CONTRACTING PARTIES:**
State of Arkansas is hereinafter referred to as the agency and contractor is herein after referred to as the Vendor.

| AGENCY NUMBER & NAME | 0425 | Arkansas Insurance Department | ☐ Service Bureau |
|---|---|---|---|
| VENDOR NAME | UAMS – Arkansas Center for Health Improvement | | |
| VENDOR ADDRESS | 4301 West Markham Street, Little Rock, AR 72205 | | |
| TRACKING # 1 | | TRACKING # 2 | |

4A. **PROJECTED TOTAL CONTRACT COST:**

| Projected total cost of entire project if all available extensions of this contract are completed (up to the date anticipated and stated in Section 13) | $ 1,700,000.00 |
|---|---|

4B. **CALCULATIONS OF COMPENSATION:**
For work to be accomplished under this agreement, the Vendor agrees to provide the personnel at the rates scheduled for each level of consulting personnel as listed herein. Calculations of compensation and reimbursable expenses shall only be listed in this section. If additional space is required, a continuation sheet may be used as an attachment.

| LEVEL OF PERSONNEL | NUMBER | COMPENSATION RATE | TOTAL FOR LEVEL |
|---|---|---|---|
| Management Level | 5 | | $310,642.00 |
| Engineering | 4 | See Attachment D | $319,854.00 |
| Technician | 9 | | $548,208.00 |
| Support | 8 | | $249,787.00 |

Total compensation exclusive of expense reimbursement $ $1,428,491.00

| REIMBURSABLE EXPENSES ITEM (Specify) | ESTIMATED RATE OF REIMB. | TOTAL |
|---|---|---|
| Expenses | | $271,509.00 |
| | | |

Total reimbursable expenses $ $271,509.00

Total compensation inclusive of expense reimbursement $ $1,700,000.00

5. **SOURCE OF FUNDS:**

Complete appropriate box(es) below to total 100% of the funding in this contract. You may use an attachment if needed.

| Fund Source | Identify Source of Funds* | Fund | Fund Center | Amount of Funding | % of Total Contract Cost |
|---|---|---|---|---|---|
| Federal Funds | HHS/CMS CCIIO | | 327801 | $ 1,700,000.00 | 100% |
| State Funds** | | | | $ | |
| Cash Funds | | | | $ | |
| Trust Funds | | | | $ | |
| Other Funds | | | | $ | |
| | | | TOTALS | $ 1,700,000.00 | 100% |

* MUST BE SPECIFIC (i.e. fees, tuition, agricultural sales, bond proceeds, donations, etc.)

** "State Funds" is defined as and deemed State General Revenue Dollars. If other state funds are being used such as tobacco funds, general improvement funds, etc., these should be noted. Special revenue funds from taxes or fees generated for the agencies should be shown as "Other" and the actual source of the funds should be clarified in the "Identify Source of Funds."

6. **RENDERING OF COMPENSATION:**

The method(s) of rendering compensation and/or evaluation of satisfactory achievement toward attainment of the agreement listed herein is as follows, or in attachment no. E to this agreement.

See Attachment # E

7. **OBJECTIVES AND SCOPE:**

State description of services, objectives, and scope to be provided. (DO NOT USE "SEE ATTACHED")

ACHI will build an all-payer claims database (APCD) to support transparency required for health system transformation. The APCD is a large scale database that systematically collects health care claims data from a variety of payer sources, from which analytical data marts, data sets, and reporting can be generated to meet Arkansas Insurance Department (AID) Health Insurance Rate Review Division (HIRRD) rate review and health information transparency requirements. The APCD solution includes an independent data warehouse and custom data marts comprised of HIRRD stakeholder or governance board approved, use-specific, limited datasets updated twice annually. Depending on data availability, the APCD will hold claims from different carriers integrated with the State Health Alliance for Records Exchange (SHARE) Master Patient and Provider IDs subject to stakeholder input, best practices and viability. The solution includes a public-facing website to facilitate external data submission.

8. **PERFORMANCE STANDARDS:**

List Performance standards for the term of the contract. (If necessary, use attachments)

| | |
|---|---|
| 1. | Adherence to project scope, assumptions, and milestones as referenced in Attachment A and Attachment G. |
| 2. | Adherence to project scope deliverables as documented in the Project Plan. The Project Plan will be delivered to HIRRD within twenty one calendar days following official contract approval and in accordance with Attachments A, G & H, based on business functional and technical requirements. |
| 3. | Incorporation and execution of changes to defined scope, functionality, deliverables and/or milestones using Change Management Process as defined in Attachment B Miscellaneous Provisions (Paragraph #J). Any items updated in the Change Management Process will be reflected in the Project Plan for ongoing monitoring. |
| 4. | Track and communicate in a timely and appropriate manner the APCD solution development through each phase – Envisioning, Design, Development and Deployment. |
| 5. | Develop processes and key performance indicators to ensure the timeliness, accuracy, and reliability of the data. This includes the entire life cycle of the data from incoming carrier transmission, receipt, normalization, application of episode grouping and other methodologies, database production, reporting, and distribution of files for external research purposes. |

| | |
|---|---|
| 6. | The ability of ACHI to, collaboratively with AID, guides the process from a voluntary to mandatory data submission model. |
| 7. | Benchmarking of ACHI's performance by means of surveys or interviews conducted by HIRRD or its designee to provide feedback from project stakeholders. |
| 8. | The ability of ACHI to develop a plan that would provide for a smooth transition to another vendor if the contract is significantly breached. This plan should minimally account for the transmission of all data, code, and documentation so that another vendor could reliably replicate the work and migrate the historical data contained within ACHI's computing environments. |

9. **ATTACHMENTS:**

List ALL attachments to this contract by attachment number:

Attachment A: Projected Timelines
Attachment B: Miscellaneous Provisions
Attachment C: Schedule of APCD Oversight
Attachment D: Staffing
Attachment E: Payment Schedule
Attachment F: Contractual Reporting
Attachment G: Assumptions and Milestones
Attachment H: Core ACHI RFP Response

10. **CERTIFICATION OF VENDOR**

A. "I, Joseph W. Thompson, MD (Vendor) Director (Title) certify under penalty of perjury that, to the best of my knowledge and belief, no regular full-time or part-time employee of any State agency of the State of Arkansas will receive any personal, direct or indirect monetary benefits which would be in violation of the law as a result of the execution of this contract." Where the Vendor is a widely-held public corporation, the term 'direct or indirect monetary benefits' "shall not apply to any regular corporate dividends paid to a stockholder of said corporation who is also a State employee and who owns less than ten percent (10%) of the total outstanding stock of the contracting corporation."

B. List any other contracts or subcontracts you have with any other state government entities. (Not applicable to contracts between Arkansas state agencies) (If no contracts or subcontracts, please put "N/A" or "None")

Arkansas Insurance Department; Arkansas Department of Human Services – Medicaid; Arkansas Department of Health; Arkansas Department of Finance and Administration – Employee Benefits Division

C. Are you currently engaged in any legal controversies with any state agencies or represent any clients engaged in any controversy with any Arkansas state agency? (If no controversies, please put "N/A" or "None")

None.

D. The Vendor agrees to list below, or on an attachment hereto, names, addresses, and relationship of those persons who will be supplying services to the state agency at the time of the execution of the contract. If the names are not known at the time of the execution of the contract, the Vendor shall submit the names along with the other information as they become known.
Such persons shall, for all purposes, be employees or independent contractors operating under the control of the Vendor (sub-contractors), and nothing herein shall be construed to create an employment relationship between the agencies and the persons listed below.

| NAME | RELATIONSHIP |
|---|---|
| See Attachment D | ACHI Employee |

E. The agency shall exercise no managerial responsibilities over the Vendor or his employees. In carrying out this contract, it is expressly agreed that there is no employment relationship between the contracting parties.

11. DISCLOSURE REQUIRED BY EXECUTIVE ORDER 98-04:

Any contract or amendment to a contract executed by an agency which exceeds $25,000 shall require the Vendor to disclose information as required under the terms of Executive Order 98-04 and the Regulations pursuant thereto. The Vendor shall also require the subcontractor to disclose the same information. The Contract and Grant Disclosure and Certification Form (Form PCS-D attachment II-10.3) shall be used for this purpose.

Contracts with another government entity such as a state agency, public education institution, federal government entity, or body of a local government are exempt from disclosure requirements.

The failure of any person or entity to disclose as required under any term of Executive Order 98-04, or the violation of any rule, regulation or policy promulgated by the Department of Finance and Administration pursuant to this Order, shall be considered a material breach of the terms of the contract, lease, purchase agreement, or grant and shall subject the party failing to disclose, or in violation, to all legal remedies available to the Agency under the provisions of existing law.

12. NON-APPROPRIATION CLAUSE:

"In the event the State of Arkansas fails to appropriate funds or make monies available for any biennial period covered by the term of this contract for the services to be provided by the Vendor, this contract shall be terminated on the last day of the last biennial period for which funds were appropriated or monies made available for such purposes.

This provision shall not be construed to abridge any other right of termination the agency may have."

13. TERMS:

The term of this agreement begins on the date in SECTION 2 and will end on the date in SECTION 2, and/or as agreed to separately in writing by both parties.

This contract may be extended until 6/30/2016 , in accordance with the terms stated in the Procurement, by written mutual agreement of both parties and subject to: approval of the Arkansas Department of Finance and Administration/Director of Office of State Procurement, appropriation of necessary funding, and review by any necessary state or federal authority.

Amendments to contracts will require review by Legislative Council or Joint Budget Committee prior to approval by the Department of Finance and Administration/Director of Office of State Procurement if the original contract was reviewed by Legislative Council or Joint Budget Committee and the amendment increases the dollar amount or involves major changes in the objectives and scope of the contract.

Amendments (to contracts that originally did not require review by Legislative Council or Joint Budget Committee) which cause the total compensation to exceed the sum of $25,000, shall require review by the Legislative Council or Joint Budget Committee, prior to the approval of the Department of Finance and Administration/Director of Office of State Procurement and before the execution date of the amendment.

This contract may be terminated by either party upon 30 day written notice, unless otherwise agreed by both parties.

14. **AUTHORITY:**

A. This contract shall be governed by the Laws of the State of Arkansas as interpreted by the Attorney General of the State of Arkansas and shall be in accordance with the intent of Arkansas Code Annotated §19-11-1001 et seq.

B. Any legislation that may be enacted subsequent to the date of this agreement, which may cause all or any part of the agreement to be in conflict with the laws of the State of Arkansas, will be given proper consideration if and when this contract is renewed or extended; the contract will be altered to comply with the then applicable laws.

15. **AGENCY CONTACTS FOR QUESTION(S) REGARDING THIS CONTRACT:**

Contact #1 – Agency Representative submitting/tracking this contract

| | |
|---|---|
| Lowell Nicholas | Deputy Commissioner |
| (Name) | (Title) |
| 501-683-3638 | Lowell.nicholas@arkansas.gov |
| (Telephone #) | (Email) |

Contact #2 – Agency Representative with knowledge of this project (for general questions and responses)

| | |
|---|---|
| Lesia Carter | Public Information Officer |
| (Name) | (Title) |
| 501-683-3146 | Lesia.Carter@arkansas.gov |
| (Telephone #) | (Email) |

Contact #3 – Agency Representative Director or Critical Contact (for time sensitive questions and responses)

| | |
|---|---|
| Jay Bradford | Commissioner |
| (Name) | (Title) |
| 501-371-2623 | Jay.bradford@arkansas.gov |
| (Telephone #) | (Email) |

16. **AGENCY SIGNATURE CERTIFIES NO OBLIGATIONS WILL BE INCURRED BY A STATE AGENCY UNLESS SUFFICIENT FUNDS ARE AVAILABLE TO PAY THE OBLIGATIONS WHEN THEY BECOME DUE.**

17. **SIGNATURES:** The Board of Trustees of the University of Arkansas acting for and on behalf of the University of Arkansas for Medical Sciences

| | |
|---|---|
| VENDOR — DATE 4/24/14 | AGENCY DIRECTOR — DATE 4/24/14 |
| Ann Kemp, VP For Administration | Jay Bradford, State Insurance Commissioner |
| TITLE | TITLE |
| 4301 W. Markham, Slot 797<br>Little Rock, AR 72205 | 1200 West 3rd Street<br>Little Rock, AR 72201 |
| ADDRESS | ADDRESS |

APPROVED:

DEPARTMENT OF FINANCE AND ADMINISTRATION — DATE

# ATTACHMENT A

# PROJECTED TIMELINES

| # | Key Activities | Start | Finish |
|---|---|---|---|
| 1 | **Notice of Award** | 3/10/14 | 3/10/14 |
| 2 | Non-disclosure Agreements Execution | 3/11/14 | 3/28/14 |
| 3 | Contract Effective Date | 5/19/14 | 5/19/14 |
| 4 | **ACHI/HIRRD Team Project Approach Development** | 5/19/14 | 5/20/14 |
| 5 | **Sustainability Planning** | 5/19/14 | 8/25/14 |
| 6 | **Stakeholder Engagement** | 5/19/14 | 10/01/14 |
| 7 | Establish APCD Stakeholder Groups | 5/19/14 | 6/29/14 |
| 8 | Establish Mission, Vision and Goals | 5/19/14 | 5/30/14 |
| 9 | Develop Communication Strategy | 5/19/14 | 5/20/14 |
| 10 | **Project and Requirement Planning** | 5/22/14 | 6/10/14 |
| 11 | Draft project Plan Development | 5/22/14 | 5/28/14 |
| 12 | Submit Initial Project Plan | 5/30/14 | 5/30/14 |
| 13 | Mandatory Data Submission Planning | 5/19/14 | 8/21/14 |
| 14 | Finalize Project Schedule | 6/14/14 | 6/14/14 |
| 15 | Requirements and Plan Approval | 6/19/14 | 6/20/14 |
| 16 | Final Implementation Project Plan Submission | 6/20/14 | 6/20/14 |
| 17 | Execute Data Use Agreements with Medicaid & Commercial Payers, Prepare and submit Medicare Data Request | 6/20/14 | 8/20/14 |
| 18 | **Design Phase** | 6/30/14 | 8/23/14 |
| 19 | Data Submission Guidelines (DSG) development | 6/13/14 | 7/16/14 |
| 20 | Analytics and Reporting Design | 6/30/14 | 7/15/14 |
| 21 | Infrastructure Design | 7/11/14 | 7/13/14 |
| 22 | Website and Web Interface Design | 6/30/14 | 7/30/14 |
| 23 | Security Design | 7/12/14 | 7/20/14 |
| 24 | Source Data Acquisition | 7/20/14 | 7/28/14 |
| 25 | Extract, Transform, Load Process Design | 7/26/14 | 8/12/14 |
| 26 | Delivery of Business, Functional and Technical Requirements Documents | 5/30/14 | 6/20/14 |
| 27 | APCD Solution Design Approval | 8/21/14 | 8/23/14 |
| 28 | **Development Phase** | 7/13/14 | 1/9/15 |
| 29 | Infrastructure and DLZ Configuration | 7/13/14 | 8/23/14 |
| 30 | ETL Development | 8/23/14 | 8/30/14 |
| 31 | APCD Data Warehouse Build | 8/29/14 | 9/12/14 |
| 32 | Website and Web Interface Build | 8/11/14 | 10/12/14 |

| | | | |
|---|---|---|---|
| 33 | APCD Initial Release Approvals | 9/12/14 | 9/15/14 |
| 34 | Project 'Kick-off' with Carriers Completed | 9/15/14 | 10/15/14 |
| 35 | APCD Data Warehouse Operational (initial | 9/17/14 | 9/17/14 |
| 36 | Test Data Acquisition Finalization | 9/18/14 | 10/12/14 |
| 37 | Receive Test Data Submitted by Carriers | 10/12/14 | 10/12/14 |
| 38 | APCD Build Process Testing I | 10/15/14 | 1/28/15 |
| 39 | Receive Carrier Historical Data | 12/28/14 | 2/28/15 |
| 40 | APCD Build Process Testing II | 1/1/15 | 1/22/14 |
| 41 | Receive Carrier Year to Date Files | 1/30/15 | 1/30/15 |
| 42 | Monthly File Submission Begins | 1/30/15 | 1/30/15 |
| 43 | **Deployment Phase** | 1/31/15 | 11/14/15 |
| 44 | Public Website Deployment | 10/15/14 | 12/15/14 |
| 45 | APCD Final Build | 1/31/15 | 2/16/15 |
| 46 | Analytics and Reporting Version 1.0 | 2/19/15 | 2/28/15 |
| 47 | Publish Version 1.0 Reports | 2/28/15 | 2/28/15 |
| 48 | Analytics and Reporting Version 1.5 | 3/1/15 | 5/1/15 |
| 49 | Publish Version 1.5 Reports | 5/1/15 | 5/1/15 |
| 50 | Analytics and Reporting Version 2.0 | 5/18/15 | 7/15/15 |
| 51 | Publish Version 2.0 Reports | 7/15/15 | 7/15/15 |
| 52 | APCD Update | 7/16/15 | 9/1/15 |
| 53 | Analytics and Reporting Version 2.5 | 9/2/15 | 11/16/15 |
| 54 | Publish Version 2.5 Reports | 11/16/15 | 11/16/15 |

## Attachment B

## Miscellaneous Provisions

A. **Amendment**. The parties mutually agree to take such action to amend this Agreement from time to time as is necessary for the parties to comply with the requirement of federal or state law or regulation, bulletin, or directive. Any amendment shall be mutually agreed in writing and executed by both parties.

B. **Legislative Inquiries**. HIRRD/AID shall be the responding entity for legislative inquiries or requests with respect to this Agreement and the requirements herein, including but not limited to any proposed or existing federal or state statute, regulation, bulletin, or directive regarding mandatory data submission.

C. **Data Privacy and Security**. Privacy and security protocol and confidentiality requirements established by ACHI or required by data use agreements with data contributors shall be presented to HIRRD/AID for consideration and a written, mutually agreed upon document shall be executed. Notwithstanding the foregoing, the parties may make disclosures of information in compliance with federal or state law or regulation.

D. **Travel Expenses**. ACHI will bear no financial responsibility for travel expenses or per diems for stakeholders, members of advisory committees or the APCD governance board during the term of this Agreement.

E. **Data Rights**. ACHI shall not obtain any right, title, or interest in any of the data furnished under this Agreement. ACHI shall name an individual to be designated as custodian of the data file(s) provided under this Agreement, and this person shall oversee and comply with the observance of all conditions of use and the establishment and maintenance of security arrangements to prevent unauthorized use. ACHI shall provide written notification to HIRRD/AID of the contact information for this person upon fifteen (15) days of designation and within fifteen (15) days of any change of custodianship. Upon the termination of this Agreement, ACHI shall either destroy or return to HIRRD/AID all tapes, diskettes, or other media upon which the HIRRD/AID's data is stored, and all copies thereof, if any. If the data is destroyed rather than returned, ACHI shall certify in a writing to be delivered to HIRRD/AID within five (5) business days following such destruction that such destruction has been completed. The disposition of data provided by insurance carriers or other entities to ACHI to fulfill ACHI's obligations under this Agreement will be governed by and subject to data use agreements between ACHI and the entities providing the data.

F. **No Third Party Beneficiaries**. This Agreement is solely for the benefit of the parties hereto. No provision of this Agreement shall be deemed to create any rights in, be deemed to have been executed for the benefit of, nor confer upon any other person or entity not a party hereto any remedy, claim, liability, reimbursement, cause of action or other rights.

G. **Waiver**. No provision of this Agreement may be waived except by an agreement in writing signed by both Parties. A waiver of any term or provision shall not be construed as a waiver of any other term or provision.

H. **Conflict.** In the event of any conflict between the terms and conditions stated within this Agreement and those contained within any other agreement or understanding between the parties, written, oral or implied, the terms of this Agreement shall govern.

I. **Governing Law**. This Agreement shall be governed by and construed under the laws of the State of Arkansas. Any ambiguity in this Agreement shall be resolved to permit the Parties to comply with federal or Arkansas law or regulation, including without limitation the Privacy Rule of the Health Insurance Portability and Accountability Act of 1996, as amended.

J. **Change Management Process**. Both parties recognize that unexpected events may occur and those events may have the outcome of changing scope and milestone dates. If either party recognizes a Material Change that party shall notify the other party of that Material Change in writing within five (5) business days. A Material Change is defined as a change to the project scope that impacts the project timeline. The parties shall have seven (7) days to mutually acknowledge the Material Change and agree in writing to any necessary revisions to the scope and milestone dates. Given that the overall project has a fixed budget, Material Changes shall have no impact on budget during the course of the contract term; provided, however, that ACHI reserves the right to reject requests for Material Changes that add solution features or additional deliverables, which the Parties agree will impact the budget and milestones outlined in the Agreement.

K. **Assignment.** The Agreement shall be binding upon and shall inure to the benefit of the parties hereto, their respective successors and assigns, provided that neither party may assign any of its rights or delegate or subcontract any of its duties hereunder without the prior written consent of the other party which consent shall not be unreasonably withheld.

L. **Waiver of Breach**. No waiver by either party of a breach of any provision of this Agreement by the other party shall operate as a waiver of any subsequent breach.

M. **Severability**. If any one or more provisions of this Agreement are held invalid by any court of competent jurisdiction or are voided or nullified for any reason, such provision shall be reformed so as to be effective as nearly as intended by the Parties, and together with the other remaining provisions and paragraphs shall continue in full force and effect and shall be binding upon the Parties so as to carry on the intents and purposes of the Parties as nearly as possible.

N. **Compliance with Law**. Each party to the Agreement shall, with respect to performance of its obligation under this Agreement, comply with all applicable laws and regulations. Each party shall be responsible for its own conduct and not that of the other party.

O. In the event that this agreement is not approved by the projected legislative review date, timelines detailed in Attachment A will be adjusted accordingly pursuant to the Change Management Process.

# Attachment C

## Schedule of APCD Oversight and Stakeholder Engagement Meetings

| Meeting Type | Purpose | Participants | Frequency |
|---|---|---|---|
| **Weekly Meetings** | APCD status, review of open issues, change orders, and decision "clearinghouse" meeting. | APCD Core Team (ACHI APCD Development Team, ACHI APCD Leadership Team, HIRRD APCD Team) | Weekly for the duration of the contract, beginning the month of the contract after Project Plan is accepted. |
| **Stakeholder Workgroup Meetings** | APCD status, carrier participation, data submission guide, privacy/security protocols, mandatory submission and sustainability development status during Envisioning, Design and Development phases. | APCD Core Team and APCD Stakeholder Workgroup Team | Monthly, to prepare content for Large Group meetings, beginning the month of the contract after Project Plan is accepted. |
| **Large Group Stakeholder Meetings** | APCD status, education about benefits/risks. | APCD Core Team and APCD Stakeholders | Monthly, beginning the month of the contract after Project Plan is accepted. |
| **Carrier Meetings** | APCD status, data submission status, data submission quality. | APCD Core Team and Participating Carriers | Monthly or more frequently, as requested by carriers, beginning the month of the contract after Project Plan is accepted. |
| **Governance Meetings** | Project plan oversight, Mission, vision and bylaws maintenance, Advisory Group management, Advisory Group recommendations "clearinghouse", and sustainability plan development. | APCD Core Team and APCD Governance Board | Quarterly, starting within 30 days of Governance Board appointment. |

# Attachment D

## STAFFING

| JOB CATEGORY AND TITLE | | HOURLY LABOR RATE (including Fringe Benefits by Calendar Year) | | | Anticipated Project Hours |
|---|---|---|---|---|---|
| PERSONNEL | CATEGORY | 2014 | 2015 | 2016 | |
| | | | | | |
| June Liu, Programmer | E | $43 | $44 | $45 | 1560 |
| Dionne Ware, Data Analyst | E | $32 | $33 | $33 | 2340 |
| James Cotton, IT Support | E | $35 | $36 | $37 | 1560 |
| NEW - System Architect/Developer | E | $39 | $40 | $41 | 2808 |
| Joe Thompson, ACHI Director/Surgeon General | M | $152 | $155 | $158 | 250 |
| Mary Leath / Chief Operational Officer | M | $65 | $66 | $68 | 187 |
| Kenley Money, HDI Director | M | $58 | $59 | $60 | 2340 |
| Craig Wilson, Director Healthcare Access | M | $47 | $47 | $48 | 1248 |
| Heather Rouse, Director Health Policy Research | M | $50 | $51 | $52 | 1092 |
| Suzanne McCarthy, Govt/External Relations | S | $58 | $60 | $61 | 187 |
| NEW - Project Coordinator | S | $27 | $28 | $28 | 2808 |
| NEW - Project Manager | S | $39 | $40 | $41 | 2808 |
| Debra Pate, Communications | S | $39 | $40 | $40 | 312 |
| Andrea Roy, Finance Manager | S | $42 | $43 | $44 | 156 |
| Molly Miller, Admin Analyst | S | $18 | $18 | $18 | 624 |
| Camille Cooper, Admin Analyst | S | $20 | $21 | $21 | 312 |
| Lori Smedley, Exec Asst | S | $30 | $31 | $31 | 250 |
| NEW - Privacy/Security Officer | T | $42 | $43 | $44 | 2340 |
| Shanoa Miller, Research Assistant/GIS | T | $24 | $25 | $25 | 1248 |
| Sheila Dodson, Technical Writer | T | $34 | $34 | $35 | 1560 |
| NEW - Data Analyst | T | $32 | $33 | $33 | 2808 |
| Dilan Pinidiya, Data Analyst | T | $34 | $35 | $35 | 1560 |
| NEW, Data Analyst | T | $32 | $33 | $33 | 1560 |
| TBD Research Analyst/Assoc | T | $39 | $40 | $41 | 2496 |
| Jennifer Wessell, Research Assistant | T | $25 | $26 | $26 | 1560 |
| Will Watson, Research Assistant | T | $24 | $25 | $25 | 624 |

KEY:
M = Management Level Position
E = Engineering
T = Technician
S = Support

# ATTACHMENT E

## CONTRACT PAYMENT SCHEDULE

HIRRD/AID will pay ACHI fourteen consecutive monthly payments of $121,428.57 for a total payment of $1,700,000. The first payment will be made within fourteen days of the official contract approval by the Arkansas Legislative Council. The 'day of the month' of the first payment will become the payment date for each succeeding month.

Thereafter, a monthly payment of $121,428.57 will be made each month until the $1,700,000 has been paid in full. HIRRD/AID will have no further financial obligations to ACHI following the total payment of $1,700,000.

# ATTACHMENT F

## ACHI Contractual Reporting Requirements

The ACHI Project Manager shall be responsible for submitting mandatory written reports to the HIRRD Director no less frequent than on a weekly basis beginning no later than May 23rd. These reports should be concise, informative, and well organized. The reports should be submitted as attachments to e-mails directed to Lowell Nicholas and copying Lesia Carter. This reporting requirement is to create a continuous informational and reporting system from ACHI to HIRRD. Sources of information for these weekly reports shall include, but not be limited to, the following categories:

- Weekly Status Meetings
- APCD Oversight Meetings
- Stakeholder Engagement Meetings
- Large Group Stakeholder Meetings
- ACHI APCD Meeting Notes or Status Reports
- APCD Development Status Meetings
- APCD Design Meetings
- Core Team Status Meetings
- Carrier Meetings
- Governance Meetings
- Version 1-2.5 Reports (See below)

******Description of "Version" Reports:***

- **Version 1.0 Report** - References the following "early" reports, which shall be considered:

  a) population-based cost and utilization reports by geographic area
  b) average or median cost per type of procedure

- **Version 1.5 Report** - shall update Version 1.0 reports based on more recent data, as available, and provide the following items

  c) data extracts to experienced researchers who may serve as "beta testers" of data quality
  d) risk-adjusted population costs

- **Version 2.0 Report** -shall provide data extracts that address researchers' projects and state agency data analytic needs.

- **Version 2.5 Report** - shall refresh the cost information in Version 1.5 reports and add new measures and web-based access developed through stakeholder discussions subject to HIRRD approval:

  a) provider specific cost and quality reporting; distribute preview reports and manage comments based on best practices and research
  b) reports that provide assistance in choosing high value, high quality care.

# ATTACHMENT G

## PROJECT ASSUMPTIONS

A. Project timelines and milestones are determined by HIRRD.

B. HIRRD is responsible for providing contract oversight, approval of stakeholder membership, timely feedback, and approval of deliverables. HIRRD has final authority over all aspects of the APCD development, implementation and operations.

C. The Governor has authority to appoint members to the APCD Governance Board (AGB), and will be requested to do so by January 15, 2015. In the event of a delay in these appointments, HIRRD will maintain contract oversight and control through the eighteen (18) month term of the APCD contract. Regardless, existing stakeholder groups will continue to function.

D. APCD solution requirements and design require HIRRD approval before project development begins.

E. ACHI is responsible for drafting and successfully executing an HIRRD-approved data use agreement with applicable data submitters.

F. HIRRD/AID will support integration across public and private sector data for other state agency needs.

G. To the extent possible, existing legislative and regulatory authority will be leveraged to support and facilitate the development of the APCD.

H. Changes to project scope, including but not limited to carrier engagement, data use agreement execution, data source receipt, solution design, solution requirements, website design, website requirements, solution deliverables, reporting/data mart requirements and design, will be managed with the 'Change Management Process' defined in Attachment B (Miscellaneous Provisions), Section J.

# Milestones.

| AID/HIRRD Milestone | ACHI Deliverables |
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| **Stakeholder Engagement** | 1) Convene HIRRD-appointed stakeholders to provide advisory input and respond to Contractor's plans on an ongoing basis throughout the contract term.<br>2) Engage representation from applicable agencies and organizations, with approval of the Director of the HIRRD.<br>3) Provide staff support to stakeholder groups, including but not limited to, agendas, and documentary support. |
| **Documents and presentations required for Stakeholder** | Supporting documents and presentations<br>a) Acceptable de-identification process of carrier data<br>b) Role of the Data Center in providing APCD reports and data<br>c) Opportunities to leverage existing legal authority to collect APCD-type data, including an analysis of scope of collection; permitted data uses, and assessment of whether additional legislative authority is needed to achieve the goals of the APCD<br>d) Resources needed in all state agencies to maximize access and analysis of APCD data outputs in calendar years 2014-15<br>e) Innovative strategic plan to optimize voluntary data collection<br>f) During the first quarter of 2015, deliver a strategic plan for mandatory data collection process.<br>g) Principles for APCD operations<br>h) Principles of a data use policy under both voluntary and, after enactment, mandatory data submission requirements<br>i) Principles for linking APCD data with SHARE data and appropriate uses of the resultant files<br>j) Principles for a sustainability plan<br>k) Roll out of reports based on provisions in Attachment F: ACHI Contractual Reporting Requirements during the initial contract term. |
| **Quarterly Progress Reports to HIRRD /AID** | • Project Plan<br>• Required Contractual Reporting (Attachment G) |
| **Transition Plan for voluntary to mandatory data submission** | Mandatory Data Transition Plan<br>• Action Steps<br>• Processes |
| **Best Practices Report** | Mandatory Data Transition Plan<br>a) Provide analysis and research about options for mandatory submission.<br>b) Analyze state law and regulation to ascertain any impediments to health care data collection.<br>c) Survey other states' mandatory data collection process and shall prepare a summary based on national best practices. |

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| | d) Review the national best practices with stakeholders and present a final document to HIRRD no later than October 31, 2014, accompanied by a report describing the rationale for mandatory data collection; stakeholder input; public education materials; and a public education series of events. The report shall include a description of the specific meetings and stakeholder engagement activities that should occur during mandatory submission consideration. Upon acceptance of the report and community support plan, the Contractor shall conduct those approved activities on behalf of the APCD in late 2014 and early 2015. |
| **Transitioning to mandatory data submission** | a) Draft rules that direct payers to submit files conforming to the revised DSG by dates established in the Contractor's Strategic Plan in Section C.1.<br>b) Review the DSG to determine if any changes are needed, and conduct a process with stakeholders to prepare a DSG to include by reference in the rules/regulations<br>c) Prepare and present materials to stakeholders about the rules<br>d) Obtain, review and respond to public comment about the draft rules<br>e) Provide a final copy of the rules/regulations to HIRRD. |
| **Data Submission Guide (DSG)** | Data Submission Guide<br>a) The DSG shall be designed to best meet the state's analytic needs and will be informed by input from stakeholders.<br>b) The structure and content of the DSG must recognize the expected transition from voluntary to mandatory data submission.<br>c) To minimize the transition from voluntary to mandatory data submission, all data submitters shall be required to use the same file formats and meet the same data submission requirements unless expressly granted an exception.<br>d) The Contractor may implement time-limited, carrier-by-carrier, data-element specific exceptions to facilitate data intake. The contractor must document the exception process and criteria for granting exceptions.<br>e) The Contractor shall advise data submitters in face-to-face meetings (if geographically practical), conference calls, and technical advisory bulletins.<br>f) The Contractor shall obtain all necessary permissions and tools to generate and implement the same Unique Person Identifier and the Unique Provider Identifiers as used in SHARE.<br>g) The Contractor shall establish data collection requirements such that carrier compliance with deadlines and formats can be effectively assessed and monitored. |
| **Data Submission Phase** | a) Engage private carriers to establish voluntary data use agreements (upon start of the contract). |

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| **One** | b) Develop pricing data sets that satisfy at least the following criteria.<br>(i) The data sets must include fair and accurate pricing and reimbursement data from providers or issuers in the State of Arkansas.<br>(ii) The data set must include a sufficiently representative subset of claims from issuers in the State of Arkansas in order to be useful to consumers, employers, researchers, and the general public when comparing prices.<br>c) Provide all services necessary for drafting and implementing data use agreements, including legal review, meetings with payers, and annual updates or renewals.<br>d) Ensure that data files submitted by commercial payers and Medicaid include:<br>i. The SHARE-generated Unique Person Identifier for the individual OR<br>ii. Sufficient information such that the Contractor may assign Unique Person Identifiers and Unique Provider Identifiers using the SHARE identifier methodology.<br>iii. For individuals who do not yet have an assigned SHARE Unique Person Identifier, the Contractor shall ensure that the Unique Person Identifier assigned to this individual. In addition, this Unique Person Identifier will be used consistently now and in future in the event that the individual's information is available on SHARE.<br>e) Inform commercial carriers about the specific projects for which the data will be used.<br>f) Obtain signed data use agreements from commercial payers and Arkansas Medicaid.<br>g) Prepare and submit a request for Medicare data on behalf of HIRRD via the CMS State Agency Request Program pay for the initial datasets and annual updates thereafter; serve as data custodian; apply SHARE identifiers; map to APCD formats; and incorporate the Medicare data into APCD reports, as permitted under the CMS Data Use Agreement. |
| **Privacy and Security Policies and Plans** | 1. Ensure that the APCD maintains the highest level of security at all phases of data collection, storage, and analysis including:<br>a. Compliance with the HIPAA Privacy Rule<br>b. Physical, administrative, technical, operational, and personnel data protection<br>2. Meet CMS requirements to serve as Custodian of Medicare files containing protected health information (PHI). |

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| | 3. Provide public-facing descriptions of its privacy and security policies and procedures to inform stakeholders and patients about how data will be protected.<br>4. Designate a single individual to act as the Security and Privacy Control Officer for this project, to be accountable for the implementation of all privacy and security measures, and for auditing security and encryption processes.<br>5. Develop a security plan for maintaining data security and preventing unauthorized disclosures of APCD data, including a breach notification process that is compliant with State and Federal rules, regulations, and statutes related to the unauthorized release of protected data.<br>6. Provide evidence of cyber-insurance for $3,000,000 as of the first day that data may be collected; this policy shall remain in force for the duration of the contract, and in addition to general professional liability/errors and omissions coverage. |
| **Data intake Plan** | 1. Develop methods and implementation strategy for a web portal with a Secure Socket Layer (SSL) web upload interface for data submitters to transmit and monitor data to the Contractor.<br>2. Utilize this portal to provide written feedback about specific data quality issues back to the data submitters within five business days.<br>3. Execute an extract, transform, and load (ETL) process that supports high-volume imports of multiple data files, in multiple formats, and at rapid speeds.<br>4. Develop the following:<br>a) Protocol for testing and verifying the performance of the APCD intake processes and infrastructure, prior to the submission of test data from data submitters.<br>b) Protocol to implement and maintain encryption methods, including:<br>▪ Methods that allow data submitters to encrypt files that will be transferred to the Contractor. This shall include a process for handling data files that are submitted without appropriate encryption, or data files that contain claims data subject to additional restrictions;<br>▪ Methods that allow data files to be encrypted for storage, backup, and transfer.<br>▪ Methods that allow certain identifiable data fields to be populated with encrypted values so that the true values are not known, and allow Contractor to decrypt these same fields for purposes specified by the HIRRD.<br>c) Protocol for the acceptance of test data from data submitters, and a process for how test data will be utilized to smooth submission of conforming data, as required. |

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| | d) Methods for receiving and storing Medicaid claims and encounter data from the Medicaid Management Information (MMIS) and a description of how this data will be accommodated in the data warehouse.<br>e) Methods for receiving and storing Medicare files from CMS including how this data will be accommodated in the data warehouse and incorporated into the APCD.<br>5. Implement the following privacy and security protocols:<br>a. Provide encryption of data in motion and at rest in compliance with the HITECH Act. Contractor shall employ FIPS 140-2 compliant cryptographic controls in accordance with NIST Special Publication 800-52 and provide encryption of data at rest in accordance with NIST Special Publication 800-111<br>b. Designate a single Security and Privacy Control Officer for this project.<br>c. Implement and monitor the security plan as developed and approved<br>d. Periodically test, assess, and update the security plan to assure that the highest industry standards related to privacy and security are being followed. If a separate hosting facility Subcontractor will not be used, conduct an annual security assessment, performed by an independent third-party security provider, to verify that the environment containing the APCD data is secure.<br>e. If using a hosting Subcontractor, provide description of annual reports and audits (including SOC reports Type 1 and Type 2) and the results of those reports<br>f. Maintain, and provide upon request, a data and systems security log that can be reviewed by an independent auditor.<br>g. Provide a single point of contact to provide assistance to all data submitters to resolve data transmission issues.<br>h. Adheres to prohibition from releasing or using data or information obtained in its capacity as the APCD Data Center for any purpose other than those authorized by HIRRD.<br>i. Implement and maintain criteria that will be invoked to ensure only conforming data is loaded into the data warehouse. Provide business rules for testing data at intake to data submitters.<br>j. Implement and maintain a process for providing one-on-one communications and technical assistance to data submitters, including: |

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| | (i) Meet or hold conference calls (as geographically practical) with commercial payers' technical staff to provide data submission tools/requirements and address any questions regarding data submission;<br>(ii) Hold regularly scheduled data submitters' meetings and maintain ongoing collaborative relationships with all data submitters;<br>(iii) Provide a single point of contact for problem solving and troubleshooting with data submitters to ensure timely solutions.<br>k. Implement and maintain the protocol for a web-based secure data transfer system to transmit, monitor, and provide feedback on data files from data submitters to the Contractor.<br>l. Implement the protocol for testing and verifying the performance of the intake capacity prior to submission of test data from data submitters.<br>m. Implement and maintain the protocol for accepting test data from submitters, based on approved protocol.<br>n. Provide reports as about data submission and conformance to specifications on a weekly basis during startup and monthly thereafter.<br>o. Contact non-compliant entities via written notice describing the reporting deficiency.<br>p. Re-evaluate data collection services periodically and propose improvements. |
| **Data Warehousing** | 1. Provide secure storage separate from other activities, including segregated storage for Medicare Data.<br>2. Build integrated claims and eligibility file structures<br>3. Design and implement a methodology to "version" the claims and passing forward the latest or "final" iteration into the APCD dataset.<br>4. Use SHARE methodology, or cause data submitters to use SHARE methodology, to assign unique provider ID and build a master provider index unless otherwise available from SHARE<br>5. Assign geo-codes, diagnostic condition categories, and other analytic flags and groupings. |
| **Data quality** | 1. Upon data submission, check all files for alignment with the DSG.<br>2. During production and warehousing, conduct additional data quality reviews, and will review and report on:<br>a) Month-to-month trends, variation, and consistency<br>b) Benchmarking using other data sources<br>c) claims lines per 1,000 covered lives<br>d) outliers<br>3. Provide ongoing feedback to data submitters and in reports to HIRRD |
| **Analysis and Reports** | 1. Issue reports and make data available based on stakeholder principles. |

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| | 2. Develop the following "early" deliverables:<br>a. population-based cost and utilization reports by geographic area<br>b. average or median cost per type of procedure<br>c. data extracts to experienced researchers who may serve as "beta testers" of data quality<br>d. risk-adjusted population costs<br>3. Develop the following "later" deliverables:<br>a. provider specific cost and quality reporting; distribute preview reports and manage comments based on best practices and research<br>b. reports that provide assistance in choosing high value, high quality care<br>c. website and/or mobile apps to distribute information<br>d. public reporting plan based upon HIRRD approval<br>➢ **Version 1.0 Report** - References the following "early" reports, which shall be considered:<br>a) population-based cost and utilization reports by geographic area<br>b) average or median cost per type of procedure<br>➢ **Version 1.5 Report** - shall update Version 1.0 reports based on more recent data, as available, and provide the following items<br>c) data extracts to experienced researchers who may serve as "beta testers" of data quality<br>d) risk-adjusted population costs<br>➢ **Version 2.0 Report** -shall provide data extracts that address researchers' projects and state agency data analytic needs.<br>➢ **Version 2.5 Report** - shall refresh the cost information in Version 1.5 reports and add new measures and web-based access developed through stakeholder discussions subject to HIRRD approval:<br>a) provider specific cost and quality reporting; distribute preview reports and manage comments based on best practices and research<br>b) reports that provide assistance in choosing high value, high quality care. |
| **Data Management** | 1. Develop a protocol for data aggregation and enhancement that supports desired reporting outputs, including:<br>a. A methodology for eliminating duplicate information due to claims resubmissions and the normal course of business (sometimes called "versioning" the claim.)<br>b. A description of the data model that will be used to develop analytic reports, with the goal of creating person-level longitudinal analyses; and,<br>c. The ability to track data by patient, provider, payer, episode of care, disease, and geography. |

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| | 2. Develop a plan to replicate the methodology used by the Arkansas State Health Alliance for Records Exchange (SHARE) to assign unique patient identifiers to both historic and incoming monthly data such that an individual's claims and eligibility is organized over time and across payers such that APCD records may be consistently and accurately linked to SHARE records.<br>3. Provide evidence of reliability and accuracy of selected methodology prior to implementation.<br>4. Develop a plan to replicate the methodology used by the Arkansas State Health Alliance for Records Exchange to unique healthcare facility and provider identifiers, to allow aggregation of claims across payers such that APCD records may be consistently and accurately linked to SHARE records.<br>5. Provide evidence of reliability and accuracy of selected methodology prior to implementation.<br>6. Identify an industry standard tool or methodology for uniquely identifying claims that may be adjudicated multiple times.<br>7. Ensure the data warehouse reflects the most current adjudication for each claim and will provide the methodology for carriers that do not provide unique claim ID's.<br>8. Develop a protocol for ensuring that claims link to eligibility records and provider records.<br>9. Develop a protocol for maintaining eligibility records for all covered members and maintaining eligibility spans for those members as eligibility record updates are received on a monthly basis from data submitters.<br>10. Identify an industry standard tool or methodology for grouping patient claims into distinct episodes of care, and develop methods and implementation plan.<br>11. Identify an industry standard tool or methodology for grouping patient claims into distinct condition categories and relative risk groups, and develop methods and implementation plan.<br>12. Implement, maintain, and operate secure receipt, management, storage, authorized release and transmission of data, including a process for archiving original data submissions and data products provided to HIRRD<br>13. Implement, maintain, and operate secure backups and recovery of data.<br>14. Provide a description of the steps to be taken for disposing of defective or end-of-life hardware or media that contain data.<br>15. Implement, maintain, and operate an open, standards based architecture, with an API or web services framework.<br>16. Implement, maintain, and operate a standards based database that can be queried with SQL, such as MS SQL Server, Oracle, etc.<br>17. Provide the infrastructure and capability to aggregate claims across payers into distinct quarterly and annual data sets and provide documentation of the layout, format, and coding. The data sets may include, but are not be limited to: |

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| | a. Medical claims<br>b. Medical eligibility<br>c. Medical providers<br>d. Pharmacy claims<br>e. Integrated member and claims datasets to support creating reports at aggregated and subgroup levels. Examples of subgroups that could be required include: multiple demographic selection criteria; disease categories; procedure types; and/or specific providers.<br>18. Implement the plan developed and approved in for geo-coding claims and member eligibility files.<br>19. Provide and align APCD data with data derived from US Census files, for purposes of population reporting<br>20. Implement the plan developed and approved for providing the twice annual refreshed data extracts for use in analytics and reporting. |
| **Data Quality** | 1. Develop a comprehensive data quality plan that includes at a minimum:<br>a. A description of specific mechanisms that will be implemented to ensure high- quality, robust, and accurate data. This must include a comprehensive data quality monitoring and management strategy and a list of all quality checks performed on another, similar implementation.<br>b. A process for communicating data submission and data quality issues within Contractor's own team and with data submitters.<br>c. A process for documenting interactions with payers about whether files conform to data specifications and recording agreed-upon exemptions from specific submission requirements.<br>d. A process for regularly examining the data after versioning and assignment of unique member and patient identifiers, including benchmarking against historical patterns for the data submitter and other submitters, patterns of missing or incomplete reporting within files, and interfile consistency (e.g. every claim has a valid member record). Provide reports and feedback to the data submitter.<br>e. A process for reporting data submission and quality issues to HIRRD staff.<br>f. Develop a protocol for ensuring high-quality, robust benchmarking of APCD data against reliable sources of information about members, claims, utilization, and cost.<br>2. Implement and maintain the protocol for the comprehensive data quality plan<br>3. Provide a report to each data submitter, showing the detailed results of initial checks and quality assurance within 5 days of submittal, through the secure portal implemented in Section 3.4.<br>a. The report must clearly indicate which files passed the validation process. |

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| | b. The report must include, but is not limited to, the submission date, the number of records processed, the validation status of each data file and element, and the specific reason that the data element failed validation, when applicable. Information provided to data submitters must be sufficient and clear enough for submitters to easily reconcile and resolve errors.<br>c. Error correction is the sole responsibility of the data submitter.<br>4. Maintain documentation of data submissions, including requests for and responses to requests for resubmissions; the contractor shall make such documentation available to HIRRD for monitoring data submitters' compliance.<br>5. Implement the process for exemptions to specific data element submission requirements (also known as "waivers").<br>6. Review data submitters' requests for waivers of data submission requirements and advise on the effect of such waivers on the analytic data quality.<br>7. Receive and review waivers or exemptions to requirements specific to a particular data element or file, review with HIRRD, and implement necessary changes to intake checks and quality reviews on a carrier-specific basis.<br>8. Develop documentation for inclusion in data users' dictionary.<br>9. Load data into a secure data warehouse and perform additional record level and statistical error checking as part of an overall quality assurance process.<br>10. Provide quarterly reports on submitted/processed datasets to the APCD, regarding the quality, completeness, reliability, robustness, and limitations of the quarterly update.<br>11. Implement and test algorithms of unique patient identifiers according to the plan developed; always utilizing SHARE's Master Patient Index research and development.<br>12. Develop a master provider directory utilizing the Provider Data File as the source; this master provider directory must be supplemented with commercially available provider records; whenever possible, Contractor will link to these functions through SHARE.<br>13. Specify the limitations of implementing the unique identifiers and periodically re- evaluate the implementation plan and suggest improvements.<br>14. Implement the quality assurance and benchmarking plan developed and approved to monitor the completeness and credibility of the submitted and processed data.<br>15. Provide analysis of unexplained variations and provide guidance to data submitters as needed to improve data quality and accuracy. |
| **Data Release** | 1. Design and implement a data release process consistent with HIPAA Privacy Rule and, when in place, state legislation.<br>2. Design de-identified and limited use data specifications; produce such files when APCD data submissions meet minimum standards identified during the data quality standards development process. |

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| | 3. Convene a data release committee to review applications for consistency with the purposes of the Data use agreement during Phase One: Voluntary Data Submission or other process during Phase Two: Mandatory Data Submission and serve as a HIPAA Privacy Board. (An institutional review board review may be obtained in lieu of requiring a HIPAA Privacy Board review.)<br>4. Collect fees and distribute data or reports to approved users through secure methods.<br>5. Develop secure data transmission processes. |
| **Sustainability** | 1. Develop a plan to maximize ongoing financial support from sources other than state appropriations.<br>2. Estimate the value of current data purchases and forecast the potential volume of requests for APCD data.<br>3. Examine the opportunities for delivering data and reports (at appropriate levels of detail) through standard reports, custom reports, self-service tools, and subscriptions.<br>4. Identify the differences between opportunities available under voluntary data submission compared to mandatory data submission.<br>5. Examine other states' APCD revenue opportunities.<br>6. Develop a "straw man" pricing schedule and set of offerings, and obtain feedback from potential "buyers".<br>7. Prepare a recommendations report to HIRRD describing offerings, pricing and potential revenue, as well as costs of standing up different types of data delivery models and ongoing operation and maintenance. |
| **Project Management** | 1. Develop a protocol for assuring that the project stays on schedule, the desired outcomes are achieved, obstacles (and solutions) are quickly identified, and progress is reported to in a timely manner.<br>2. Submit draft and final version of the Project Plan to HIRRD.<br>3. Obtain HIRRD approval prior to implementing all items in the Project Plan.<br>4. Identify a Project Manager to oversee the project and serve as the single point of contact.<br>5. Hold regular project status meetings (at least 2 per month), and submit monthly written project status reports<br>6. Identify project risks during the project planning phase and proposed mitigation strategies; monitor risks throughout the project lifecycle Provide reports and documentation as needed for federal reporting<br>7. Document decisions and compile project history;<br>8. Provide any information, data, or technical assistance as perceived to be useful or that might be requested by HIRRD in order to improve ongoing collection, processing, consolidation, management, and reporting efforts. |

Responses to RFP Sections 3.3, 3.4, 3.5, and 3.6 are directly referenced for ease of navigation due to the high-level of detail that they entail.

## 3.3 - POLICY AND PROGRAM DEVELOPMENT MINIMUM REQUIREMENTS

An effective and efficient APCD requires significant collaborative engagement of multiple stakeholders and a vision for cohesive processes to guide the development and manage the use of the system once built. In this section, ACHI provides a high-level model of its vision for the management and oversight of the APCD. This model illustrates stakeholder input into the APCD build, engaging important stakeholder groups throughout to ensure the system provides maximum utility for the primary target consumers. These Stakeholder groups include the following:
**APCD Advisory Committee (AAC).** An initial AAC will be developed with multiple stakeholders under the voluntary data submission arrangement to provide guidance on the initial stages of the APCD development. ACHI will assist with the transition from an AAC to a more formal Governor-appointed APCD Governance Board (AGB) as the initiative moves from a voluntary to a mandatory process.

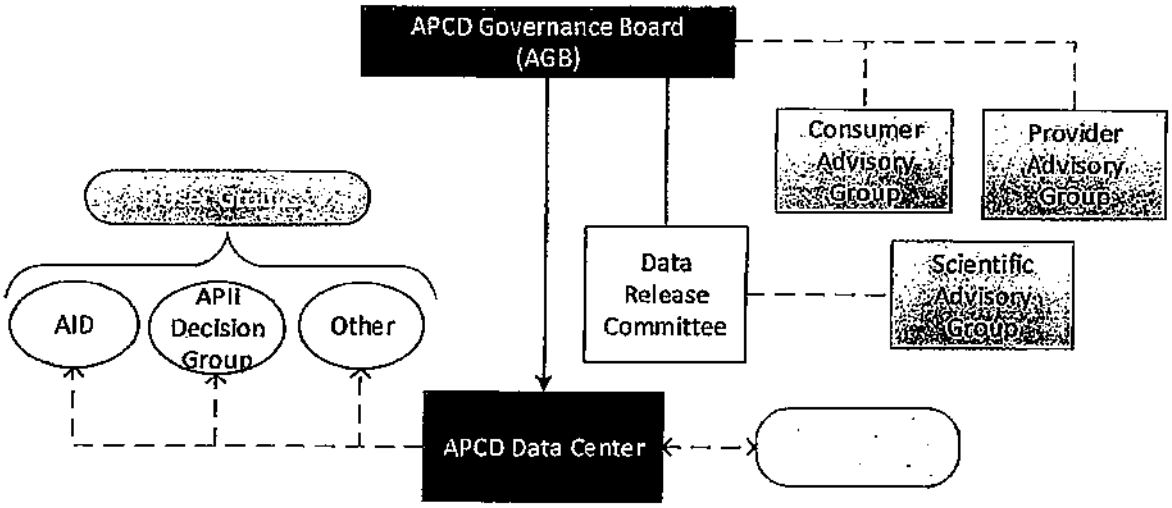
**APCD Governance Board (AGB).** The AGB will have oversight of all operations of the APCD. It will be responsible for developing and adopting a mission, vision, and bylaws. It will also have the authority to act upon recommendations from advisory groups regarding data submission, access, and dissemination. Depending on the utility of the original AAC, as well as needs to engage additional stakeholders for feedback on use moving forward, ACHI envisions a **Consumer and Provider Advisory Group** may retain an active role with the AGB. These advisory groups may be responsible for representing the interests and communicating risks to the AGB from their respective perspectives—consumers on personal health information and consumer needs, and providers on clinical appropriateness and data applications.

**Data Release Committee (ADC).** The ADC will review data request applications, provide recommendations to the AGB for approval, and may also serve as a HIPAA Privacy Board. For further information on the review process, refer to Section 3.4(K)(3), page 31. ACHI also proposes the establishment of a **Scientific Advisory Group (SAG)** to work closely with the ADC. Similar to the functions of a peer review process in the academic arena, the primary purpose of the SAG would be to provide feedback on proposed uses of the APCD, particularly around the scientific validity of proposed analytic work.

**Office of Health Information Technology (OHIT).** The OHIT will be a critical link in the governance model and, while OHIT will serve primarily as a data contributor, ACHI will work closely with OHIT as partners to enable the linking of clinical information from the State Health Alliance for Records Exchange (SHARE).

**User Groups.** Government and non-government approved user groups will receive released APCD data by web portal or data feeds. Figure 3 outlines ACHI's vision for the multiple stakeholder groups that will work with ACHI to develop protocols for data collection and data intake, monitor use, and provide ongoing governance of the APCD.

Figure 3. APCD Governance Model



## RFP SECTION 3.3(A) - STAKEHOLDER ENGAGEMENT

Preliminary work to engage a subset of the stakeholders has been underway as part of an existing contract with AID prior to this RFP. The objective of that project is to explore the utility of a claims database such as an APCD for use in measuring health plan quality. During that project ACHI has met individually with public and private payers, employers, regulators, and providers to better understand views regarding a centralized data repository such as an APCD. During those discussions it was clear that there are divergent opinions about APCDs, with some questioning its necessity and others ready to move forward with governance. A synopsis of the stakeholder meetings is in Appendix C. As part of that process, ACHI relayed to the stakeholders its vision of the APCD as a public utility with multi-functional utility in addition to health plan quality reporting, e.g., multi-payer provider reports to support clinical decisions, system redesign evaluation reporting, and consumer transparency of quality and costs.

ACHI will incorporate the lessons learned from its previous stakeholder engagement and will engage in a more candid process given the mandatory data submission requirements in this project. ACHI will solicit input from the HIRRD-appointed stakeholders to define the desired outcomes of the engagement process and the APCD itself and to identify meaningful projects that can be achieved early that will to increase support. The stakeholder process must address, at a minimum, the following questions that will inform the design of APCD technical infrastructure and business and user requirements.

1. What are the purposes of gathering data (i.e., rate review, transparency, reporting quality, research, etc.)?
2. Who will be required to report data?
3. What data are required to be reported?
4. How will the data be submitted and processed?
5. When will the data be required to be submitted?
6. Who will have authority to access the data?
7. What are potential funding sources for sustainability?
8. What existing legal authority can be leveraged and what legal authority/protections are required?

| 3.3(A) | Response |
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| (1); (2) | To create an open, transparent, and participatory process throughout the development of this APCD, ACHI will convene an APCD Advisory Committee (AAC) comprised of HIRRD-appointed stakeholders explicitly named in this RFP as well as additional stakeholders that may be identified early in the engagement process. While the HIRRD-appointed group may represent the primary stakeholders currently anticipated, ACHI also sees value from including secondary stakeholders (i.e., researchers, providers, etc.) who may have valuable input and be positioned to facilitate greater community buy-in for the creation and maximal use of the APCD.<br>The main purpose of the AAC will be to provide advisory input and respond to proposed plans for the development and management of the APCD. Secondarily, the engagement process inclusive of work with the AAC will seek to educate the public about APCD benefits and obtain guidance to maximize its utility for the state. |
| (3) | In January 2015, a Governor-appointed APCD Governance Board (AGB) will be formally established. As the AGB will likely include many members of the AAC, it will be determined if the remaining AAC members provide added benefit to the process in an advisory capacity, or if there is an alternative advisory capacity that is needed given the status of the APCD. The AGB will have oversight of all operations of the APCD. It will be responsible for developing and adopting a mission and vision, bylaws, and other rules required for operations such as procurement rules and creating an operational budget. It will also have the authority to act upon recommendations from advisory boards regarding data submission, access, and dissemination. |

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| (4) | ACHI will provide staff support for the AAC and the AGB, including convening monthly meetings and preparation of relevant documents and presentations for discussion. Such documents and presentations will include, but are not limited to, those presented in Section 3.3(A)(4), page 18. |
| (5) | ACHI's project management approach includes the preparation and delivery of quarterly reports. These reports will highlight all progress made toward achieving the project's goals and be delivered to the HIRRD Director and the Arkansas Insurance Commissioner each quarter. |

## RFP SECTION 3.3(B) - MULTI-PHASE DATA COLLECTION PLAN

Legislative authority does not currently exist in Arkansas requiring the mandatory submission of health claims data to a central repository for health system change and health data transparency with the exception of that contained in the Health Care Independence Act , A.C.A. § 20-77-2101, et seq. When the APCD development begins, data will be submitted by carriers on a voluntary basis. ACHI will develop a multi-phased transition plan to move from voluntary data submission to mandatory data submission. This plan will include ACHI's approach to acquiring legislative authority, developing rule and regulation changes, and providing technical support and guidelines to carriers to minimize the process impact of moving from a voluntary to mandatory data submission requirement.

| 3.3(B) | Response |
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| (1) | ACHI will develop and deliver a plan to implement a transition from voluntary data submission to mandatory submission. This plan will provide a framework for transition, informed by ACHI's familiarity with the Arkansas legislative and regulatory process, that includes a review of existing mechanisms used by other states, Arkansas-based statutory and/or regulatory pathways, and potential barriers to achieving mandatory submission identified through stakeholder engagement or other state examples. |
| (2)(a) | In order to ensure standardized data collection practices are in place, a Data Submission Guide (DSG) will be developed. It will contain data transmission instructions, data formats, and layout specifications. Each of the anticipated six carriers will have customized DSG instructions. Working with the AAC and building from national experience using the APCD Council standard data file formats, ACHI will refine the list of submission requirements based on reporting and analytic needs. At minimum, the DSG will include the following instructions specific to each data submitter:<br>• Data file formats including delimiters<br>• Required variables<br>• Variables formats<br>• Variables lengths<br>• Value coverage thresholds<br>• File quantities<br>• Derived variable requirements<br>• Member identifiers<br>• File keys (to join related datasets)<br>• Data delivery requirements<br>• Transmission requirements<br>• Transmission schedules<br>• Variable data dictionaries with value definitions<br>• Source system specifications<br>• Carrier specific data requirements and information<br>• File/process change request instructions |
| (2)(b) | The DSG will be a living document and will change as data file submission changes, e.g., when files and/or fields are added or omitted, or changes occur as result of transition from voluntary to mandatory submission. While the DSG will be developed with the expected transition from voluntary to mandatory, this change, along with all others, will be managed by the change and enhancement management process. This process will be used throughout the development and on-going maintenance of the APCD to identify, track and make the required changes. This process includes the following steps:<br>1. Identify required change or enhancement<br>2. Define technical and processing requirements, including success measures<br>3. Define development and implementation approach<br>4. Define required timeline<br>5. Acquire stakeholder or governance board approval<br>6. Execute change/enhancement development<br>7. Test<br>8. Approve and release |
| (2)(c) | If carriers are unable to provide all required variables, ACHI and HIRRD may grant exceptions to enable |

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| | temporary limited participation in the APCD. It is anticipated that some carriers will not be able to pull replicas of source data for test data submission. Exceptions would be granted in these cases to enable the carriers to participate in the APCD until their full dataset is available. When the complete data can be pulled, ACHI will utilize its change and enhancement process to scope and track the process. All exceptions will be documented and approved by HIRRD. |
| (2)(d) | Throughout the APCD development, ACHI will maintain an open, constant dialogue with data submitters, meeting in person or via conference calling, to provide project status, present data questions to ensure processing success, and get feedback from data submitters. Each meeting will be documented with decisions and actions compiled into regularly submitted technical reports. During the initial data-collection planning phase, meetings will be held at least twice per week and will migrate to weekly, monthly, then quarterly as the APCD solution is developed and put into production. |
| (2)(e) | During this planning phase, ACHI will secure all required permissions to access data sources—including data use agreements (DUA), memoranda of understanding (MOU), and other contracts as needed—ensuring the successful integration of SHARE's Unique Person and Provider Identifiers. |
| (3) | Tapping existing contacts with carriers and public payers and frameworks for executed DUAs for the Arkansas HDI, ACHI will seek to establish DUAs with payers within the allotted timeframe noted by the RFP and, to the extent negotiable, ACHI will work with the carriers for release of pricing and reimbursement information that is sufficient to be useful to stakeholders. ACHI will provide all services necessary to reach execution of DUAs and any required renewals during the duration of the award period. ACHI will also seek to ensure that DUAs require data files from public and private payers that include individually identifiable information as generated by SHARE or another method based on the SHARE methodology, again to the extent the release of this data is negotiable with the payers. ACHI will maintain contact with carriers to keep them informed regarding the use of their data. Notably, DUAs are a contractual obligation requiring joint agreement that ACHI has successfully negotiated and would assertively pursue if awarded.<br>With respect to submitting a request for Medicare data, ACHI believes that this RFP requirement is intended to initiate the Qualified Entity certification process on behalf of HIRRD, and, upon completion, ACHI will comply with RFP requirements during the award period to acquire the data, serve as custodian, apply identifiers, map to APCD datasets, and incorporate data as permitted. Importantly, part of the certification process is to provide evidence to fund the Qualified Entity's business operation through the duration of the certification agreement, which may extend beyond 18 months. |
| (4) | As noted in Section 3.3(B)(1), page 18, ACHI will conduct research on options, provide appropriate analyses for a transition to a mandatory submission process, and support legislative and/or regulatory strategies for implementation. ACHI will provide to HIRRD, AAC, and AGB summary information regarding other states' approaches and best practices. A final report will be submitted at the required time that details rationales, stakeholder input, and other educational materials and events. ACHI will then proceed with activities as approved and necessary to transition to a mandatory submission process. |
| (5)(a); (5)(b); (5)(c); (5)(d); (5)(e) | Relying upon its familiarity with the state's rule promulgation process and the various statutory avenues for acquiring claims data from carriers, ACHI will develop necessary rules for mandatory data submission. ACHI will work with primary stakeholders to obtain input on the draft rules for mandatory submission prior to the public comment process and will prepare and present materials about the rules to primary and secondary stakeholders upon publication.<br>ACHI will schedule and staff public hearings on the proposed rules as necessary and will facilitate a mechanism for public responses to the proposed rule. Upon receiving public comments, ACHI will assess whether the comments warrant changes to the proposed rule and will appropriately respond to comments submitted, combining responses to comments that are repetitive for efficiency.<br>ACHI will utilize the change and enhancement management process to identify and scope changes in the existing DSG needed when data submission moves from voluntary to mandatory. The DSG will be updated with data submission requirements, processing requirements, and rule and regulation changes when this transition occurs. ACHI will review changes with the stakeholder group and, after approval, release the new DSG to data submitters. ACHI will conduct meetings to review changes in dates, formats and requirements. ACHI will work directly with data submitters to ensure each can update their processes to conform to new DSG requirements by required dates within the strategic plan. |

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| (6)(a); (6)(b); (6)(c) | The change and enhancement management process described in Section 3.3(B)(2)(b), page 18, identifies the process protocols required to make required changes as needed when data submission moves from voluntary to mandatory. Data submitter systems and APCD processes will be changed as needed to accommodate the mandatory data requirements.<br><br>ACHI will implement data quality standards based on APCD data requirements identified in the data intake process. Data submitted will be evaluated upon receipt against these standards. A data quality report will be delivered to the data submitters indicating compliance or non-compliance with standards. If compliant, data will be moved to the extract, transform and load (ETL) processes in the APCD build and update process. If not compliant, the submitted data is not moved to the build and update process but to a holding area for further investigation and quality standards resolution.<br><br>Not every data source will reflect higher levels of completeness and accuracy under mandatory submission regulations. Data improvement expectations will be identified based on the voluntary data feed requirements already provided and mandatory changes required. |

## RFP SECTION 3.3(C) - PRIVACY AND SECURITY POLICY DEVELOPMENT

ACHI will establish protocols to ensure the privacy and security of data within the APCD environment. All components of the APCD environment—staffing, infrastructure, processes, insurance—require specific protocols and considerations managed to ensure compliance with data use agreements, contractual agreements and state and federal regulations.

| 3.3(C) | Response |
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| (1) | ACHI has experience building and complying with data handling protocols to meet the Health Insurance Portability and Accountability Act (HIPAA) standards of compliance. Working within the parameters set by UAMS Information Technology Management as outlined in the UAMS Emergency Response Plan housed online at http://disasterrecovery.uams.edu/ , its physical data systems protect personal health information (PHI), e.g., name, address, social security numbers, dates of birth)—used for the ACHI HDI analytical data warehouse development and support. Additionally, ACHI's analysis and research methodologies are protected by the Institutional Review Board (IRB) which authorized ACHI to build and use the HDI for health policy research. While the APCD may not require IRB authorization, ACHI will manage data security at the same level as required by HIPAA and DUA with data request administrative protocols managing external data use, technical firewalls protecting data against unauthorized access, user based authorizations to limit data access, and periodic tests of security protocol integrity. For additional information, see Appendix D. |
| (2) | ACHI has experience complying with CMS security requirements as seen in ACHI's management of the HDI which currently houses Medicare personally identified health claims and pharmacy data for years 2005-2011. ACHI will comply with all CMS requirement to serve as a custodian of Medicare files. |
| (3) | All ACHI APCD privacy and security policies protecting patient data will be posted on the APCD website (see Section 3.3(D)(1), page 21, for more information about the APCD website). |
| (4) | ACHI will appoint a contract Security and Privacy Officer (SPO) who will oversee the team's compliance program for this contract. The SPO will be responsible for oversight of the entire security program including, but not limited to, security documentation maintenance, corrective action plan administration, audit support, the encryption process, and vulnerability testing. |
| (5) | ACHI will develop security policies and implement secure physical security protocols to prevent unauthorized persons from gaining access to the APCD. This plan will include data access protocols developed by the ADC (see Section 3.4(K), page 30) and approved by the AGB. The security plan will be reviewed and monitored regularly to ensure it is in compliance with the most current security protocols. |
| (6) | ACHI has begun negotiations for the procurement of a cyber-insurance policy for $3,000,000 of coverage, inclusive of errors and omissions coverage and general professional liability coverage. Evidence of this coverage will be provided prior to the first day that data may be collected and coverage will remain in effect for 18 months as envisioned in the RFP. |

Ensuring the receipt of valid data from submitters is an important key to the success of the APCD. ACHI will formalize a plan for data receipt and validation that incorporates data transmission and receipt messaging, data integrity checks and technical assistance. This plan will incorporate best practices in place for ACHI's HDI analytical data warehouse. It will also include all transformation requirements needed to prepare data for submission into the APCD data warehouse. The Data Intake plan will be used to build the data foundation for the data warehouse portion of the APCD solution.

| 3.3(D) | Response |
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| (1) | ACHI will build a website and web upload interface with a Secure Socket Layer (SSL) for the APCD to provide a data transmission avenue for data providers. This portal will enable data submitters to set up automated data delivery to a data landing zone (DLZ). Automated validation scripts will be executed to monitor data receipts, record counts, and data validation counts. |
| (2) | As part of the Data Quality monitoring process, feedback reports will be sent back via a web portal or email, to the data submitters with data validation reports. Data validation audit points are based on the DSG. Files out of alignment with the DSG will fail the data transmission process. |
| (3) | Extract, transform, and load processes (ETL) will normalize data from disparate carrier systems into a single consumable data format for the APCD. Demographic data associated with members and providers will be processed through data scrubbing algorithms to identify invalid SSNs, variations in spelling, hyphenated names, and correct zip codes and county names. This scrubbing will occur prior to the Master Patient Index and Master Provider Index identifier assignment to ensure the most accurate demographic data is used in the integration of member data across data sources |
| (4)(a) | As the APCD is designed and built, each level of functionality will be tested for stability, accuracy and speed. Test plans and success measures will be developed during the design and development phases to ensure accurate operational processes. The data intake capacity will be evaluated and approved prior to receiving sample data using these protocols. |
| (4)(b) | Data encryption is critical to the protection of source data that includes PHI. Data submitted from carriers will be encrypted prior to delivery to the APCD and decrypted upon receipt in the secure DLZ. Files lacking proper encryption will not be accepted into the DLZ. Encryption will also be used for data handling processes including storage, backup and transfer to ensure data protection. In some instances, specific data fields will be encrypted for use with specific projects. All encryption methods stated above will have associated decryption processes. |
| (4)(c) | The APCD development project plan will include a testing phase when carriers will submit test data to ensure the data intake processes meet all requirements. Testing requirements will be included in the DSG. |
| (4)(d) | ACHI has established processes to receive and incorporate monthly Medicaid data feeds sourced from Arkansas Medicaid's data processing vendor, Hewlett Packard, into the HDI analytical data warehouse. These processes will be utilized and customized as needed for the APCD build. Medicaid data sourced from Medicaid's Medicaid Management Information System (MMIS) system and will be delivered using secure data transmission protocol to be determined by Arkansas Medicaid. |
| (4)(e) | ACHI has established manual processes to receive and incorporate periodic CMS Medicare data feeds into the HDI analytical data warehouse. The process to deliver and receive Medicare data automatically has not been finalized at the time of this response. |
| (5)(a) | All methods of data transmission and encryption will be compliant with federal information processing standards in compliance with the HITECH Act, FIPS 140-2. |
| (5)(b) | The SPO will oversee all ongoing activities related to the development, implementation, maintenance of, and adherence to the APCD's policies and procedures covering the privacy of and access to patient health information in compliance with federal and state laws and ACHI's information privacy practices. |
| (5)(c) | APCD protocols will be based upon HDI protocols currently in place to monitor data security and will be enhanced to include source data use agreement restrictions. These protocols will be supplemented with industry data security best practices and consolidated into and monitored with a security plan. The SPO will work with the AAC/AGB and development teams to review, update and approve the final security plan. |
| (5)(d) | ACHI's current protocols include an annual security assessment of the HDI which would be expanded to |

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| | include an annual security assessment for the APCD. This process has been approved by the HDI Advisory Committee and can be reviewed by the same independent auditor noted in Section 3.3(D)(5)(f), page 22, to verify fulfillment of HIRRD requirements. |
| (5)(e) | A hosting subcontractor will not be used for this solution. |
| (5)(f) | ACHI currently has a process to maintain a security system log that can be adapted for the purposes of this APCD. This system includes a closed network system with domain naming system (DNS) that logs all users accessing the HDI analytical data warehouse data hub. See Appendix E. Additionally, the electronic locking system currently in place logs all staff entering ACHI's restricted data center. Logs will be presented to independent auditors upon request. |
| (5)(g) | ACHI will provide technical support for data submitters and data users. This technical support will provide a single point of contact for issue resolution. |
| (5)(h) | Data in motion and data at rest will be encrypted using processes compliant with FIPS 140-2 cryptographic controls in accordance with NIST Special Publication 800-52. Encryption of data will be provided at rest in accordance with NIST Special Publication 800-111. Role based security will be implemented. |
| (5)(i) | Data protocols will be in place to govern the data release process, ensuring that all data requestors agree to data usage in accordance with HIRRD. See Section 3.4(K), page 30. |
| (5)(j) | As data are received on the DLZ, automated data validation processes will be executed checking data files for format, coverage thresholds for data elements and quantity thresholds. Data that do not meet the defined thresholds will not be moved from the DLZ to the APCD ETL processes. All required file formats and thresholds are outlined in the DSG. Test plans will be developed to test data submission. These plans will include tests designed for both positive and negative results to determine if data meet thresholds and process requirements. |
| (5)(k)(i) | ACHI, led by the APCD project manager, will schedule meetings in person or by phone with data submitters to develop and review data transmission rules, data submission requirements, identify and log issues and resolve issues. While the DSG will be provided by ACHI, ACHI will work with data submitters to establish data submission requirements to ensure minimum disruption of payer business processes. |
| (5)(k)(ii) | ACHI, led by the APCD project manager, will hold regularly scheduled meetings in person or by phone with data submitters to collaborate on project status, process improvements, issues identification and resolution. |
| (5)(k)(iii) | ACHI will provide a single point of contact to provide technical support to resolve data submitter questions. See Section 3.3(D)(5)(g), page 22. |
| (5)(l) | ACHI will develop, implement and maintain protocols for the web interface with SSL to provide a data transmission avenue for data providers. This portal will enable data submitters to set up automated data delivery to a data landing zone (DLZ). As data are received, automated validation scripts will be executed to monitor data receive, record counts and preliminary data validation counts. As data are received, validation feedback reports will be produced and delivered to data submitters. |
| (5)(m) | Develop and put into production the protocols and strategies identified in Section 3.3(D)(4)(a), page 21. |
| (5)(n) | Develop and put into production the protocols and strategies identified in Section 3.3(D)(4)(c), page 21. |
| (5)(o) | Data submission reports will be automatically generated for data submitters when data are submitted. Individual reports will be compiled into weekly snapshots during startup and monthly thereafter as data become available. |
| (5)(p) | ACHI technical support will monitor all data submissions and will contact data submitters directly with written notice when data submissions are non-compliant. |
| (5)(q) | ACHI will continuously monitor all processes to identify process improvements including but not limited to system performance reporting, complaint and non-compliant data submission reports, and data transformation audits. Findings will be re-evaluated regularly. Proposed improvements recommendations will be submitted to HIRRD for approval. |

## 3.4 - DATA MANAGEMENT

The proposed APCD and analytic solution will be comprised of an analytical data warehouse, website and data marts updated twice annually. Stakeholders and users will access the required reporting and information through a website/web interface. The APCD solution will be built using the following activities:

- Data Intake – Source data will be dropped on the APCD data landing zone for initial validation before being included in the APCD build processes.
- Data Transformation - Once validated, data are moved to the data staging area for data transformation processing and database build. Steps required to build the database include:
  - Data Processing - Extract, transform and load processes (ETL) will normalize data from disparate carrier systems into a single consumable data format for the APCD.
  - Data Enrichment - Data enrichment includes the application of external data such as risk and episode grouping indicators and geographic coordinates to the data warehouse.
  - Data Consolidation - Data consolidation describes the utilization of the Master Patient Index and Master Provider Index tools provided by SHARE to assign IDs to members and providers across medical and pharmaceutical claims data.
  - Secondary Data Validation - Secondary data validation includes the use of additional non-claims based data files and best practices, e.g. U.S. Census data, to further enhance APCD claims and member data for use in analysis and reporting.
- Analytics and Reporting - The APCD will include a separate platform for analytics to support standard reporting and external research. This platform will host AGB-approved, use specific limited datasets (i.e., de-identified) and custom data marts.
- Data Delivery – The solution's primary data delivery mechanism is the APCD website. The website and associated web interface will provide information about the APCD's mission, objectives, and status, as well as information to facilitate the data extract request process. Reports generated from the analytics and reporting platform will be placed on the website for user specific retrieval or public access (depending on requirements).

## RFP SECTION 3.4(E) - DATA WAREHOUSING

The APCD data warehouse will combine data from multiple sources into one comprehensive and easily manipulated data asset. This warehouse will integrate member enrollment and claims data from different carriers, incorporate the SHARE Master Patient ID, and will be housed within a multi-zoned infrastructure to maximize data security.

| 3.4(E) | Response |
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| (1) | All APCD data will be stored and processed within a self-contained, "air-gapped" closed data system solely dedicated to the APCD (i.e., separate and distinct from the existing ACHI HDI analytical data warehouse). This segregated storage solution will adhere to all data confidentiality requirements, including those from federal data contributors such as CMS for Medicare data. |
| (2) | The APCD data warehouse will utilize SQL Server 2012 relational database software to store, transform and integrate medical claims, pharmacy claims and member data files. File integration will be enabled in the relational database structure using unique record linkage protocols to join medical and pharmaceutical claims with member data. |
| (3) | ACHI anticipates storing at least three years of historical data. ACHI will require data submitters to provide adjudicated claims and send the latest version of all claims to the APCD. Validation steps within the ETL process will compare incoming claims with existing records. When duplicates are found, the latest version of each claim will be maintained in the APCD. Each update will be documented such that analytic efforts spanning across multiple updates will be able to maintain consistent records. |
| (4) | SHARE utilizes a Master Provider Index to consistently identify providers across clinical events by their National Provider Identifier (NPI) number. The APCD solution will utilize SHARE processing to append provider IDs and will not replicate SHARE methodology within the APCD. |
| (5) | The APCD solution will include several applications to enhance claims and member data: 1) geographic information systems (GIS) to assign geocodes to patient and provider data; 2) claims data groupers to |

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| | categorize claims data by diagnoses and costs; and 3) custom analytic flags and descriptive variables assigned to data as requirements are identified and approved by the AGB. |

## RFP SECTION 3.4(F) - DATA QUALITY

The APCD will facilitate data validation throughout the APCD build and update processes from data receipt to data warehouse load. Data quality reports will be produced to provide feedback to each key validation step for both ACHI and participating carriers.

| 3.4(F) | Response |
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| (1) | When carrier data are placed on the DLZ, each file is automatically evaluated for compliance with the DSG. Files out of compliance will not move forward in the process. An email message will be delivered to ACHI and to the carrier describing the compliance issue. ACHI and the carrier will work together to review and address the data quality issues. Upon resolution the carrier will resubmit the data to the DLZ for processing. |
| (2) | Data quality reviews will be conducted through every step of the process including data element-level review and logical data relationships such as month-to-month trends over time, benchmarking against other sources, and tracking of data outliers. Detailed business requirements will be gathered for each report prior to implementation. It is therefore possible that the final list of reports is not the same as those identified here. |
| (3) | ACHI will continuously monitor all processes to identify process improvements and provide ongoing feedback to HIRRD and to the carriers throughout all phases of the APCD project. Proposed improvements will be submitted to HIRRD for approval. |

## RFP SECTION 3.4(G) - ANALYSIS AND REPORTS

There are two "analysis and reports" sections of this RFP. The current Section 3.4(G), page 24, provides information about sets of "early" and "later" reports (i.e., deliverables) that will be created to support the rate review process. Section 3.4(J), page 28, provides additional information including the processes that will be used to create data marts for analysis.

The APCD will be built to facilitate data analysis and reporting. Two types of analytic needs are anticipated: analysis and reporting to support rate review and other HIRRD-specific needs (covered by resources provided in the current contract), and additional analytical needs identified and approved by the AGB (to be covered by additional funding sources TBD). It is anticipated that as the value of the APCD is demonstrated through the first set of analyses and reporting, greater demand will be evident that will help facilitate the actualization of a long-term sustainability plan (refer to Sections 3.5, page 31, and 4.2(P), page 52, for more information on the APCD sustainability plan).

The APCD will accommodate analytic and reporting needs through the provision of three concrete products and services. First, data marts will be produced with each data warehouse update, providing data for recurring descriptive web-based reports and analytics (e.g., provider distribution, carrier distribution, geographic distribution for episodes, population disease trends, etc.). These data marts are intended to be re-built without change with each update and will contain a standard set of aggregated data used for querying and reports. Second, custom data marts or analytic datasets can also be created for APCD analysts and AGB approved external researchers. These extracts can be built for single or repeated use depending on project requirements. They will be designed and delivered based on approved data use requirements (e.g., AGB approval, evidence of funding, executed data use agreements). The third type of service provided by the APCD will be the delivery of reports. Reports such as those outlined in the current RFP will require the creation of analytic datasets as well as execution of analysis and creation of user-friendly reports. These reports may or may not use the static data marts discussed above. Reporting requirements will be compiled and reports designed in the planning and design phase of the APCD development process to ensure accurate identification of consumer need, reporting use and function.

| 3.4(G) | Response |
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| (1) | As described in Section 3.3(8)(2)(b), page 18, reports will be proposed and approved by the AAC/AGB, and will be released based on the defined change and enhancement management process. |
| (2) | Detailed business requirements will be gathered for each report prior to implementation. Analyses will be conducted following the articulation of business requirements and explicit approval by the AGB (or HIRRD, in the interim) for all proposed reports and analytic projects, including the release of datasets to external researchers for beta testing. Given the proposed stakeholder engagement process, it is possible that the final list of analytic reports slotted for "early deliverables" is not the same as those identified in the RFP. However, it is anticipated that all early reports will support rate review as outlined in the RFP. Such reports may include population-based cost and utilization by geographic area, risk-adjusted population costs, and average costs per type of procedure. See Section 3.4(J)(11), page 29, for more information on Version 1.0 reports. |
| (3) | Detailed business requirements and AGB or HIRRD approval will be obtained for each proposed "later deliverable." While the full list of reports will not be determined until discussion and approval is obtained through the AGB process, reports during the later phase will continue to support rate review and specifically focus more on consumer facing reports that provide assistance in choosing high value, high quality care (e.g., provider specific cost and quality reports). See Sections 3.4(G)(2) above and 3.4(J)(12), page 29, for more information on Version 1.5 reports. |

## RFP SECTION 3.4(H) - MINIMUM REQUIREMENTS FOR 3.4 DATA MANAGEMENT

APCD data management comprises all the disciplines needed to manage its data as a valuable resource. ACHI will identify and implement tools, protocols and processes to ensure the APCD data warehouse is built and maintained to meet technical, functional and analytic requirements.

| 3.4(H) | Response |
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| (1) | The APCD solution design document will provide system specifications including the methodologies identified in the functional and technical requirements gathering processes. The rules to identify and remove duplicate claims will be outlined in the technical requirements document. Conceptual and logical data models will be included in the Data Model section of this response. These data models illustrate the data structures and relationships that will enable querying data at different levels (e.g., patient, provider, carrier, episode, disease, and geography).<br>The APCD solution will include an online document repository, the APCD Wiki documentation library, to store all project documentation including (but not limited to) project management plans, development planning documents, analytic project planning and outcome documentation, status notes, and required team reporting. Both ACHI and HIRRD will have access to this library. It will be available in a limited capacity to stakeholders, AGB members and other supporting committees. It will not be available to external entities including data submitters. These entities will be given required documentation on the APCD website. |
| (2); (4) | The proposed APCD solution will connect to SHARE via a bidirectional interface to exchange data, rather than replicate existing SHARE methodology. ACHI will articulate a plan that outlines all processes and procedures required to interface with SHARE, protect data transmissions, and send and receive data after SHARE assigns the Master Patient IDs and the Master Provider IDs. |
| (3); (5) | Validation and resolution of discrepancies will occur prior to incorporation of SHARE's Master Patient IDs and the Master Provider IDs. The IDs assignment will be tested within each set of carrier data to ensure individual identification meets carrier requirements. Where they are not met, the APCD solution will be expanded to provide additional logic to complete requirements. |
| (6) | Several third-party tools exist to manage medical claims submission and identify duplicated claims. It is anticipated that each carrier will have different medical claims management approaches. ACHI will work closely with carriers to understand their adjudication protocols and develop claim adjustment methodologies customized to the data source/claims payment system. |
| (7) | ACHI will implement tools or code developed to address duplicate adjudicated claims, ensuring the most |

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| | accurate information is retained in the data warehouse. Where identified, ACHI will work with carriers to determine how duplicate claims are being generated and build a solution to eliminate them. |
| (8) | ACHI will document the data linkages that associate medical and pharmacy claims to eligibility records, as well as claims to providers. When available, the provider National Provider Identifier (NPI) number will be used to associate providers with claims. |
| (9) | ACHI will work with each carrier to identify their member coverage criteria for maintaining eligibility spans. Carrier business requirements will be compiled into a single set of criteria that will be used to update member eligibility spans in monthly member data updates. |
| (10); (11) | ACHI will work with carriers and the AGB to identify the most useful grouper tool(s) to meet analytic needs for episodes of care, condition categories, and relative risk groups. Grouper tools will group inpatient, outpatient, and pharmaceutical claims into risk categories or clinically homogeneous units of analysis called episodes that describe a patient's complete course of care for a single illness or condition. This information will be used to provide data points for APCD reporting and for external researchers and stakeholders to use in analysis tracking and assessing population health risk analysis. Several grouper applications are used by Arkansas health insurance carriers, each customized to carrier requirements with different functionality and strengths.<br>• Arkansas Medicaid utilizes two groupers to support Arkansas Payment Improvement Initiative strategies. The John Hopkins's Adjusted Clinical Groups (ACG) grouper is used for the Arkansas's Patient Centered Medical Home initiative and Behavioral Health episode analysis. 3M's All Patient Refined Diagnosis Related Group (APR DRG) grouper is used to manage Medicaid's neonatal episode analysis.<br>• Arkansas's Employee Benefits Division uses Integrail, a decision support software that incorporates a third-party episode risk grouper for risk assessment, illness classification and episode building.<br>• University of Arkansas for Medical Sciences uses 3M's Patient Focused Episode Grouper for event based episode, disease cohort episode and population-based episode analysis.<br>Evaluation of the above groupers or additional grouping strategies will be executed after analytic requirements are complete. Analytic and reporting needs will determine if ACHI should purchase a grouper for the APCD solution, build grouping code in-house, or potentially work with existing Arkansas users of the groupers named above to contract for services or share resources. Depending on the scope of data available through the voluntary submission stage, it may be cost effective to work with the primary participating carrier(s) to utilize existing grouper software to meet interim needs. The APCD team can then learn from experienced users of the grouper tools and make a better informed decision about the purchase of an APCD-specific grouper at a later date. |
| (12) | The DLZ will be utilized for secure data transmission receipt and management. A stored area network (SAN) will be used to archive all source data in its original format, as well as final copies of all data products created using the APCD including data extracts and data marts. Any release of data (or access to secure data marts) will be conducted only after formal approval from the AGB. |
| (13) | Full backups of the APCD system will be executed monthly. Incremental backups will be executed weekly or nightly, depending on the receipt of data. One copy of each full backup will be kept at ACHI while the other will be kept at an approved off-site location. |
| (14) | Defective hardware or end-of-life hardware will be retired following UAMS protocols. ACHI will remove all data from the hardware, archiving it or moving it to new hardware. After data have been copied, the hardware hard drives will be wiped and all data removed. |
| (15) | Where possible, the APCD data warehouse will use an open architecture approach to maximize flexibility and functionality by allowing any combination of standards-compliant components in the solution design. |
| (16) | SQL Server 2012 will be the relational database application used to build the APCD. |
| (17) | The SQL Server 2012 database application will enable the aggregation of claims; member and provider data at different levels to produce quarterly and annual datasets based on multiple demographic selection criteria; disease categories; procedure types; and/or specific providers. As aggregated data become part of the APCD, table structures, design requirements and data dictionaries will be incorporated into the APCD supporting documentation stored in the APCD Wiki documentation library. |
| (18) | ACHI has extensive experience utilizing industry standard geocoding software to append latitude, longitude |

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| | and other geographic data points to member and provider data, enabling the creation of maps for data visualization and analysis. ACHI has successfully used geocoding to illustrate key economic, population health, childhood obesity, and provider workforce distributions. ACHI will utilize similar geocoding enrichment protocols to append geocodes and other GIS data points to the APCD based on requirements gathered through the stakeholder engagement process. See ACHI www.achi.net for examples. |
| (19) | ACHI has extensive experience merging U.S. Census data with individual-level data housed in the HDI analytical data warehouse. Using a similar process, ACHI will align APCD data with U.S. Census files for population reporting. Relevant U.S. Census data will be housed on the data warehouse in a separate table. |
| (20) | After requirements are defined and approved, ACHI will develop and implement routines to update the APCD data warehouse and analytic data extracts for use in reports twice per year, according to a schedule and priorities determined by HIRRD and the AGB. |

## RFP SECTION 3.4(I)-- DATA QUALITY

There are two "Data Quality" sections in the RFP. Section 3.4(F), page 24, previously provided data quality validation measures required for all APCD data processes. The current Section, 3.4(I) focuses on data quality planning. ACHI's approach to ensuring the highest quality data for the APCD includes the development and use of data quality planning and process protocols. ACHI will monitor all APCD processes for efficiency and accuracy and address and resolve issues found.

| 3.4(I) | Response |
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| (1)(a) | A comprehensive data quality plan will be developed that includes functional and technical requirements for all data quality validation processes. This plan will include field, file and record-level validation checks to ensure each data file submitted meets DSG requirements. All processes will be monitored for process improvement opportunities. |
| (1)(b) | Issues will be communicated within ACHI during daily status meetings, email or other open source monitoring application software to be identified. These issues will be communicated by ACHI to HIRRD and data submitters based on relevance and severity by ACHI. |
| (1)(c) | With each data file submitted, data submitters receive automated communication about the status of the file, if it met formatting and threshold benchmarks for acceptable submission. Automated communication is followed by an email then telephone call when data does not meet submission requirements. |
| (1)(d) | ACHI will regularly test the data quality and data associations between data points, e.g. claims to members, claims to providers, etc., to identify patterns of missing data and to ensure data meets requirements. |
| (1)(e) | A data submission quality issue reporting process will be established as described in Section 3.4(I)(b) above. |
| (1)(f) | ACHI will validate data utilizing multiple validation sources. Benchmarking against other reliable data is an effective method of validation. ACHI will work with carriers to identify the required thresholds and benchmarks defining valid data and suitable external data sources to validate member, claim, utilization, and cost information. |
| (2) | The data quality plan will be referenced with each data receipt and APCD update to ensure all data quality requirements are being met and, when they are not, data failure is communicated correctly. |
| (3) | Initial data quality reports will be provided automatically when data are submitted. Additional quality check results will be delivered in report format upon completion based on the business requirements established through the stakeholder engagement process. Depending on the complexity of these requirements, reports to data submitters will be provided in an agreed upon timeframe with a target of 5 days after submission. These reports will provide sufficient information for correction of data errors by the data submitter and will include, at minimum, acknowledgement of the submission data, number of records processed, validation status of each file and data element, and reasons for failed validation (when appropriate). |
| (4) | All project documentation, including data requests, data submissions, and reporting will be managed in the APCD Wiki documentation library and available to HIRRD and stakeholders based on access and use. |
| (5) | Carriers unable to provide all required data can request an exemption to waive the provision of fields that cannot be provided. Exemption requests will be evaluated by ACHI to identify and quantify the impact on data analysis to determine how and when exempted carrier data is used. |

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| (6) | The effect of waived fields on analysis cannot be predicted accurately until the analytic requirements are identified. When requests for waivers are submitted, ACHI will work with HIRRD, the SAG and external researchers to understand the analytic implications and help identify alternative approaches as needed. |
| (7) | ACHI will work with HIRRD to evaluate carrier requests to waive data elements or files. Upon approval, ACHI will update all data quality checks, data intake processes and DSG documentation. |
| (8) | After the stakeholder engagement process has identified target users for the APCD, appropriate user guides will be developed to meet their identified needs, including data dictionaries. |
| (9) | As APCD data are loaded to the relational data warehouse, additional quality checks are performed. Statistical error checking will be incorporated and refined to meet business requirements. |
| (10) | The APCD data team will provide quarterly reports to HIRRD describing data quality status of all data fields delivered. Information provided in these reports will include completeness, reliability, etc. and incorporate guidance from stakeholder input. |
| (11) | Test algorithms SHARE Master Patient and Provider IDs application will be executed as part of the data quality plan during the build processes and continuously through bi-annual updates to ensure consistent ID assignment. |
| (12) | ACHI will utilize SHARE's Master Provider Index to identify providers on claims records. Master Provider Index is comprised of data received directly from providers and is more accurate than commercially available records. In addition to SHARE's Master Provider Index, ACHI will utilize existing data resources currently housed within ACHI's HDI analytical data warehouse. Authorized by A.C.A. § 25-1-117, ACHI receives medical provider licensure files annually. |
| (13) | Unique identifiers provided by a third-party always hold some risk because the business requirements under which they were built typically do not align well with those of the project requesting them. When SHARE identifiers are applied to the APCD, significant testing will occur to identify gaps in patient identification. All limitations will be reported back to HIRRD. |
| (14) | Data quality reports will be compiled into quarterly summary reports for review. ACHI will acquire AAC/AGB approval to identify key data points for on-going validation to monitor completeness and credibility. |
| (15) | ACHI will identify unexplained variations in the data from the data quality reporting described above, execute research into reasons and circumstance causing the differences, and track these variations over time to identify patterns that can inform data quality thresholds. ACHI will provide technical assistance to data submitters to give feedback and improve quality and accuracy. |

## RFP SECTION 3.4(J) - ANALYSIS AND REPORTING

There are two "analysis and reporting" sections of this RFP. Section 3.4(G), page 24, previously provided general information about the APCD analytic capacity, as well as specific information on "early" and "later" deliverables/reports. The current Section 3.4(J) provides detail about specific data management processes that will facilitate effective and efficient analytics and additional detail about proposed Version 1.0 and 1.5 reports that will be made available on the APCD website. As stated previously, it is anticipated that all Version 1.0 and 1.5 reports will focus on meeting the needs of the rate review process. As additional APCD uses are identified through the AGB process and funding is secured, non-rate review analytics and reporting will be added to the functionality of the system to support sustainability.

| 3.4(J) | Response |
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| (1) | Geocoding will be appended in the APCD build ETL processes. Coding protocols and requirements will be included in the overall solution design document. Geocodes will be applied so that they align with U.S. Census data to enable population analysis. |
| (2) | Aggregated data extracts will be produced during each APCD update. Technical requirements for data extract builds will be included in the overall solution design document and will be managed within each APCD update project plan. |
| (3) | ACHI will produce a data mart with each update designed specifically for HIRRD for rate review program enhancement. This data mart will contain de-identified, aggregated data for fee schedule review reflecting market rates and geographic differences in those rates. Authorized HIRRD staff or other state agency staff |

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| | will have access to these data as needed. Data mart design, aggregation methodologies and user access tools will be identified during the requirements gathering phase of the APCD development. |
| (4) | ACHI will continuously monitor all processes to identify process improvements. Proposed improvements will be submitted to HIRRD for approval with subsequent sequenced implementation. |
| (5); (6) | ACHI will identify test sets of existing patient claims that meet specific episode and/or risk grouping criteria. These patient claims will be constructed with known attributes that can be tested for expected results based on approved grouping protocols. Deviations from expected results can indicate code errors and will be resolved as they are identified to ensure consistent, accurate analytic grouping. |
| (7) | ACHI will catalog all project documentation, including analytic plans, data dictionaries, user documents, FAQs, and final output/report descriptions in the APCD Wiki documentation library. |
| (8) | Custom report and dataset requests will be handled through the data release process described in Section 3.4(K), page 30. |
| (9) | ACHI will continuously monitor all plans and processes to identify process improvements. Proposed improvements will be submitted to HIRRD for approval with subsequent sequenced implementation. |
| (10) | The APCD solution will include SQL Server 2012, SAS (latest version), ArcGIS (latest version) and all Microsoft Office software applications to access the APCD or APCD data marts to execute research and data analysis. Tools will be matched to user skill and access authorizations. |
| (11); (12) | Consumers need tools to effectively manage their own health care needs. Technological advancements can provide tools for consumers to assess their needs and can present information in a way consumers can understand. Additionally, providers and issuers have opportunities to educate their customers about the health care system, specifically as it relates to health care seeking behavior, selecting providers, and making informed decisions. Appropriate summary data and reporting will be essential to ensure effective use of health care resources as the state continues to drive quality improvement and contain the total cost of care.<br>Aimed at addressing these goals, ACHI will create and make available Version 1.0 reports to support the rate review purpose outlined in this RFP through the web-based module that will be useful and accessible to providers, consumers, and other stakeholders. The following sample Version 1.0 reports are proposed. The demand for and value of reports will be identified through the stakeholder engagement process to ensure appropriateness and usefulness to the end user.<br>Version 1.0 reports could include, for example:<br>• Fee schedules that reflect market rates for medical services<br>• Population-based cost and utilization reports by geographic market area<br>• Summary data indicating provider affiliation with issuers and whether the provider participates in the Patient Centered Medical Homes (PCMH) program, designed to improve care coordination and patient health outcomes;<br>• Assessment of plan experience with emergency department visits or hospital inpatient stay rates, which will highlight health care cost and use data to allow consumers an opportunity to understand how their care is paid for and how much their care costs;<br>• Assessment of access to care at the plan level by examining the percentage of individuals who have received preventive services in a defined period, such as flu shots or mammograms, which will provide consumers with information about plan medical management and emphasis on prevention to avoid catastrophic illness; and<br>• Data collected through the System for Electronic Rate Form Filing (SERFF), a web-based electronic filing system, will be augmented with APCD data to enhance reports generated for rate review purposes.<br>Version 1.5 reports will build on Version 1.0 reports to reflect feedback from consumers and through formal stakeholder engagement processes, as well as advances in data precision or technical capacity of the APCD. Quality and cost data will be refreshed at each report interval and more detail will be offered as the reports move from Version 1.0 to Version 1.5 and beyond. Version 1.5 reports could include, for example: Geographic variation in market rates for medical services by plan; or a PCMH report that not only indicates which providers are participating in PCMH but also includes aggregate practice-level quality metrics tracked throughout the first year of provider participation. Consumers could use this information to identify which provider may best meet their needs (e.g., a diabetic may be interested in reviewing the summary data |

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| | related to the percentage of diabetes patients who receive an HbA1C test, or an asthmatic may looks for providers with high scores related to the percentage of their asthmatic patients prescribed appropriate antibiotic medications). Similarly, Version 1.5 reports related to hospital admission and emergency department visit rates could be expanded to indicate which geographic region experiences the lowest rates and the cost of care associated with the admission of emergency department usage. ACHI has experience in this type of analysis having used medical and pharmacy claims and administrative health plan data from multiple carriers to assess emergency department use across Arkansas for the State and Public School employee population. For example, Appendix F. Version 1.5 reports on access to care could expand to include additional preventive services or could analyze preventive services at various geographic levels, or the provider level.<br>If time and resources allow, future enhancements to reporting design and structure could exceed static reporting and include real-time search capabilities, dynamic report creation, and drill-down options, as well as enhanced connectivity to clinical data through the functionality of SHARE. Development of "dashboards" to facilitate public facing web-enabled information on health care system performance are envisioned to educate, inform, and assist consumers, providers, and employers in their engagement with the health care system. |
| (13) | This requirement will be an enhancement in later phases of APCD development. Clinical data will be added to the APCD after review. The AGB and SAG will include determining the feasibility of this enhancement and with building appropriate use cases for clinical data when available. Adding clinical data will add a significant level of complexity to the APCD and its inclusion and use should be carefully considered to ensure success. |
| (14) | This requirement will be fully developed as an enhancement in later phases of APCD maintenance. However, ACHI could potentially link APCD data with HDI data using the SHARE Master Patient Index as a key and the PID assigned in the HDI analytical data warehouse GME process. This process is not limited to data contained within the HDI. Files from any source can be processed through the GME assuming they contain name and address data. |
| (15) | The final APCD solution will include two updates per year based on stakeholder and HIRRD requirements. All analytical solution reports will be developed to be rebuilt automatically with each APCD update. These reports will be generated from data marts produced from aggregated APCD carrier data. Data marts can be utilized for other analytical projects but their main purpose is to provide data for solution reporting. |

## RFP SECTION 3.4(K) - DATA RELEASE

The release of APCD data to APCD analysts or external researchers/stakeholders, whether in the form of limited data marts or data extracts, will be designed with strict data access protocol to ensure compliance with data use agreement requirements, HIPAA regulation and AGB protocols. It is anticipated that all proposals will require, at minimum, review by the APCD Data Release Committee (ADC). The ADC will provide review and recommendations to the AGB for approval based on standards that will be outlined through the APCD development process. ACHI also proposes the establishment of a Scientific Advisory Group (SAG) that can provide feedback and recommendations to the AGB on the scientific validity of proposed uses, including but not limited to the feasibility of the proposed study, scientific credibility of proposed analyses, and power to detect significant findings based on the proposed design and sample sizes. Independent/external research proposals may potentially require three reviews—SAG, an institutional Review Board (IRB) overseeing the independent investigator, and the ADC. ACHI utilizes the University of Arkansas for Medical Sciences (UAMS) IRB to ensure appropriate safeguards and protections in research protocols. Independent researchers may choose to apply through UAMS or utilize an alternative recognized IRB at their host institution. All data will be delivered to external researchers and stakeholders either through a web portal or SFTP depending on the technical requirements of the data request and parameters of the DUAs.

| 3.4(K) | Response |
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| (1) | Data can be released either on the APCD website or through a data request process. The data request process enables external researchers and stakeholders to request data extracts or reports from the APCD for use in analysis and reporting outside the APCD data center. Data request applications will be submitted to the ADC for review and then to the AGB for approval. The ADC will review application material for |

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| | completeness and compliance with HIPAA privacy regulations and state legislative requirements (when in place). After application approval, the APCD data center staff will work with the data requesters to build required output and ensure appropriate, secure and timely access to data extracts and/or reports. |
| (2) | ACHI will follow UAMS protocols for distribution of de-identified and limited datasets. The UAMS Administrative Guide 3.1.31 fully outlines these procedures, and can be found online at http://www.uams.edu/adminGuide/PDFs/Section%203/3_1_31_DeIdentification_Of_PHI_Aug2012.pdf. |
| (3) | AAC/AGB to create the APCD Data Release Committee (ADC) for data request application review and approval. The ADC will review application material for completeness and request clarification from the data requestor (if needed). The ADC will determine, at minimum:<br>• **The feasibility of existing data to complete the project.** ADC will review proposals and provide recommendations about whether it is possible for the research to be conducted with the available information. On occasion, it may be apparent from the outset that the available data or proposed sample will not support the intended analysis.<br>• **The risk of disclosure of restricted information.** ADC will provide recommendations as to whether the analysis can be conducted without compromising the confidentiality of data sources and respondents (e.g., persons, employers, insurers, hospitals, physicians, and data suppliers). This requirement is essential to ensure all HIPAA requirements are met.<br>• **The availability of resources to support the project at the APCD data center.** Limited technical support can be provided on-site. Therefore, external entities wishing extensive programming support will need to make arrangements with a contractor for that support.<br>• **The alignment of the proposed project with the approved uses of the APCD as determined by the AGB.** In the initial phases ACHI anticipates the approved uses will rely heavily on parameters described in the Cycle III APCD grant requirements, but these uses may expand to incorporate additional uses as outlined in the current RFP or as are discussed and approved by the AGB.<br><br>It is anticipated that when voluntary data submission migrates from voluntary to mandatory, the data request approval process will not change significantly. Mandatory data must be handled with the same privacy compliance restrictions as voluntary data, and the approval process for use of the data will be the same. |
| (4) | ACHI will publish an approved pricing structure on the APCD website and will deliver data to external researchers and stakeholders after project approval and fee receipt. |
| (5) | ACHI will utilize SFTP or secure web interface processes to provide requested data to the external researcher. |

## 3.5 - SUSTAINABILITY MINIMUM REQUIREMENTS

The long-term success of the APCD solution depends on effecting sustainability solutions that meet current and future obligations while incorporating financial realities. To account for the level of uncertainty while developing the sustainability approach, ACHI suggests a flexible solution that can evolve to meet the needs of potential data users. This section discusses only minimum requirements for sustainability. Please refer to Section 4.2(P), page 52, for further details about ACHI's proposed platform for financial sustainability.

| 3.5 | Response |
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| (1) | ACHI realizes sustainability will only be created by providing data that can be useful and will work with AAC, AGB, and HIRRD to define usable solutions. ACHI proposes that revenues be derived from a combination of sources including but not limited to: user fees, government sources, and research projects. |
| (2) | Initially, through the stakeholder engagement process, and later through market response, ACHI will assess current and future demand for datasets and analytic reports (see Section 4.2(P), page 52, for examples). In addition to stakeholder input, ACHI will use its experience with the HDI to identify the market value of the data to set pricing. ACHI recommends that the volume of requests approved by HIRRD or AGB be contingent upon staffing. As demand increases, revenues generated from past projects will fund additional staffing to meet increased volume. |

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| (3) | With the approval of HIRRD initially and then AGB thereafter, ACHI will explore solutions that provide data and reports to potential users, packaged in an effective manner inclusive of standard reports, custom reports, self-service tools, and subscriptions. |
| (4) | Carriers will have data required to make informed decisions that improve quality of care and reduce health care and administrative costs. If payers do not participate in the voluntary effort, an APCD may not provide quality and reliable data needed for several ongoing initiatives. ACHI will explore ways to efficiently utilize data under both submission models to get the most value from the APCD. |
| (5) | Current revenue opportunities used by other states include general state appropriations, fee assessments on payers, Medicaid match, data sales, and pro rata sharing of expenses by payers and providers. ACHI will examine several different approaches and evaluate their feasibility for Arkansas. |
| (6) | A "straw man" pricing schedule will be developed to reflect the anticipated foreseeable demand and the cost to produce the requests. Using the stakeholder process and utilizing ACHI's current relationships with potential "buyers," ACHI will propose a pricing schedule that is both flexible and affordable. |
| (7) | At the completion of the pricing analysis, ACHI will prepare a recommendations report to HIRRD. The report will include a specified pricing cost strategy as well as projected potential revenue based on anticipated demand. The report will also include funding allocation for needed ongoing operation and maintenance. See Section 4.2(P), page 52. |

## 3.6 - PROJECT MANAGEMENT

Project management is one of the most important and critical tools for project success. It defines the entire course of development for the APCD solution. The APCD project tasks, risks, costs, milestones, and success measures will be managed using a comprehensive project management methodology that governs the APCD phased development and implementation approach ACHI will use to build the APCD solution. Each phase is executed in order, building upon the previous phase. See Section 4.2(K), page 38, for the Project Implementation Schedule phase descriptions.

| 3.6 | Response |
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| (1) | The APCD project assumptions, risks and mitigation, costs, tasks, dates, milestones, and success measures will be managed using a comprehensive project management methodology that governs the APCD development and implementation approach. This methodology will enable the coordination of project phases and tasks to ensure required outcomes are achieved and obstacles are identified and solved in a timely manner. The project methodology includes routine project review and status to ensure all participants are aware of progress, issues and mitigation.<br>A dedicated project manager will coordinate scheduling and deliverable requirements of the APCD solution development process, stakeholder engagement, and ADC committee coordination. The project manager will develop an overall project plan that governs the progress of the APCD solution communication and development through deployment. |
| (2) | The ACHI and HIRRD teams will work together to build project plans. Plan drafts will be developed and reviewed with updates contributing to a final version. The project plan will include solution requirements, risks, assumptions, task lists, milestones and timing requirements. The initial solution project plan will be developed to manage the APCD build. After implementation, separate update project plans will be developed to manage twice per year updates and interim reporting requirements. |
| (3) | The final project plan will be approved by HIRRD, validating interim and long-term business requirements. |
| (4) | ACHI will recruit a full-time project manager. The project manager will be the single point of contact internally between ACHI and HIRRD for all project questions. |
| (5) | During each phase of the APCD project, the Core Team* will hold regular update meetings with the HIRRD and technical staff to track status of tasks, actions, and issues. See Table 2. Status and progress reports will be taken at each meeting recording decisions and requested changes, and shared with HIRRD, AAC/AGB, and the ADC as appropriate. Monthly status reports and quarterly performance reports will be submitted to HIRRD, AAC/AGB, and the ADC regarding the quality, completeness, reliability, robustness, and limitations of the APCD updates. |

**Table 2. Project Meeting Framework by Phase**:**

| Activities | Meeting Frequency | Core Team* | Carriers | AAC/AGB |
|---|---|---|---|---|
| Project Plan Development | Daily | x | | |
| | Weekly | x | | |
| Envisioning Phase – Project planning and requirements gathering | Daily | x | x | x |
| Design Phase | Daily moving to weekly | x | x | x |
| Development Phase | Weekly | x | | |
| Deployment Phase | Weekly moving to monthly | x | | x |
| Ongoing Updates/Support (after end of project deployment, October 2015) | Monthly | x | x | x |

*To meet requirements, ACHI proposes a core management team comprised of the following roles: APCD Director, Project Manager, 2 data analysts. This team will also invite representatives of HIRRD to participate.
**Refer to the project phases in the Project Implementation Schedule in Section 4.2(K), page 38.

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| (6) | Project risks will be identified, categorized and documented as part of the project planning process. Each risk will be reviewed by the entire team for action and mitigation, depending on the impact of the activity. A risk assessment document will be developed and tracked as risks are identified and mitigated. This |

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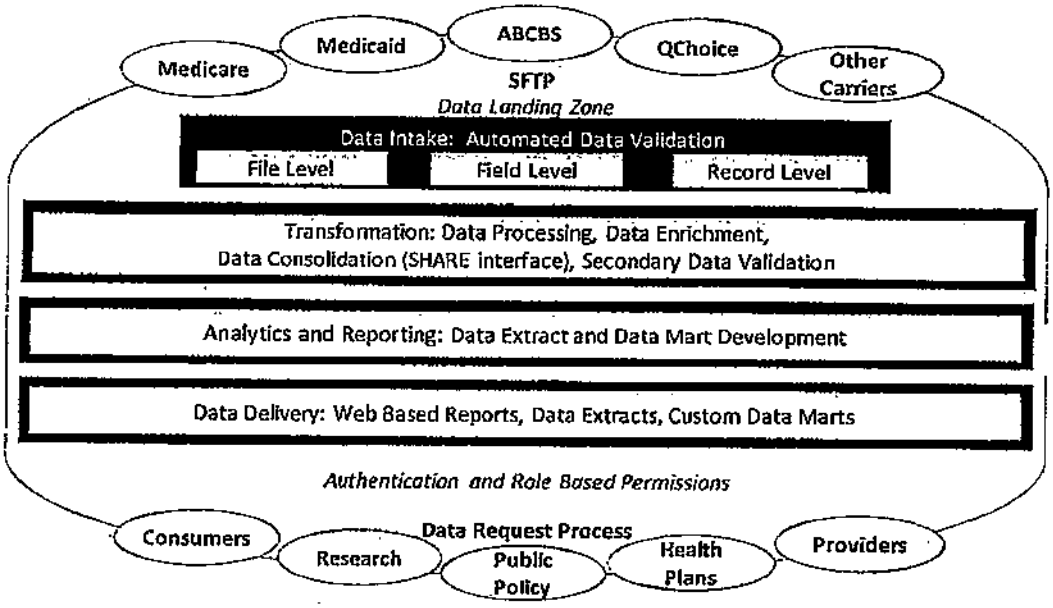
| | document is part of the overall project plan and will be managed by the project manager. ACHI has successfully developed and implemented several projects using project management processes described. See Section 4.2(M)(1), page 46, for examples. |
| (7) | Federal reports and documentation will be considered required outputs from the project development process and will be managed by the project manager through the project plan to ensure timely and accurate delivery. |
| (8) | Project history will be compiled into an annual APCD status report, tracking successes, issues, timing, and decisions that resulted in expected and unexpected changes |
| (9) | The ACHI team will work closely with the HIRRD team to execute the APCD project. This approach includes clear and consistent communication between teams to ensure successful project development and implementation. It is assumed that information required by either team that would impact the project would be made available. |

## APCD Conceptual Data Model

Figure 4 illustrates the major data processing and analysis production components of the APCD. Data are delivered through the data landing zone, transformed into de-identified, usable sets for analysis and reporting, and available for use through the data release process. The major strength of this approach is the flexibility offered in the analytics and reporting step—in which project-specific data marts are created to meet proposed and approved projects— and in its resilient expandability as new data become available.

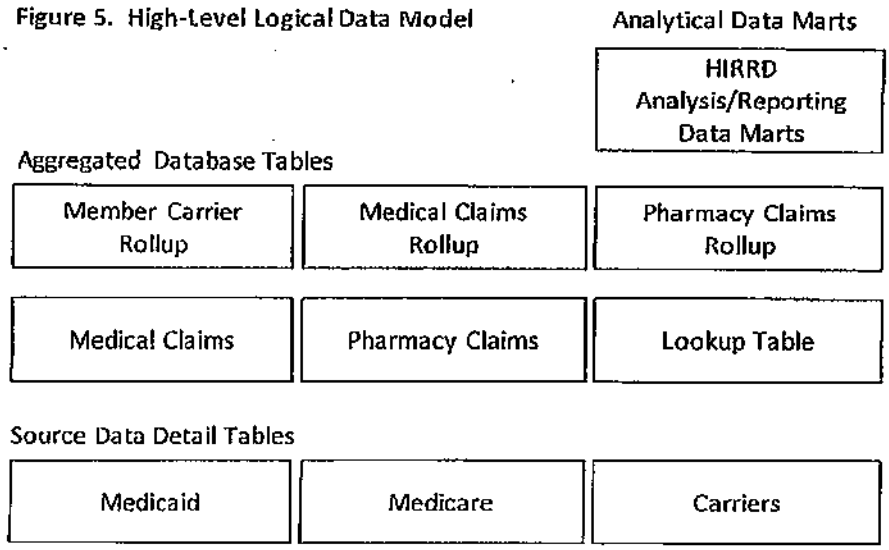
**Figure 4. Conceptual Data Model**




## APCD Logical Data Model

The APCD will be comprised of three layers as shown in Figure 5 for optimal reporting and analysis. Datasets are aggregated through each layer from raw files to data marts, each step refining information to meet analytic needs. Source data detail tables contain all raw data submitted by participating carriers. These data are rolled into aggregated database tables with SHARE individual IDs to build the individual-, claims- and carrier- level information. Finally, the aggregated data are used to build analytical data marts for the proposed reports and HIRRD. The aggregation methodology allows for flexible analytics and reporting to fulfill vast variety of data requests. The change and enhancement process will be used to ensure minimal process disruption and appropriate application of requested change. Appendix G provides an expanded illustration of the logical data model.

**Figure 5. High-Level Logical Data Model**



## RESPONSE TO BUSINESS CONTINUITY CAPABILITIES

Responses to Business Continuity Capabilities, outlined in RFP Section 4.2(J), are provided below. All ACHI personal computers are connected to UAMS Information Technology (IT) functionality maintained by UAMS IT. With the support of UAMS IT, ACHI staff manage the loss of desktop hardware or software in accordance with UAMS IT procurement protocols. Shared network storage provided by UAMS is managed and backed up with redundancies by UAMS networks support in accordance with UAMS business continuity protocols http://www.uams.edu/adminguide/PDFs/Section%207/7_3_13_DisasterRecovery_June2012.pdf, and file:///\\drsql1\wwwroot\ERP\IT%20DR%20Plan.docx.

**Health Data Initiative.** ACHI currently houses and manages the servers used for the Arkansas Health Data Initiative (HDI).These servers store the HDI analytical data warehouse and all support processes required to build and maintain it. The HDI business continuity plan ensures functionality and accessibility in the event of system failure. ACHI's current plan includes:

1. Two full system back-ups are executed quarterly on all systems with incremental back-ups executed monthly. Back-ups include programming code and data. One copy is kept at ACHI and the second, at a secure off-site location.
2. All requirement documents are saved on the UAMS network which has nightly back-up.
3. Installation software discs are stored in a different area.
4. In the event of operational system and/or application failure, virtual machine snapshots are used to provide working operational systems and applications on the same server.
5. All servers have RAID 5 configuration will compensate for lost drives while the replacement hard drives is acquired and installed.
6. A smaller unused server is available for temporary database functionality in the event of catastrophic hardware failure. Primary servers will be replaced with a temporary server within 48 to 72 hours while replacement hardware is ordered.
7. Data team members are cross-trained to be able to execute all processes used to build the HDI analytical data warehouse.
8. Communication plan is in place to inform the HDI team, ACHI director and ACHI leaders of the issues, the risks and mitigation. Communication will be delivered within 6 to 12 hours of system failure.

**APCD.** The APCD solution will include similar components adjusted to meet its specific business use requirements. Because the APCD solution will be updated more often than the HDI analytical data warehouse and includes the periodic creation of analytical data sets, continuity protocols are different. All business continuity protocols are determined based on usage. Protocols will include but are not limited to:

1. Two full system back-ups are executed monthly on all systems with incremental back-ups executed weekly (daily depending on business requirements). Back-ups include programming code and data. One copy is kept at ACHI and the second, at a secure off-site location.
2. In the event of operational system and/or application failure, virtual machine snapshots are used to provide working operational systems and applications on the same server.
3. For a single hard disk failure, RAID 5 configuration will compensate for a single lost drive by initializing a "hot-swappable" hard drive to be used while the replacement hard drive is acquired and installed.
4. All requirement documents will be stored in the APCD Wiki Documentation Library that will be backed up with the system back-up schedules.
5. Installation software discs are stored separately in a different area.
6. In the event of catastrophic hardware failure of the client facing Internet linked server, the ACHI intranet server could be substituted. Snapshots of client virtual machines are then restored to the server for external use. See Appendix H for the ACHI APCD hardware infrastructure diagram. ACHI anticipates hardware recovery within 48 to 72 hours of failure.
7. Data team members are cross trained to be able to execute all processes used to build the APCD.
8. All source code is maintained in a version control repository.

9. Communication plan is in place to inform the ACHI and HIRRD teams, stakeholders, governance board and data release committee of the issues, the risks and mitigation. Communication will be delivered within 6 to 12 hours of system failure.
10. Disaster recovery plan is established that periodically simulates failures and tests recovery processes.

When APCD processes fail, the following steps will be executed to assess impact, develop mitigation, communicate plans and take action:

1. Identify failure – Application? Hardware? Operating System?
2. Determine if data was compromised. If so, quantify damage/loss.
3. Determine if code was compromised. If so, quantify damage/loss.
4. Evaluate impact to current processes and deliverables.
5. Identify corrective solutions and resolution time.
6. Identify mitigation and temporary solutions while corrective solutions can be implemented.
7. Communicate with AID, internal teams and external stakeholders/governance board. Provide recommendations and gather feedback.
8. Develop recovery process based on feedback and recommendations.
9. Communicate with external users.
10. Execute.
11. Communicate status regularly.

At no point in the recovery of APCD systems will personal health information (PHI) be compromised. All personal health information (PHI) is stored in a closed data system within ACHI's data center and has no exposure to external networks.

## PROJECT IMPLEMENTATION SCHEDULE

Responses to the Project Implementation Schedule, outlined in RFP Section 4.2(K), are provided below. ACHI will utilize a phased approach to execute the key activities required to build and implement the APCD. These phases ensure the effective administration of all tasks enabling the project to remain on schedule and to manage project changes, thus minimizing disruptions in meeting project goals. High-level descriptions of each phase, including key activities and deliverables, are outlined in this section. The APCD Project Implementation Milestones and Key Activities schedule shown below in Table 3 conforms to the Milestone Schedule found within Section 3.7 of the RFP.

### Project Implementation Phases

**Envisioning Phase.** Stakeholders engage in the assessment of ACHI's high-level view of the solution's vision and scope, goals, constraints, desired outcomes, and process-developments. The APCD business, functional, and technical requirements are developed in detail through the stakeholder engagement process and will include all aspects of the solution's structure, meeting the expectations of the AID, HIRRD, stakeholders, and user groups. The final project plan is developed with a succinct and directive project scope for the final solution.

**Design Phase.** Business, functional, and technical requirements transform into detailed system specifications describing how to build the APCD data warehouse, data transfer functionality, APCD website, analysis reports and data marts. These system specifications are organized in a way suitable for implementation within the constraints of a physical environment (e.g., ACHI's data center, required data transfer protocols, etc.). Deviation from the final solution's scope could result in project changes impacting timeframes and development costs.

**Development Phase.** Using the system specifications compiled in the Design Phase, APCD solution components are constructed including data collection and validation processes, extract, transform, and load (ETL) processes, data integration processes with SHARE, website development, database and data mart builds and report development. During this phase, hardware is installed and data transmission protocols are finalized. Each process and solution component is tested to ensure accurate and appropriate functionality.

**Deployment Phase.** The final solution is moved into production, ensuring that functionality remains unchanged and users receive training and solution support. User groups are established for ongoing feedback to identify process improvement. Analytic report Versions 1.0, 1.5, 2.0 and 2.5 are produced and the analytic framework for future report versions is finalized. Supporting goals include implementing the solution technology and its components and transitioning from the initial project phases to operations and technical support. Data backup and recovery protocols are put in place.

### Project Implementation Timeline

ACHI's APCD project implementation schedule provides an in-depth timeline that correlates to the Milestone Schedule in Section 3.7 of the RFP outlined in Table 3 below. Plan components include the following:

- **Task Number ("#").** The number identifying the task.
- **Key Activities.** Key activities provide a high-level description of the primary tasks required to implement the APCD solution in the required timeline.
- **Start Date and Finish Date.** The dates projected for the task beginning and completion.
- **Duration.** The estimated length of time, rounded to the nearest day, required to complete the task. Tasks with 0 days duration are project milestones.
- **Dependent Tasks (DT).** The task number that must be completed before the current task can begin, i.e., the task is dependent upon the completion of the previous task.

Table 3. APCD Project Implementation Milestones and Key Activities

| # | Key Activities | Start | Finish | Duration | DT |
|---|---|---|---|---|---|
| 1 | Envisioning Phase | Mon 3/10/14 | Fri 6/13/14 | 69 days | |
| 2 | Notice of Award | Mon 3/10/14 | Mon 3/10/14 | 1 day | |
| 3 | Non-disclosure Agreements Execution | Tue 3/11/14 | Mon 4/14/14 | 25 days | 2 |
| 4 | Contract Effective Date | Tue 4/15/14 | Tue 4/15/14 | 0 days | Milestone |

| | | | | | |
|---|---|---|---|---|---|
| 5 | ACHI/HIRRD Team Project Approach Development | Tue 4/15/14 | Wed 4/16/14 | 1 days | |
| 6 | Stakeholder Engagement | Wed 4/16/14 | Mon 5/5/14 | 13 days | 5 |
| 7 | Establish APCD Stakeholder Group | Wed 4/16/14 | Wed 4/30/14 | 10 days | 5 |
| 8 | Establish Mission, Vision and Goals | Wed 4/30/14 | Thu 5/1/14 | 1 day | 7 |
| 9 | Develop Communication Strategy | Fri 5/2/14 | Mon 5/5/14 | 1 day | 8 |
| 10 | Project and Requirement Planning | Mon 5/5/14 | Thu 5/29/14 | 18 days | 9 |
| 11 | Draft project Plan Development | Mon 5/5/14 | Wed 5/14/14 | 6 days | 9 |
| 12 | Submit draft Project Plan | Wed 5/14/14 | Wed 5/14/14 | 0 days | Milestone |
| 13 | Business, Functional and Technical Requirement Development | Wed 5/14/14 | Mon 5/27/14 | 9 days | 12 |
| 14 | Data Submission Guidelines (DSG) development | Tue 5/27/14 | Thu 5/29/14 | 2 days | 13 |
| 15 | Finalize Project Schedule | Thu 5/29/14 | Thu 5/29/14 | 1 days | 14 |
| 16 | Requirements and Plan Approval | Thu 5/29/14 | Fri 5/30/14 | 1 days | 15 |
| 17 | Final Implementation Project Plan Submission | Fri 5/30/14 | Fri 5/30/14 | 0 days | Milestone |
| 18 | Data Use Agreement Execution | Fri 5/30/14 | Fri 6/13/14 | 10 days | 17 |
| 19 | Design Phase | Fri 5/30/14 | Wed 7/23/14 | 38 days | |
| 20 | Analytics and Reporting Design | Fri 5/30/14 | Mon 6/16/14 | 11 days | 17 |
| 21 | Infrastructure Design | Wed 6/11/14 | Fri 6/13/14 | 2 days | 17 |
| 22 | Website and Web Interface Design | Fri 5/30/14 | Fri 7/11/14 | 30 days | 17 |
| 23 | Security Design | Thu 6/12/14 | Tue 6/24/14 | 8 days | 21 |
| 24 | Source Data Acquisition | Mon 6/16/14 | Thu 6/26/14 | 8 days | 18 |
| 25 | Extract, Transform, Load Process Design | Thu 6/26/14 | Thu 7/17/14 | 15 days | 24 |
| 26 | APCD Solution Design Approval | Mon 7/21/14 | Wed 7/23/14 | 2 days | 25 |
| 27 | Development Phase | Fri 6/13/14 | Fri 1/9/15 | 150 days | |
| 28 | Infrastructure and DLZ Configuration | Fri 6/13/14 | Wed 7/23/14 | 28 days | 26 |
| 29 | ETL Development | Wed 7/23/14 | Mon 8/4/14 | 8 days | 26 |
| 30 | APCD Data Warehouse Build | Tue 7/29/14 | Tue 8/12/14 | 9 days | 29 |
| 31 | Website and Web Interface Build | Fri 7/11/14 | Tue 8/12/14 | 22 days | 26 |
| 32 | APCD Initial Release Approvals | Tue 8/12/14 | Fri 8/15/14 | 3 days | 31 |
| 33 | Project 'Kick-off' with Carriers Completed | Fri 8/15/14 | Fri 8/15/14 | 0 days | Milestone |
| 34 | APCD Data Warehouse Operational (initial release) | Sun 8/17/14 | Sun 8/17/14 | 0 days | Milestone |
| 35 | Test Data Acquisition Finalization | Mon 8/18/14 | Mon 9/15/14 | 21 days | 34 |
| 36 | Receive Test Data Submitted by Carriers | Fri 9/12/14 | Fri 9/12/14 | 0 days | Milestone |
| 37 | APCD Build Process Testing I | Mon 9/15/14 | Fri 11/28/14 | 55 days | 36 |
| 38 | Receive Carrier Historical Data | Fri 11/28/14 | Fri 11/28/14 | 0 days | Milestone |
| 39 | APCD Build Process Testing II | Mon 12/1/14 | Tue 12/30/14 | 21 days | 38 |
| 40 | Receive Carrier Year to Date Files | Tue 12/30/14 | Tue 12/30/14 | 0 days | Milestone |
| 41 | Monthly File Submission Begins | Tue 12/30/14 | Tue 12/30/14 | 0 days | Milestone |
| 42 | Deployment Phase | Thu 12/31/14 | Thu 7/14/16 | 401days | |
| 43 | APCD Final Build | Thu 12/31/14 | Fri 1/16/15 | 13 days | 41 |
| 44 | Analytics and Reporting Version 1.0 | Mon 1/19/15 | Tue 2/17/15 | 22 days | 42 |
| 45 | Publish Version 1.0 Reports | Tue 2/17/15 | Tue 2/17/15 | 0 days | Milestone |
| 46 | Analytics and Reporting Version 1.5 | Wed 2/18/15 | Fri 5/15/15 | 63 days | 44 |
| 47 | Publish Version 1.5 Reports | Fri 5/15/15 | Fri 5/15/15 | 0 days | Milestone |
| 48 | Analytics and Reporting Version 2.0 | Mon 5/18/15 | Wed 7/15/15 | 43 days | 46 |
| 49 | Publish Version 2.0 Reports | Wed 7/15/15 | Wed 7/15/15 | 0 days | Milestone |
| 50 | APCD Update | Thu 7/16/15 | Tue 9/1/15 | 34 days | 48 |
| 51 | Analytics and Reporting Version 2.5 | Wed 9/2/15 | Mon 11/16/15 | 54 days | 49 |
| 52 | Publish Version 2.5 Reports | Mon 11/16/15 | Mon 11/16/15 | 0 days | Milestone |

| # | Parallel Key Activities | Start | Finish | Duration | DT |
|---|---|---|---|---|---|
| 53 | Sustainability Planning | Mon 3/10/14 | Fri 7/25/14 | 100 days | |
| 54 | Mandatory Data Submission Planning | Mon 3/10/14 | Fri 8/21/14 | 167 days | |

## Risk Factors and Mitigation

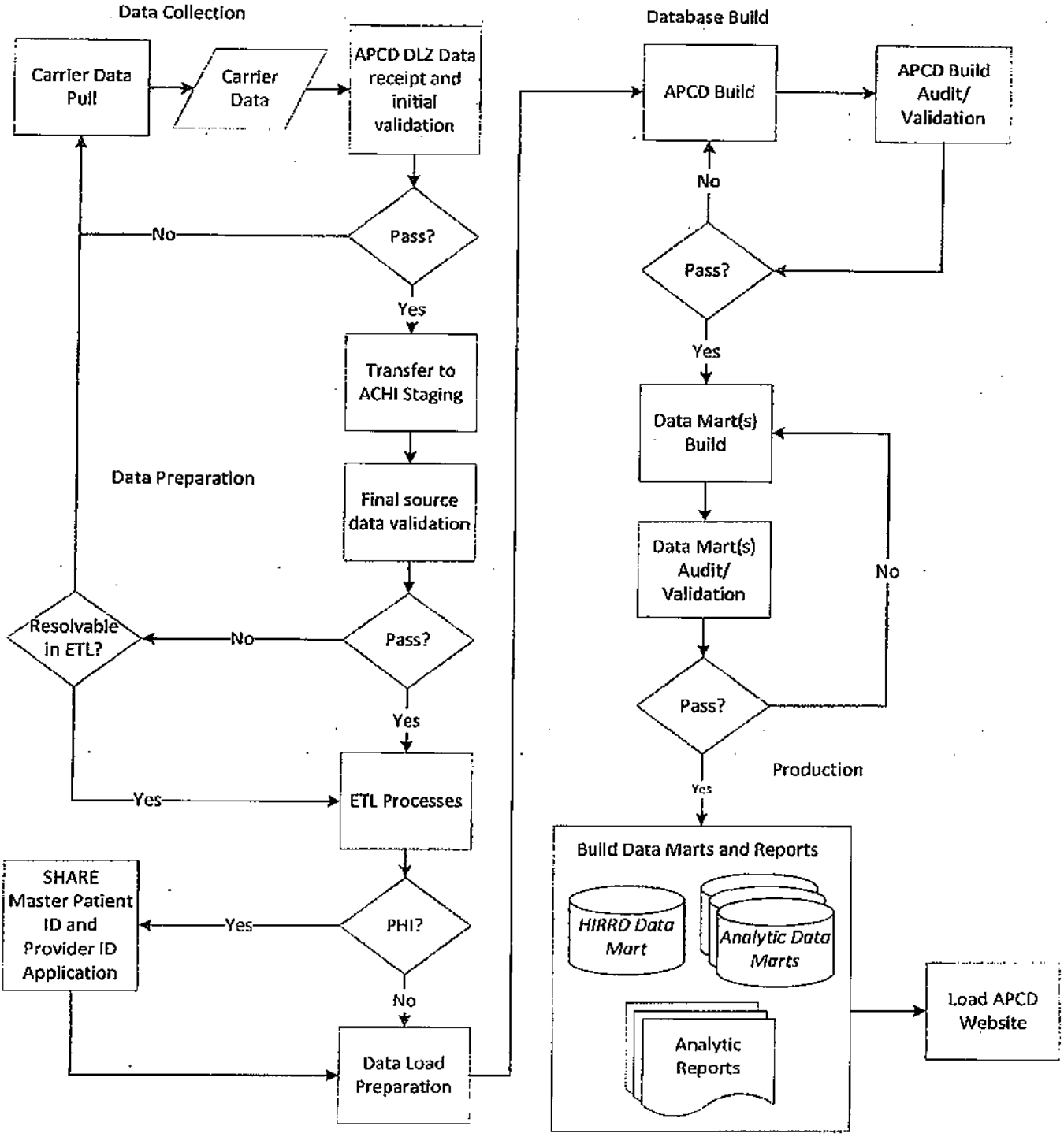
It is imperative that AID, AAC, and AGB approvals be given in the timeframes indicated above for the successful completion of the implementation schedule. Critical dependencies and key risks that can impact the timely delivery of the APCD are outlined below in Table 4. All mitigation decisions will be made jointly between ACHI and HIRRD to ensure appropriate and effective utilization of allocated resources. Key activity risks include but are not limited to:

Table 4. Key Activity Risks and Mitigation

| Key Activity Risks | Mitigation |
|---|---|
| **Delayed contract effective date.** All activity dates will be jeopardized. The required milestones do not allow for extra time to be built into the timeline. No time can be made up to ensure the required dates are met. | For every day the contract is not in place, add as many days to the Key Activity start and finish dates. |
| **Stakeholder hesitation to participate in a collective engagement process.** Stakeholders are required to contribute to the requirements gathering and design of the APCD solution. | Utilize ACHI's existing one-on-one relationships with the stakeholders to garner support for a collective process. |
| **Limited DUA execution.** Receipt of APCD source data is dependent on executed DUAs, which can only happen when the stakeholder engagement process has determined the parameters of APCD use. If DUAs are not in place, data cannot be provided to the APCD. | ACHI proposes two options if DUAs are not executed on time.<br>• Move forward without the data source<br>• Change project scope and timeline to accommodate delay in agreement for an executed DUA |
| **Requirement gathering periods exceed project schedule.** As requirements are gathered, new information can be identified that requires additional research. Dependent activities cannot be executed until preceding tasks are complete. | ACHI will work through the stakeholder engagement process to quickly identify parameters for early deliverables so the requirements gathering scope can be determined. ACHI will build the scope from these parameters and work to limit the requirements gathering process to this scope. |
| **Component design exceeds allotted time.** It is possible that the identified uses may translate into more complex components that could be designed in the time allowed. It is also possible that the proposed component solutions do not produce intended results and therefore need to be altered. | • ACHI in partnership with AAC and HIRRD will have to provide initial boundaries around proposed solutions in order to meet required deadlines.<br>• ACHI will redesign component(s) to eliminate features to meet required dates.<br>• Early discussion with AAC and HIRRD may determine if there is any flexibility in timelines for additional complex components that are deemed priority. |
| **Component development exceeds allotted time.** It is possible that the identified uses may translate into more complex components that could be developed in the time allowed. It is also possible that the proposed component solutions do not produce intended results and therefore need to be altered. | • ACHI in partnership with AAC and HIRRD will have to provide initial boundaries around proposed solutions in order to meet required deadlines.<br>• Redesign component(s) to eliminate features to meet required dates<br>• Early discussion with AAC and HIRRD may determine if there is any flexibility in timelines for additional complex components that are deemed priority. |

## Data Flow Diagram

Figure 6 illustrates the flow of data through the required data processing steps to build the APCD.



## ORGANIZATIONAL CAPACITY

Responses to Organizational Capacity, outlined in RFP Section 4.2, are provided below.

### Organizational Capacity

**(L)(a) Company Information.** ACHI was established in 1998 and operates as an independent entity administratively housed within the University of Arkansas for Medical Sciences in the state system of higher education. ACHI has no subsidiaries. Its office is located at 1401 West Capitol Ave, Suite 300, in Little Rock, Arkansas, within private office space independent of the UAMS main campus. ACHI currently employs 36 full-time employees (FTEs). All employees associated with this project are located within the ACHI office location noted above.

As a nonpartisan, independent health policy center, ACHI is dedicated to improving the health of Arkansans. ACHI was formed as an innovative solution to the health crises faced by Arkansas. The purposeful structuring of ACHI as an independent entity with separate administrative and policy decision-making bodies has uniquely enabled ACHI to serve as an unbiased convener for health policy progress in Arkansas. See Section 2.3(C), page 5, for additional information about ACHI's status as an academic institution and conflict of interest requirements.

**(L)(b) Organization.** ACHI's mission is to be a catalyst for improving the health of Arkansans through evidence-based research, public issue advocacy, and collaborative program development. ACHI's vision is to be a trusted health policy leader committed to innovations that improve the health of Arkansans. ACHI's values are trust, innovation, initiative, and commitment. The organization's objectives are achieved by working in collaboration with state and private partners as a trusted leader in developing health policy solutions and by serving as a resource for non-partisan, policy-relevant information.

**Commitment to the Public Sector.** Since its inception, ACHI has actively pursued its mission to improve the health of Arkansans. ACHI has developed and honed the ability to nimbly adjust priorities to embrace opportunities arising from the shifting health policy landscape. As a result, the Center has have been entrusted with a leadership position for Arkansas's health policy. By providing evidence-based research, advocating for public policies that enhance health and wellness, and collaborating to build programs, ACHI has delivered many meaningful accomplishments, especially in the areas of disease prevention and health promotion, health care finance, and access to quality care. In addition to its demonstrated value in providing empirical support, ACHI has been able to deliver on political achievements to effect change on behalf of Arkansas citizens. These attributes have enabled the state to advance tobacco control and prevention, injury prevention and trauma system response, obesity prevention and treatment, health care expansion and evaluation, consumer education and political engagement.

Most recently during the past four years, ACHI—as Arkansas's leader in developing, analyzing, and catalyzing state and local health policy solutions to improve the health of Arkansans—has provided leadership and coordination for an initiative involving multiple state agencies and the private sector to transform the Arkansas health care system. Today Arkansans from both the public and private sectors are working together to proactively shape the future of our health system.

The Arkansas Health System Improvement Initiative includes work in areas necessary to build a health care system that will meet the needs of Arkansans. Directed by Governor Mike Beebe and led by ACHI Director and Arkansas Surgeon General, Dr. Joe Thompson, the overall initiative has four focus areas--payment innovation, health care workforce development, expanded health care coverage options, and adoption of health information technology—across multiple state agencies and private sector interests.

ACHI's interest in this RFP is rooted in its mission to serve as a catalyst to improve the health of Arkansans. While funding for this RFP has its origin in rate review, the utility of an all payer claims database (APCD) is extensive and can support measurement of health and health care costs, access, and quality as the state forges ahead with system transformation. ACHI views its role in the creation of an APCD as one consistent with its role as a catalyst with the end product valued as a public utility and protected from use for commercial gain.

**Similar Projects – Data solutions.** ACHI has extensive experience in implementing database and web portal solutions. ACHI's flagship solution is the Health Data Initiative (HDI) analytical data warehouse, a multi-payer integrated data warehouse used for health policy research. Prior to the development of the HDI analytical data warehouse, ACHI built other data solutions to support data collection and research for key policy issues including the

obesity initiative to fight adult and childhood obesity, primary seatbelt and graduated driver's license laws, and the Arkansas trauma system implementation. Other ACHI developed data tools include the multi-state integrated data initiative (MSID), a data extraction and analytic tool that combined Current Population Survey (CPS) data, Behavioral Risk Factor Surveillance System (BRFSS) data, and County Business Patterns data by state utilized between 2001-2006 under contract with 35 other states.. Web portal solutions include the Body Mass Index (BMI) student data collection portal, the online School Health Survey for the Coordinated School Health (CSH) evaluation, and the online physical activity measurement data collection tool for the Child Wellness Intervention Project (CWIP) evaluation.

**Similar Projects – Stakeholder engagement for policy or public support solutions.** Historically ACHI has been successful with stakeholder engagement that has resulted in consensus and policy change. For example, ACHI led the Coalition for a Healthier Arkansas Today (CHART), formed to advocate for using tobacco settlement funds for health improvement in 2000. From 2000-2007, ACHI led the first Arkansas Health Insurance Roundtable, leading to establishment of ARHealthNetworks, a health insurance safety net program for small businesses. In 2009, ACHI led stakeholder engagement and statewide efforts to double the state's tobacco tax to reduce youth tobacco use and fund more than 15 statewide programs including the Arkansas Trauma System. Also in 2009, ACHI led state efforts to develop a health information exchange resulting in establishment the State Health Alliance for Records Exchange and the Office of Health Information Technology (SHARE). In 2011, ACHI led a year-long stakeholder engagement that resulted in the state's first ever health workforce strategic plan.

ACHI fully recognizes the need to engage stakeholders with respect to the transfer of sensitive data. In fact, ACHI has developed a quarterly advisory committee process for engagement with entities that contribute to the Arkansas Health Data Initiative (HDI). Through the HDI advisory committee, data contributors may review HDI processes and analyses and suggest processes and analyses to be undertaken. ACHI has executed data use agreements with each data contributor and manages the requirements associated with each agreement as research projects develop.

In addition to its ongoing leadership of the HDI Advisory Committee, perhaps most pertinent to ACHI's capacity for stakeholder engagement is its current leadership of stakeholder meetings regarding the development of a claims database for multi-functional utility and accompanying governance. Since 2012 ACHI has been working with the Arkansas Insurance Department (AID) on a process to develop strategies to measure health plan quality, with the potential to develop a claims database for that purpose. In July 2013, ACHI presented its recommendation to engage in a stakeholder process to AID's Arkansas Health Connector Division. At the time of the recommendation, there were divergent views among stakeholders that did not immediately lead to strategies for generation and reporting of quality data. However, efforts led by ACHI to incorporate mandatory reporting by all carriers participating in the Health Insurance Marketplace to support the Health Care Independence Act offers promise to accelerate development of an APCD. Ongoing stakeholder involvement continues to develop a convergence of views through identification of opportunities and exploration of perceived risks associated with an APCD.

Currently, ACHI is actively engaged with the following stakeholders:

- Data Subgroup with Health Insurance Marketplace (HIM) Carriers—In a series of bi-weekly meetings with HIM carriers beginning in October 2013, ACHI led discussions about timing and required data submission, in part, for Health Care Independence Program participation requirements but, more generally, for data requirements applicable to all carriers in the HIM that would be needed for federal and state law reporting, evaluation, and measurement of access, cost, and quality across programs. There was agreement between carriers and the state with respect to data reporting that was memorialized by a memorandum of understanding. ACHI will continue meetings with carriers throughout 2014 to gain consensus on the format of data submission and processes for issuer submission. ACHI will also continue to work with issuers to flesh out requirements for broader data submission requirements in AID Bulletin 38-2013.
- Employer Advisory Council—Formed in January 2013, the Employer Advisory Council (EAC)—co-chaired by the Arkansas Chamber of Commerce, Walmart, and ACHI--has successfully sought and gained the input and participation of public and private self-insured purchasers in Arkansas's Payment Improvement Initiative (APII). Current participants in the APII include Walmart, the Arkansas State and Public School Health Insurance Program, Federal Employees Health Plan, Baptist Health Employer Group, and Arkansas Blue Cross and Blue Shield Employer Group. Recently the EAC has addressed data transparency goals and timeline requirements to

achieve public facing information within APII and has discussed how enhanced data would support quality, cost, and access needs for Arkansas's overall health system.

- Arkansas Medical Society (AMS)/Arkansas Hospital Association (AHA)—Since late 2012 ACHI has staffed joint meetings with the AMS and AHA to discuss successes and challenges associated with the APII. With the introduction of the patient-centered medical home rules from Medicaid, the need to track total cost of care for a patient population, and the desire from primary care providers for information about the value (cost and quality) of downstream specialty care providers, ACHI engaged these provider associations in a discussion about the potential for use of an APCD for this purpose and for measuring quality generally.
- APII Executive Committee—ACHI provided the APII Executive Committee, consisting of Medicaid leadership/Arkansas Department of Human Services leadership, Arkansas BlueCross and BlueShield, QualChoice of Arkansas with the vision graphic presented to AID for an APCD with multi-functional utility. While generally in agreement that public and private claims combined, analyzed, and presented to providers in a standardized format facilitate system transformation the lack of an APCD represented a barrier for integrated provider reports.
- Individual Carrier Engagement—In general, carrier support for a broad mandatory APCD of all insurance products is lacking at present in the Arkansas marketplace. ACHI has engaged separately with carriers to explore potential benefits and perceived risks. Arkansas Health & Wellness Solutions (Centene with its product line, Ambetter), a new entrant into the Marketplace, expressed an opportunity to utilize common infrastructure in their need to satisfy marketplace requirements for participating in the APII. Leadership from the carriers indicated that while they are not in favor of APCDs broadly, there was potential for less aversion with the development of a governance model that would set forth privacy and security guidelines and rules about use and dissemination. The importance of protecting proprietary information was highlighted and concern was expressed over about providing pricing information.

ACHI's track record of stakeholder engagement on this topic has resulted in convergence of views about the potential development of an APCD and its utility in addition to documentation of the opportunities and perceived risks. Consequently, the environment for a more public engagement process—in particular about APCD governance—has ripened.

**(L)(c) Subcontractors.** ACHI will utilize two subcontractors for the APCD build and implementation.

**David Darling:** ACHI will utilize the services of David Darling to support system architecture design and development to augment capacity for support of the APCD database development and technical build. Mr. Darling has been a long-term engagement with ACHI under a sole source contract. He has supported ACHI for three years as system architect and system developer for the HDI analytical data warehouse update processes. Mr. Darling's programming services include, but are not limited to, activities such as developing aggregation tables, developing HDI analytical data warehouse data hub ETL processing tools, etc. Mr. Darling is HIPAA certified and has full, authorized access to ACHI's data infrastructure. As system architect and system developer, Mr. Darling will design and build the basic structure of the APCD networks and databases, define the essential core design features and elements that provide the framework of the solution. He will then translate these designs into working requirements to guide the constructions of the solution. See Appendix I for Confidentiality Agreement.

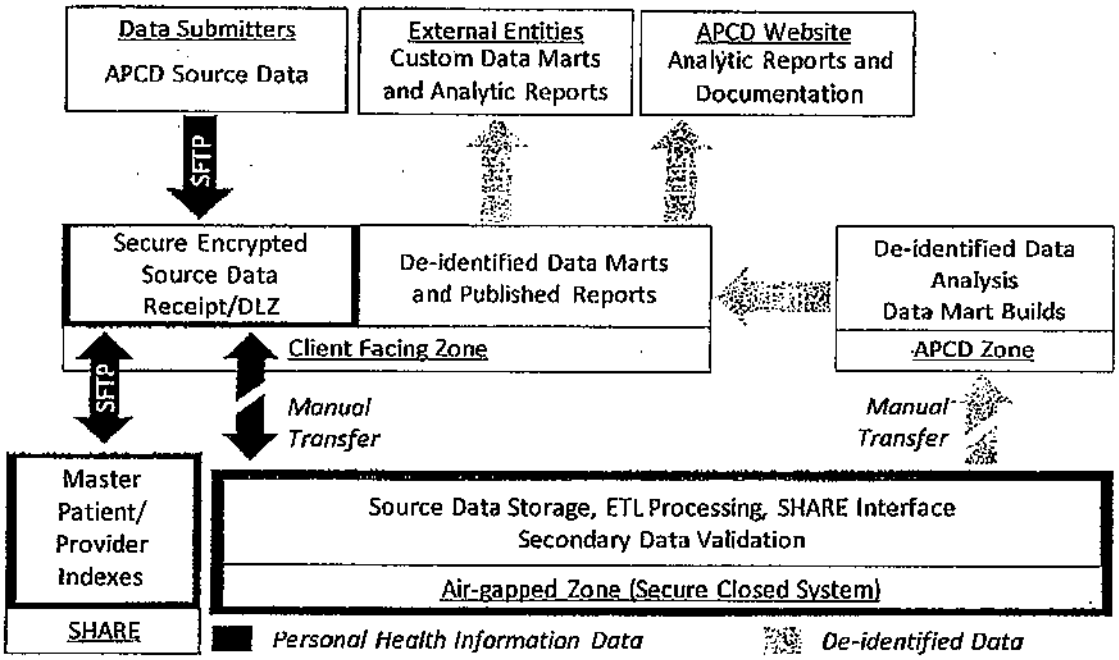
**Camden Group - Kimberly Hartsfield:** ACHI anticipates engaging the services of Kimberly Hartsfield for health care claims analytical consultative support. Ms. Hartsfield is currently a health care consultant with The Camden Group. She has over 20 years of uniquely positioned experience to serve as a trusted advisor on this project. Prior experience includes serving as director of the informatics area at Arkansas Blue Cross and Blue Shield where she had responsibility for building an analytics team and producing population health management reporting and analysis. She implemented the APII episodes of care program, has expertise in episode grouping methodologies, and both provider/member facing cost and quality transparency data. Confidentiality agreements will be obtained when the contractual agreements are in place.

**(L)(d) Infrastructure.** ACHI will utilize an existing hardware/software platform re-configured to satisfy the APCD infrastructure requirements. The APCD data warehouse will be built using an open architecture approach to maximize the flexibility and functionality by allowing any combination of standards-compliant components in the design of the solution. Windows Server 2012 will be the operating system used throughout. SQL Server 2012 will be the database application to maximize portability and data processing flexibility. ACHI's custom tool, DqsXformer,

will be the ETL and source validation reporting application. SAS and ArcGIS will be the primary analytic and geocoding applications. See Appendix H for the ACHI APCD hardware infrastructure diagram.

Data warehouse build utilizes three data zones to maximize data privacy protection of PHI and access to analytic data marts and reports. Each server within the APCD zones will have multiple virtual instances to provide dedicated processing environments to key processing areas, e.g. database build, ETL processing, analytics, geo coding, etc. See Figure 7 for zone and data flow illustration.

Figure 7. APCD Infrastructure Zones and Data Flow




**Client facing zone.** The client-facing zone uses a dedicated server for multiple functions. It will house the DLZ for secure encrypted source data receipt, processes for preliminary source data validation and shared areas for issue tracking, collaboration and Wiki documentation. The proposed flow of data through the DLZ is illustrated in Appendix J. Authorized data submitters will drop source files on the DLZ for incorporation into the APCD update process. SHARE will access the DLZ for data pickup and delivery for Master Patient Index and Master Provider Index ID assignment. APCD reports will be placed on the APCD website via the DLZ. Additionally, this zone will be made available to authorized external entities for access to HIRRD data marts, analytic datasets, and custom data marts.

**Air-gapped zone.** After encrypted source data are validated and manually moved to the air-gapped zone. The air-gapped zone provides secure storage and processing of data containing PHI. It is contained within a closed system having no connectivity with the Internet or outside networks, accessible only by authorized ACHI staff. This zone contains a dedicated server for source data staging and a second server divided into three virtual instances for test, development and production areas. Data are processed through ACHI's ETL tools, appended with SHARE Master Patient and Master Provider IDs and de-identified for the APCD load. The prepared data is reviewed and manually transferred out of the air-gapped zone to the APCD zone for data aggregation and data mart builds.

**APCD zone.** The APCD zone uses a large capacity server for the APCD de-identified data warehouse, GIS and analytic tools required to build the APCD solution reports and data marts. Data delivered from the air-gapped zone is aggregated and transformed into information stored in the APCD for analytic and reporting use, accessible only by authorized ACHI staff. User specific data marts and reports generated in this zone are published to the client-facing zone for authorized external consumption.

**(L)(e) Data Warehousing and Hosting.** ACHI's HDI integrated analytical data warehouse is one of the most complete multi-payer claims datasets in the US and a major health policy data asset in Arkansas. Authorized by the Arkansas General Assembly in 2003, ACHI has developed a secure, integrated data solution to support multiple state governmental and programmatic needs. Utilized initially to support the Medicaid waiver enabling the

ARHealthNetworks program, it has been successfully employed for policy development (e.g. trauma system justification, primary seatbelt / graduated driver's license, longitudinal obesity assessments, obesity cost-impact assessments) and program evaluation (ARHealthNetworks waiver evaluation, multiple State and Public School Health Insurance analyses). Existing data sources include Medicaid, Medicare, and multiple private health carrier insurance claims, clinical assessments, and vital registry data. ACHI manages and updates over 500MM transactional health and claims records in the HDI analytical data warehouse with bi-annual updates.

A unique component of the HDI analytical data warehouse is the capacity to link individual information across datasets in a secure and protected manner using ACHI's Generic Match Engine (GME). The GME evaluates non-clinical personal health information (PHI) (e.g. name, SSN, zip, date of birth) to identify unique individuals. The matching algorithm evaluates records at multiple levels, applying customized rules to resolve data anomalies (e.g. misspelled names, address errors, date of birth errors) and enables grouping at individual and family levels. Elimination of personal identifiers immediately after matching ensures appropriate security and privacy protections are employed prior to any analytic execution.

In addition to the state policy and program development identified above, the HDI, under appropriate Institutional Review Board approval, has successfully supplied information to researchers at the University of Arkansas and UAMS.

ACHI has passed security requirements and assessments by the Arkansas Department of Health, the Arkansas Department of Human Services, the US Department of Human Services Research Data Assistance Center, and UAMS. ACHI conducts annual security assessments on the HDI environment to ensure data security compliance. No breach has been identified to date. Following UAMS's policy, ACHI has not purchased cyber insurance previously because ACHI's data are protected under UAMS's sovereign immunity statute, as are other agencies of the State. The results of ongoing annual security assessments will be sent to HIRRD.

## Relevant Experience and Expertise

**(M)(1) Relevant Experience and Expertise.** The following projects provide examples of relevant experience and expertise of the ACHI team. They demonstrate both a capacity for complex data integration as well as accurate analytic reporting. In addition, each represents a unique set of stakeholder partnerships that have resulted in fruitful policy-relevant empirical information to improve executive leadership decision-making capacities and, in turn, health outcomes for Arkansans.

Project 1:

| | |
|---|---|
| Client Name/Organization | State of Arkansas pursuant to A.C.A. § 20-8-401, et seq., The Arkansas Health Data Initiative (HDI) |
| Example Type | A – multi-payer integrated data warehouse development |
| Client Size, Geographic Location, Industry | Arkansas population 2.8 million |
| Consumer Assistance Services Provided | Research and analysis projects are executed using a team structure including ACHI research and data analysts and external researchers. While ACHI does not offer assigned 24x7 technical support, the ACHI project team works closely with external teams to provide subject matter expertise |
| Technical Solution Provided | SQL Server 2012 integrated database |
| Consumer Population Served | The ACHI HDI analytical data warehouse provides data for health policy research for Arkansas state agencies, the Arkansas Legislature and Arkansas Governor |
| Project Cost | $650,000 annually |
| Project Start and End Dates | Initial development: January 2009-December 2009<br>Ongoing developments/updates/maintenance: bi-annually 2010-current |
| Project Team Size | 7 FTEs |
| Project Description | ACHI developed an integrated analytical data warehouse that enabled the identification of individuals across multiple, disparate health data sources.<br>This solution consisted of normalizing and integrating data from 9 data providers to |

| | |
|---|---|
| | facilitate timely decision-making policy discussions by providing access to existing data on health insurance coverage, employment, demographic profiles, health care access, health risk behaviors, and economic profiles for businesses by state and county.<br>ACHI manages and updates over 500MM transactional health and claims records in the HDI analytical data warehouse with bi-annual updates. Health and claims records data sources include Medicaid, Medicare, Arkansas Department of Health hospital discharge records, birth and death data, Arkansas Workers Compensation data, Employee Benefits Division medical claims data from Health Advantage, Qualchoice of Arkansas and Novasys.<br>At the core of the HDI analytical data environment is its integration platform. The HDI utilizes the Generic Match Engine (GME) to integrate individuals across data sources for its analytical data environment. The GME evaluates non-clinical personal health information (PHI), e.g. name, SSN, zip, date of birth, etc., to identify unique individuals. The matching algorithm evaluates records at multiple levels, applying custom rules to work around data anomalies such as misspelled names, address components, SSN number transposition and date of birth errors.<br>Health data, including BMI scores, birth and death events, workers compensation events, hospital events, automobile accidents, and health insurance claims information can all be linked to unique individuals using the identifiers produced the HDI integration platform. |

Project 2:

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| Client Name/Organization | Arkansas Payment Improvement Initiative Support |
| Example Type | B – Healthcare claim integration experience |
| Client Size, Geographic Location, Industry | Arkansas Medicaid (Little Rock) and US DHHS Innovation Center; State government (public) health insurance program located in Little Rock; Payment Improvement team ~ 30 individuals |
| Consumer Assistance Services Provided | Ongoing participation in program development inclusive of weekly program assessments and monthly data extractions |
| Technical Solution Provided | Creation of individually linked, longitudinal files of Medicaid and Medicare data to support payment improvement development, and targeted analytics to inform decision-making |
| Consumer Population Served | Arkansas Medicaid and Center for Medicaid and Medicare Services leadership |
| Project Cost | $500,000 |
| Project Start and End Dates | Project start date: June 2011<br>Project end date: Ongoing |
| Project Team Size | 5 FTEs |
| Project Description | As a component of the multi-payer Arkansas Payment Improvement Initiative (APII), Medicaid leadership requested ACHI build an Integrated data warehouse to support Medicaid programmatic needs and conduct targeted analytics to inform APII. This work involved securing data use agreements and secure data transfer protocols to incorporate Medicaid and Medicare data into the ACHI HDI, developing and implementing ETL processes, integrating and managing large enrollment and claims datasets, and conducting analytics for multiple complex projects. Specifically, two targeted projects relevant in scope and complexity to the current RFP have been completed to date.<br>First, ACHI conducted analyses to inform development and decision-making for the recently implemented Arkansas Health Care Independence Program (the "private option"). This work involved analyses of enrollment and claims from a current waiver program (ARHealthNetworks) to evaluate the success of the waiver, identify potential adverse selection, and provide an overall picture of service utilization and costs for a newly eligible, primarily low-income group of adults. Linkages between eligibility and |

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| | health care claim files were conducted, and analyses at multiple income levels enabled utilization profiles and actuarial assessments of the program's achievements.<br>Second, ACHI has been analyzing data for individuals who are "dual eligible" (i.e., qualify for both Medicare and Medicaid services). These analyses have helped inform the development of a medical Health Home strategy and have focused on three important subgroup populations: those qualifying for long-term support services (LTSS), adults with developmental disabilities, and dual eligible with behavioral health needs. |

Project 3:

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| Client Name/Organization | Arkansas Department of Health/Arkansas Department of Education |
| Example Type | Other |
| Client Size, Geographic Location, Industry | Both entities have over 10,000 employees. Central offices are located in Little Rock, Arkansas |
| Consumer Assistance Services Provided | ACHI provided technical support to school nurses for help with data entry and tool access. Technical support hours are Monday through Friday, 8:00 a.m. to 4:30 p.m. |
| Technical Solution Provided | Body Mass Index (BMI) website, web portal and longitudinal linking of students over time. |
| Consumer Population Served | Arkansas Department of Education school personnel, Arkansas state agency leaders, Arkansas legislature |
| Project Cost | $100,000 annually |
| Project Start and End Dates | Original Portal Development: August 2004 -January 2005<br>Major Enhancement: 2008-2009. Ongoing updates/maintenance: annually |
| Project Team Size | ACHI – 2 FTEs, Contractor – 1 FTE |
| Project Description | In support of legislatively required collection of student health information, ACHI developed a web-based clinical entry and reporting system for each of the over 1000 schools statewide. At its inception, the Arkansas BMI database was the largest collection of student BMI records in the world, with nearly one-half million entries each year. Initially managed internally, ACHI has outsourced the maintenance of the secure, web-based entry tool for BMI data entry and report generation while maintaining direct oversight responsibility to maintain a secure, web-based entry tool for BMI data entry and report generation. Established student rosters (similar to master patient indices) are generated, provided securely to school and other qualified personnel, and combined with web-enabled training for data collection. Subsequently, clinical information is entered on approximately 200,000 individual children annually, their BMIs are calculated, and both confidential Child Health Reports and aggregate school level and state reports are provided back to select school personnel. Data security and personnel access are monitored to ensure minimal exposure risk and personal health information protections. Longitudinal data are generated both to inform subsequent year's assessments to support select research endeavors to combat childhood obesity. |

| 4.2(M)(2) | Response |
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| (a) | The Arkansas Health Data Initiative (HDI) is ACHI's legislatively authorized comprehensive data system that integrates data sets from a variety of state and national sources providing a unique ability to synthesize information to inform health policy issues. Research using these data informs a comprehensive understanding of health and identifies optimal opportunities for the continued improvement of Arkansas health systems. The systematic integration of information from across disparate sources provides multi-dimensional vision to programs typically operating in silos and amplifies the ability of each partner involved to identify common resources and potential new |

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| | partnerships.<br>Use of and access to data are controlled by the owner agencies and data are used to portray information at the population level. All data is de-identified to protect individual privacy with security maintained through adherence to the strict guidelines of the Health Insurance Portability and Accountability Act (HIPAA) privacy rules. The knowledge gained through the Arkansas HDI is an essential tool for meeting the evidence-based needs of Arkansans and ensuring maximum return on state expenditures. See Appendix K, Table 1, for a complete list of HDI data contributors. |
| (b) | No other data asset exists in the state of Arkansas that integrates state agency data, Medicaid, Medicare, and health insurance claims data from multiple carriers at the individual level. Therefore, no duplication of effort exists. |
| (c) | The Arkansas General Assembly passed Act 1035 of 2003 (codified at A.C.A. § 20-8-401 et seq.), which established the HDI for improved access to public health databases across the state. This act authorized ACHI to have access (with agency head approval) to any data the state owns or contracts for that could inform the policy dialogue. ACHI currently integrates data from nine different agencies into the HDI. |
| (d) | The health insurance data within the HDI analytical data warehouse at present does not contain plan pricing information or carrier to provider reimbursement data. All data within the HDI are strictly governed by data use agreements with data providers that restrict data usage to analytics in support of health policy. Such work does not presently include information pertaining to proprietary health insurance carrier pricing.<br>It is anticipated that datasets provided for the APCD will contain this information and will be governed by new, separate data use agreements. These data will follow newly created restrictions for use and will be managed separately from the HDI analytical data warehouse. |
| (e) | The HDI analytical data warehouse utilizes health claims data from three sources: 1) Arkansas Employee Benefits Division 2004-2013 (QualChoice of Arkansas, Health Advantage, Novasys); 2) Medicaid 2008-2013; and 3) Medicare 2005-2011<br>The variables received from these sources are listed in Appendix L, ACHI HDI Health Claims Data Dictionary, and Appendix M, Medicare Claims Data Dictionary. |
| (f) | ACHI's current data privacy and security practices are described in Appendix D. |
| (g) | See ACHI Data Center External Usage Protocol in Appendix N. |

## Responder References

**(N)** The following references correspond to the projects identified in 4.2(M)(1).

**Project 1: SQL Server 2012 integrated database**

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| **Client Name/Organization** | Arkansas Department of Health |
| **Contact Name** | John Senner |
| **Contact Title and Project Role** | Director, Center for Public Health Practice |
| **Phone Number** | (501) 280-4245 |
| **Email** | John.Senner@arkansas.gov |

**Project 2: Integrated Medicaid Claims**

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|---|---|
| **Client Name/Organization** | Arkansas Medicaid |
| **Contact Name** | Andy Allison |
| **Contact Title and Project Role** | Director, Arkansas Medicaid |
| **Phone Number** | (501)682-8740 |
| **Email** | andy.allison@arkansas.gov |

**Project 3: BMI Website, web portal and supporting DB2 database**

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| **Client Name/Organization** | Arkansas Department of Health |
| **Contact Name** | Joy Rockenbach |
| **Contact Title and Project Role** | Act 1220 Coordinator |
| **Phone Number** | (501) 661-2757 |
| **Email** | joy.rockenbach@arkansas.gov |

## Staffing Plan

**(O)** The following ACHI staff will be instrumental in the development of the APCD:

**Joseph W. Thompson MD, MPH, ACHI Director.** Dr. Thompson is a Professor in the Colleges of Medicine and Public Health within the University of Arkansas for Medical Sciences (UAMS). He has served as ACHI Director since 2003 following his role as Associate Director since 1998. Through contract to the state, he has served as Surgeon General for the State of Arkansas previously for Governor Mike Huckabee and currently for Governor Mike Beebe.

Trained as a pediatrician at UAMS and Arkansas Children's Hospital, he specialized as a Robert Wood Johnson Foundation in Health Policy clinical scholar with competencies in epidemiology and statistics receiving his Masters in Public Health from the University of North Carolina at Chapel Hill. He has extensive knowledge working in both the public and private sector in health care quality measurement, public and private claims analyses, and policy relevant applications. Under his leadership, ACHI has contributed to most major health initiatives in the state through its translation of data into information and strategic application to collaborative policy development.

Dr. Thompson will continue to oversee all of the related health system transformation activities described in this response and will facilitate stakeholder engagement for the APCD. Importantly, Dr. Thompson will be integrally involved in the development and execution of a sustainability model based upon input and guidance from the AGB and stakeholder guidance.

**Kenley Money, HDI Director.** Ms. Money oversees ACHI's Health Data Initiative (HDI) and analytic teams to ensure coordination across projects and collaborators and to provide dynamic translation of data into results that inform health policy in the state. She has 19 years of experience in database design, management, and data analysis. She manages data acquisition, validation, documentation, and training with the goal of ensuring comprehensive data governance and data management for ACHI's analytical data warehouse.

Ms. Money will dedicate, at a minimum, 75% FTE to the APCD project. Ms. Money will serve in the role of APCD Director and Development Lead initially and will be responsible for project leadership and overall success of the project. She will supervise a team of eight comprised of six existing staff with experience in multi-payer database development. She will add two staff to support the data analytic activities required in the solution. Her team's experience includes the integration and management of complex projects and large datasets as part of the multi-payer database they currently support. Additional skills include extensive familiarity with health claims data, data encryption, data process quality assurance and web-based health data reporting. Her team's success is based largely on dynamic collaborative relationships with external data submitters. All members of her team are registered members of ACHI's HDI IRB to ensure HIPAA data security and health data privacy compliance. As initial goals are achieved and project growth accelerates, differentiation of leadership and development roles is anticipated and combined with guidance from AGB, ACHI will secure additional senior leadership.

**Craig Wilson, JD, MPA, Director of Access to Quality Care.** Mr. Wilson and his team focus on achieving improved access to health care coverage and ensuring a sufficient health workforce to meet the needs of Arkansans. Through this work, he has experience in managing complex projects and collaborative relationships with data contributors to assess coverage and workforce gaps. He recently led a project with the AID Arkansas Health Connector Division to explore the use of a claims database for measuring health plan quality metrics, including stakeholder engagement. He has also led development of existing data use agreements (DUAs) with issuers and other data providers for the HDI, all of which address data privacy and security. Wilson will dedicate at least 40% FTE to the APCD project and will be responsible for stakeholder engagement, development and execution of data use agreements (DUAs) with

issuers, and guidance on regulatory issues. He will supervise a team of three existing staff with experience in research about claims databases and the use of health data, preparing materials including presentations for stakeholder groups, and external relations including state agencies and legislators.

**Heather Rouse, PhD, MS, Director of Health Policy Research.** Dr. Rouse and her research team provide analytic support for all of ACHI's health policy efforts. Rouse has over 12 years of experience building and using integrated data systems for research at both the municipal and state levels. She has experience building collaborative relationships with data providers as well as the research community to bring together needed expertise to answer important policy questions. She also has experience developing and maintaining data use agreements between data systems as well as between systems and external "users" of such systems, and as such is very familiar with privacy laws and provisions within the laws for data use. Rouse's experience also extends into the use of complex, integrated data systems for research – where she has led or co-led research efforts resulting in both program and policy changes as well as peer reviewed academic publications.

Dr. Rouse will dedicate, at minimum, 35% FTE to the APCD project. Her role will be to participate in the development of the APCD with keen attention to the requirements needed for analytic work, and supervise the analytic work. She will supervise a team of analysts who will use this system to provide the required reports as outlined in the RFP, as well as coordinate with external research experts as needed and identified through the AGB process. Her team has expertise using enrollment and claims data for analytic work, including the creation of key indicators such as HEDIS and NQA that may be used for the APCD project. All of her team is part of ACHI's HDI IRB to ensure HIPAA data security and health data privacy compliance.

ACHI has developed a budget proposal that will include the use of members of the HDI Team, the Research Team and our Health Care Access Team to provide for the work activities outlined in the Scope of Work found within Section 3.3 beginning on page 16. The proposed project team will include individuals with the following experience:

- **Substantial experience in the use of electronic health care claims data** – Kenley Money, Dr. Heather Rouse,
- Dr. Zhijun Liu, Shanoa Miller, Dionne Ware, Sheila Dodson, Dilan Pinidiya, Dr. Mallik Rettiganti
- **Working with integration and management of large data sets** – Kenley Money, Dr. Heather Rouse, Dr. Zhijun Liu, Shanoa Miller, Dionne Ware, Sheila Dodson, Dilan Pinidiya, Dr. Mallik Rettiganti
- **Quality assurance** – Kenley Money, Dr. Heather Rouse, Dr. Zhijun Liu, Dionne Ware, Sheila Dodson, Dilan Pinidiya,
- **Data Encryption** – Kenley Money, Dr. Zhijun Liu, Dionne Ware, David Darling
- **Health care data privacy** – Kenley Money, Dr. Heather Rouse, David Darling, Craig Wilson
- **Data security** – Kenley Money, James Cotton, David Darling, Craig Wilson
- **Management of complex projects involving data collection from multiple organizations** – Kenley Money,
- Dr. Heather Rouse, Dr. Zhijun Liu, Shanoa Miller, Dionne Ware, David Darling
- **Web-based, public facing health data reporting** – Debra Pate, Dr. Heather Rouse, Kenley Money, Dr. Zhijun Liu
- **Measurement calculations** – Craig Wilson, Dr. Heather Rouse, Shanoa Miller, Dionne Ware, Jennifer Wessel, William Watson, Dilan Pinidiya, Dr. Joe Thompson
- **Collaborative relationships with external data submitters** - Kenley Money, Dr. Heather Rouse, Craig Wilson, Dr. Joe Thompson
- **Sustainability** – Dr. Joe Thompson, Kenley Money, Craig Wilson, Dr. Heather Rouse

Additional staffing is anticipated to augment the talent found currently within ACHI as the project scales through development, including the hiring of a Privacy/Security Officer, project manager, data analyst, systems analyst(?), research associate and project support staff. The experience and expertise of existing ACHI staff will guide the recruitment of these new team members, and organizational capacity will be quickly strengthened to accommodate the current scope of work while maintaining existing obligations. As a part of the UAMS enterprise, access to additional research and analytic personnel will be available to compliment the ACHI expertise.

## APCD SUSTAINABILITY

Responses to APCD Sustainability, outlined in RFP Section 4.2(P), are provided below.

### APCD Sustainability

ACHI envisions the APCD as a logical next step in the development of empirical infrastructure assets within the State to support multiple transformation efforts underway. We believe such a system, inclusive of a solid governance structure and technical solution, will capitalize on ACHI's experiences with the Arkansas HDI, the statutorily-authorized voluntary multi-payer claims dataset currently maintained by ACHI, and support alignment of the multiple health care system data assets that are operational within Arkansas. The vision is for this joint solution to fully address the complex needs of multiple stakeholders to provide a valuable tool for decision-making by executive leaders, regulators, consumers, providers and purchasers.

Funding for the current request for proposals is an important stimulus to establish an APCD as a sustainable long-term asset. Clearly the AID and the AGB will be primary consumers of information to conduct required rate review and carrier assessments of plan network adequacy and quality. However, during the period of funding support additional applications for the APCD with associated funding streams must be identified and secured to ensure sustainability of the system.

Development of a business plan, identification of data applications—both existing and those desired—combined with execution of applications with early contributions are required to secure long-term sustainability. Historically, APCDs have not been maintained from end-user fees (e.g., data sales) alone but have frequently required multiple sources of both direct and indirect support. Maintenance costs are not specified at this time but it is anticipated incorporation of required value-propositions into the long-term business plan to justify fees and/or funding sources. This value-proposition will obviously be related to the completeness of data submission (e.g., mandatory submission).

Currently, submission of claims information is mandated by AID in limited circumstances, e.g., for consumer complaint adjudication. However, more recently the state legislature provided for mandatory submission of claims in the Health Care Independence Act to support the Arkansas Payment Improvement Initiative and Health Care Independence Program, which required an 1115 demonstration waiver. Building from this legislative authority and state obligations, the waiver evaluation could be an immediate consumer of data envisioned within the proposed APCD. The waiver evaluation plan is under federal review and is anticipated to require an interim analytic report by the end of calendar year 2015.

The following are anticipated options for sustainability based on Arkansas activities and those utilized by other state APCDs with degrees of uncertainty until full stakeholder engagement is under way.

**User Fees.** The APCD may charge a reasonable user fee for access and use of datasets. Additional fees may be applied to cover cost of developing extracts, creating customized reports, and out-of-scope project requests. User fees would vary based on the number of records requested and the intended purpose, while discounts or exemptions may apply to certain types of organizations. Because the demand in datasets may fluctuate, the APCD may explore the use of membership fees as an optional funding source. The opportunities for delivering data and reports through standard reports, custom reports, self-service tools, and subscriptions will all be thoroughly explored. The use of user fees should be a strong possibility whether under voluntary data submission or through mandatory data submission. See Section 3.5(4), page 31.

**Governmental Sources.** Federal, state, and local funds may be used to support Arkansas initiatives. However, this funding source alone would not be adequate to sustain this type of data tool.

**Research Projects.** Independent researchers frequently utilize APCDs for various funded initiatives. The APCD would provide data to universities and other academic organizations in their pursuit of grant funds supporting investigator research initiatives. With mandatory data submission to support comparative analyses (see Section 3.5(4), page 31) this will be a strong source of funding. The SAG would be of considerable value in providing data quality assurance and guidance to meet the needs of the research community.

**Assessments on Premiums.** Arkansas health insurance carriers pay a 2.5 percent tax on premiums and the Arkansas Health Insurance Marketplace (HIM) Board of Directors must develop recommendations for an assessment or user fees to charge participating carriers to support the Marketplace operations. There is potential for the allocation of a portion of premium tax or assessments to evaluate the impact of the Marketplace on access, efficiency, and provide a quality rating of each qualified health plan. Designating a portion of this fund could provide a secure revenue stream needed for APCD operations. The use of the premium tax or assessments would be a stronger possibility with mandatory data submission as it would require data submission from all qualified health plans (QHP) and plans outside of HIM providing value to all carriers. See Section 3.5(4), page 31.

**(1)(a)** As the stakeholder process evolves and the AGB is instituted, ACHI would be willing to share available resources in pursuit of self-sustainability. ACHI anticipates building upon existing relations to share information and ideas to enable necessary coordination and buy-in at the federal, state, and local levels. For example, ACHI, as part of UAMS, has the unique opportunity to collaborate with a large pool of researchers that could benefit from an APCD.

**(1)(b)** The changing health care environment in Arkansas has created a heightened need for a shared tool to inform health system improvement in Arkansas. An APCD would be a significant data resource to do this. The products and utilities generated from of an APCD are ultimately the direct results of the functions that it serves. ACHI identified several utilities for an APCD in the state as part of a contractual commitment with the AID regarding methods to collect and report data to assess QHPs including HIM evaluation, population-based surveillance, pay for performance initiatives, and provider peer comparison reports. See Appendix O. Potential products that the APCD could offer include static datasets, analytic reporting, and collaboration with state or local evaluation efforts. Here are a few examples of how these products could address market opportunities for an APCD.

- **Health Insurance Marketplace (HIM) Evaluation.** This evaluation will inform the Health Benefits Exchange Partnership Division on the effectiveness of the outreach and education efforts, outcome of enrollment, and quality of care.
- **Health Care Independence Program Evaluation.** Through a Section 1115 demonstration waiver, the State will utilize premium assistance to provide health coverage offered through the HIM for individuals aged 19–64 years with incomes at or below 138 percent of the federal poverty level (FPL). This new coverage strategy requires an evaluation to characterize the experience and determine cost-effectiveness of this approach. This evaluation would require carrier data submissions. Utilizing the APCD instead of another data submission mechanism would reduce redundancies and costs. Such use would also contribute to the APCD sustainability, particularly as this evaluation is projected to continue through 2017.
- **Accountable care organizations (ACO).** CMS defines ACOs as groups of doctors, hospitals, and other health care providers, who come together voluntarily to give coordinated high quality care to their Medicare patients. ACOs will need datasets for quality measurement to determine shared savings.
- **Research and policy development.** Researchers could use data to generate and promote new scientific evidence. Policymakers and the Arkansas Bureau of Legislative Research need data to assess the impact of state initiatives and identify opportunities for further health care reform.

**(1)(c)** ACHI will utilize the APCD to fulfill all of the opportunities listed above with the highest level of quality to ensure the most effective application for public utility.

**(1)(d)** There are several determinants to estimate the time and cost to produce usable data extracts, which will be driven by the following:

- Number of covered lives—the population will determine the needed computing and storage capacity required to analyze the claims data.
- Number of data sources—a significant cost driver is the number of different data sources and platforms with which the collecting agency must interact.
- Complexity of data aggregation – the main cost driver is the complexity of data aggregation required to execute the desired analysis.

ACHI could provide two types of services for external requesters:

- Type 1 – contracted projects where ACHI works directly with requestors to design datasets and/or reports customized for project needs. Such work will require prior AGB approval and appropriate funding (see Section 3.4(K), page 30) for the Data Release process); and
- Type 2 – direct data extracts from APCD website without ACHI team intervention.

ACHI will be able to accommodate Type 1 requests as soon as the APCD solution is operational. Depending on AGB priorities, Type 2 could be developed after the APCD solution is operational. Because project cost and time for Type 1 services depend on a variety of factors, ACHI will approach each request as an independent body of work, scoping and budgeting each based on the level of effort required to fulfill the request and deliverables. For example, illustrated below are three potential products that range in scope, time and cost. Estimates were created based on prior contract work of similar scope.

Table 5. Sample Product Cost and Time Estimates

| Sample Products | Criteria for Time/Cost | Estimated Time | Estimated Price |
|---|---|---|---|
| Dataset | Size and data management requirements | 1 month – 8 Months | $10K-$100K |
| Analytic Reporting | Size, data management requirements, and complexity of analysis | 6- 24 Months | $50K - $500K |
| Collaboration with state or local evaluation efforts | Number of agency partners, complexity of analysis, and required deliverables | 6 month – 4 years | $100K - $5M |

**(1)(e) Marketing and distribution.** As part of the APCD marketing strategy to improve long-term sustainability, ACHI will collaborate with HIRRD and build upon established relationships to engage with and seek commitment from each group of relevant stakeholders to initiate external communications. ACHI will help to develop educational campaigns, conduct workgroups and webinars, and produce and disseminate products to provide education and outreach to a targeted audience throughout the state. ACHI's communication objectives with potential consumers include: (1) educate target audiences; (2) develop and disseminate targeted educational materials in order to expand APCD awareness; and (3) educate consumers why the database is needed, how it will be created, privacy and security protections, and the impact it will have.

**(1)(f) Challenges.** To effectuate ACHI's vision of the APCD as a multi-functional public utility and to provide a range of products that will support sustainability, more resources and long-term strategic planning are necessary. There must be broader and more intense stakeholder engagement, variety and depth in data sources, and innovative use of data at early stages to generate interest and demand. Good planning is key, but an APCD should be structured with the ability to transform much like the health care system environment around it. ACHI anticipates the following challenges in the creation and dissemination of data products. First, acquisition of data could present barriers, given that Arkansas has no existing mandatory submission requirement with the exception of that described above. Essential to reducing this barrier is trust, and ACHI has solid relationships with key data contributors. Second, finding the right balance between transparency and privacy is difficult, but having clear objectives for dissemination and adequate, formalized privacy protections in place reduces concern in this area. Finally, consumer-facing information can often be confusing and can lead to unintended interpretations highlighting the health literacy needs facing Arkansans and the ways to improve consumer functionality.