May 2013

Rhode Island Unified Provider Directory Assessment and Recommendations

Report

Prepared for

Office of the National Coordinator for Health Information Technology
US Department of Health and Human Services
300 C Street SW
Washington, DC 20201

Submitted by

RTI International
RTI Chicago
230 W. Monroe, Suite 2100
Chicago, IL 60606-4901

Subcontracted to Audacious Inquiry
5523 Research Park Drive
Baltimore, MD 21228

Genevieve Morris, Senior Associate, Ai
Scott Afzal, Principal, Ai
Tim Breaux, CEO, Intercase

RTI Project Number 0212050.007.000.500.009

RTI Project Number
0212050.007.000.500.009

Rhode Island Unified Provider Directory Assessment and Recommendations

Report

May 2013

Office of the National Coordinator for Health Information Technology
US Department of Health and Human Services
300 C Street SW
Washington, DC 20201

Submitted by

RTI International
RTI Chicago
230 W. Monroe, Suite 2100
Chicago, IL 60606-4901

Subcontracted to Audacious Inquiry
5523 Research Park Drive
Baltimore, MD 21228

Genevieve Morris, Senior Associate, Ai
Scott Afzal, Principal, Ai
Tim Breaux, CEO, Intercase

RTI International is a trade name of Research Triangle Institute.

Contents

1. INTRODUCTION

Rhode Island engaged Audacious Inquiry (Ai) to evaluate its current approach to managing provider information within various agencies and entities. The objective was to have Ai perform an independent external review of the state's current provider data management activities and requirements. The Ai team would then offer pragmatic recommendations for improvement and, ideally, viable approaches to pursue a shared provider data management solution. The project was completed under contract with RTI International and in conjunction with the ONC/National Academy of State Health Policy Health IT Trailblazer State Initiative and the ONC/RTI State Health Policy Consortium. Multiple stakeholder groups were surveyed for the evaluation, which allowed the Ai team to provide recommendations on an incremental path toward a statewide provider information management solution. The stakeholder groups represented state government agencies, provider organizations, the state's health information exchange organization Rhode Island Quality Institute (RIQI), insurance carriers, and others. Each group described an array of provider data requirements and provider directory functions to satisfy their current business needs.

2. SUMMARY OF RECOMMENDATIONS

- Rhode Island should implement a single centralized provider database (CPDB) to act as a reliable source of truth for provider data for multiple state stakeholders.
  - The various application systems in the state will use the CPDB as a source of truth, but will likely implement local provider datasets to support specific applications.
  - Application Programming Interfaces (APIs) may be exposed from the CPDB to allow programmatic access to the CPDB and near-real-time messaging from the CPDB to dependent databases/directories.
  - The CPDB should include a web portal to support direct collection of data from individual providers and provider organizations.
- There are two options for implementation responsibility, management, and operations for the CPDB.
  - Using the Rhode Island Quality Institute's (RIQI's) instance of the InterSystems provider database as the foundation for the CPDB is the least expensive and most expedient solution.
  - Co-locating the CPDB with the UHIP technology platform is a fallback option. This option would be held in reserve if the InterSystems provider database roadmap is discovered to be out of sync with state requirements.

3. APPROACH TO THE REVIEW

The Ai team interviewed multiple state stakeholders that currently utilize provider data or have specific near-term needs. The stakeholder interviews included representatives from

- the Office of the Digital Excellence Officer in the Department of Administration;
- the Health Benefits Exchange (HBE)
- RIQI;
- the Executive Office of Health and Human Services (which includes the Medicaid program);
- the All-Payer Claims Database (APCD) interagency team;
- the Department of Health (including licensing and KidsNet); and
- selected payers and providers (BlueCross BlueShield Rhode Island, Care New England).

Interviewees and the organizations they represent are summarized in Appendix A.

Based on the interviews, Ai aggregated a summary of use cases (included in Appendix B). The team mapped the use cases against existing provider data sources and made an assessment of

- the degree to which existing provider data management activities are duplicated/redundant;
- commonality/overlap in provider data requirements between the stakeholders;
- the incremental work required to support aggregating and cleansing additional data; and
- the perceived business value of additional data (e.g., cost savings/efficiency, compliance, improved management, improved services to Rhode Islanders).

The Ai team also noted the candidate entities within the state that might be appropriate to support deployment, operation, and management of a new database. The elements for consideration for each candidate included

- development skills for new application deployment;
- history of successful program execution;
- technical operations environments that may be available and appropriate for hosting a database;
- existing capacity for data collection, aggregation, and management;
- existing governance infrastructure to provide oversight and direction for the effort;

- current and future funding streams to support deployment and ongoing operations; and
- technical considerations that may impact implementation or operations.

4. FINDINGS

Based on the interviews with stakeholders, and a review of the technical systems used by each group, the Ai team found a number of items to consider as the state moves forward. The findings are grouped into four categories: requirements, data management issues, stakeholder support, and deployment timing issues.

4.1 Requirements

Ai has determined that the state has a significant need for additional provider data. The key data requirements are described below.

- Information is needed about relationships between individual providers and provider organizations. Most of the information stored within state databases is data about individual providers. Although there is some information about provider organizations, there is very little information about the relationships between individual providers and provider organizations. Examples of missing data include
  - identification of physicians who are members of physician medical groups;
  - identification of all physicians at a particular location;
  - identification of physician relationships to hospitals (e.g., those with admitting privileges); and
  - identification of physicians and other clinicians (and potentially facilities) who are members of accountable care organizations (ACOs).

Multiple statewide use cases need this information for compliance, improved management, or to benefit consumers. Use cases include the following:

- The Medicaid enterprise will need to be able to calculate quality performance payments for physicians who are acting as ACOs. Physicians acting as ACOs could represent an entire medical group, a single location of a medical group, or a subset of physicians at a single location. The existing provider data structures do not support identification of the set of physicians who are at risk on quality performance indicators such as in an ACO.
- The Medicaid enterprise anticipates that it will encounter requirements similar to ACO reporting when demonstration projects to manage patients who are dual eligible (for Medicare and Medicaid) begin.
- RIQI needs to support the legislative requirement that Rhode Island consumers can limit access to their private health information to specific, named providers or provider groups. RIQI currently has no ability to identify providers in a group and consequently is unable to provide the consumer option (referred to as "option 3").
- Consumers searching for providers in the benefits exchange will be able to search by individual provider characteristic (e.g., specialty, language spoken, gender) but will not be able to search by physician group, by location, or by hospital affiliation. The HBE team views these additional use cases as value-added services.

- Use cases for the APCD are similar to the use cases for the Medicaid enterprise. APCD data are expected to be able to compare cost and quality for individual providers and for specific health plans. However, these data are also expected to be able to compare quality by site or by medical group. Both cases require mapping individual providers to groups or to locations. Payment reform will likely expand provider reporting requirements beyond the use cases identified to date.

- The state anticipates that new payment models (ACOs, bundled payments, etc.) will require the merging of clinical data with payment/claims data at an individual provider level, as well as at a group level.

- Additional detail is needed about individual providers or provider organizations. Several use cases drive aggregation of additional detail for providers beyond what is currently collected. Examples include the following:

  - The insurance exchange team believes that consumers will need to know whether an individual provider (or potentially a site) is open to receiving additional patients for a particular plan on the exchange. In the current design, a consumer can identify a physician at a particular location and whether the physician accepts the preferred insurance product. However, the consumer cannot tell whether the physician is accepting new patients.

  - Some consumers may make a decision about a provider based on available office hours. This level of detail is not usually maintained by health plans, so the insurance exchange cannot obtain this information from the qualified health plans participating in the exchange.

A full set of use cases is summarized in Appendix B.

4.2 Data Management Issues

Ai's analysis suggests that existing resources can be used to address new data management issues. The team uncovered the following data management issues:

- Direct access by providers to the CPDB via a web portal is most likely required. Some of the data perceived as valuable by the state is difficult to collect other than via a web portal that is made available to providers. This increases the complexity of deployment but also increases the potential to collect more detail and to improve service to providers (particularly physicians) by offering a one-stop-shop for data collection. It is anticipated that providers will view this as a benefit, in addition to giving the state a practical avenue to collect information (e.g., office hours, open/closed practice, hospital affiliation) that would otherwise be very difficult to collect.

One important consideration for a CPDB web portal is the state's current relationship with the Council for Affordable Quality Healthcare (CAQH). CAQH is a national organization that aggregates provider data for payer credentialing. Rhode Island has adopted CAQH's universal credentialing form as its designated provider credentialing form. Consequently, adopting a web portal strategy would require shifting the state's existing reliance on CAQH to the new state CPDB portal. The state could elect to leave the credentialing function as it is (with the CAQH portal) and accept that providers still need to access separate portals for

separate purposes. However, CAQH does not collect a large set of data elements for each provider, and planning for a transition away from CAQH might be in the state's interest.

Similarly, the degree to which the existing licensure portal could be replaced (if at all) is unclear. The population of users of the licensure portal is significantly different than the provider user population of the CPDB. Further, the licensure portal does not support users who are not paying for a license. CPDB users will be updating data on a more frequent basis, and many will be non-licensed administrative representatives of provider organizations. CPDB users will likely need identity proofing as a prerequisite for access to the application.

- The RIQI Regional Extension Center (REC) is well positioned to assist with deploying a web portal. When deploying a provider portal, portal users must be identity-proofed to confirm that personal information about providers is contributed/edited only by the authorized provider or staff member. Typically, this requires a somewhat manual process to confirm the identity of provider users in a face-to-face setting where identification can be presented. In a large state, this process can be quite problematic. In Rhode Island, the REC, which is part of RIQI, already visits the majority of providers in the state on a regular basis. It will be straightforward for the REC to manage the user identity-proofing activities to confirm provider users before giving them access to the web portal.

4.3 Stakeholder Support

The Ai project team identified broad interest in and recognition of the value of moving forward with building a centralized database, implemented as a shared service. There was general agreement that a rational and attractive way of moving forward would be to overlap the use cases and spread the costs associated with data management across a broader user group. Although most stakeholders provided general supportive comments, some stakeholders independently communicated unique perspectives on value and key success factors.

The strategic intent of the state is to implement shared services where doing so results in cost efficiency, quality benefit, and/or service enhancement. There is also a preference for deploying services incrementally, both to decrease the risk associated with large projects and to deliver higher-priority values earlier. Perhaps most importantly, any collective approach to provider data management must incorporate a plan to financially sustain and technically support the solution. In the Ai team's view, this initiative is readily deliverable via an incremental approach. Use cases and their associated stakeholder groups can likely be prioritized and pursued sequentially. Future use cases can be pursued in parallel should the budget allow for it.

The discussion with Medicaid stakeholders confirmed their support for the initiative. Given the rapid changes that Medicaid has experienced in recent years, the group offered several considerations that are key to the long-term success of a shared service:

- Governance: The stakeholders of the CPDB shared service should be well represented in the governance structure.
- Extensibility: The architecture of the CPDB should be readily extensible to handle unforeseen new requirements, such as provider relationships defined by new payment models like the patient-centered medical home (PCMH).
- Flexibility: The architecture should support applications through various access methods with varying requirements for sophistication on the part of subordinate applications.
- Interconnectivity: The CPDB should be readily accessible to any authorized user.

RIQI was primarily concerned about sustainability and governance. The CPDB shared service must be considered a viable long-term solution because multiple applications will be depending on the service for provider data management. Further, since the stakeholders are diverse, the governance of the CPDB will need regular input from stakeholders to assist in setting strategic direction and prioritization of features.

4.4 Deployment Timing Issues

The CPDB has high perceived importance, but stakeholders generally accepted that not all provider data needs could be met immediately. Any deployment approach would necessarily result in certain stakeholders' needs being met before others. Despite this recognition, the Ai team believes it is important for state leaders and the project leadership of the CPDB to communicate that the incremental approach will necessarily prioritize some important data needs later in the effort. Thus, the following provider-related business requirements should be considered pressing, but not critical:

- The Medicaid enterprise has an obligation to measure quality and cost performance for at-risk provider groups in the state. This is currently accomplished through arduous manual preparation (i.e., manually identifying individual providers in an at-risk group and aggregating data for that provider set). The number of groups currently at risk is small, but a dramatic increase is expected as providers in the state gain confidence in accepting risk, and as CMS increases their emphasis on management of the Medicaid/Medicare dual eligible population. It would be valuable for Medicaid to have a flexible reporting infrastructure now, but deferring implementation of a flexible reporting capacity by 18 months to 2 years is most likely acceptable. It is also potentially unavoidable as value-based/at-risk payment models continue to evolve and the underlying inter-provider relationships become further defined.
- The HBE team is focused on getting the core requirements of the HBE live by October 1, 2013 and supporting the enrollment phase from October through December 2013. Neither the team nor their vendors can reasonably be distracted to support CPDB

design input until at least the first quarter of 2014. Due to this schedule, it is practical to assume that any detailed requirements driven by the HBE would be deferred to a later phase.

- The CurrentCare HIE team (RIQI) is moving ahead with their updated provider directory solution, enabled through their partnership with InterSystems. Implementation is targeted for mid-2013. It is not clear how well the RIQI provider directory database aligns with the more general needs of the state, but RIQI is moving ahead to meet their business requirements on this timeframe. Any delay on the part of the state will not impinge on the RIQI HIE requirements.

In summary, there is tolerance for prioritization of use cases of the CPDB, and approaches through existing organizations are viable.

5. RECOMMENDATIONS

The Ai team has two key recommendations for Rhode Island. Each recommendation is detailed below.

5.1 Recommendation 1

Rhode Island should implement a single centralized provider database (CPDB) to act as a reliable source of truth for provider data for multiple state stakeholders.

- The various application systems in the state will use the CPDB as a source of truth, but will likely implement local provider datasets to support specific applications.
- Application Programming Interfaces (APIs) may be exposed from the CPDB to allow programmatic access to the CPDB and near-real-time messaging from the CPDB to dependent databases/directories.
- The CPDB should include a web portal to support direct collection of data from individual providers and provider organizations.

5.1.1 Discussion of Recommendation 1

The state clearly has emerging business needs for richer and cleaner provider data. The specific details of the recommendation (dataset update methods, flexible APIs, implementation of the portal) are the logical implications of implementation of a shared service. Some states have considered an approach where each application environment maintains its own copy of provider data, making the data accessible to other users by a "federated" data access scheme. The Ai team asserts that the Rhode Island data schema complexity is high enough that management of a federated schema would likely be more expensive and less flexible than a centralized, shared service. Consequently, the team recommends a centralized, programmatically accessible solution. The objective of the CPDB is not to avoid data duplication. The objective is to simplify and streamline data management. Implementation of the CPDB will provide a common source of truth to provider applications. Local provider data subsets will be optimized for the performance of the local application.

5.2 Recommendation 2

There are two options for implementation responsibility, management, and operations for the CPDB.

- Using the Rhode Island Quality Institute's (RIQI's) instance of the InterSystems provider database as the foundation for the CPDB is the least expensive and most expedient solution.

- Co-locating the CPDB with the UHIP technology platform is a fallback option. This option would be held in reserve if the InterSystems provider database roadmap is discovered to be out of sync with state requirements.

5.2.1 Discussion of Recommendation 2

The strengths and weaknesses for each option are detailed below.

5.2.1.1 RIQI as implementer and operator of the CPDB

RIQI has near-term plans to deploy a new provider database that will capture the majority of the data relationships described above in the requirements section. This deployment is included in their existing funding stream, which represents a substantial strength. The majority of technical development will be managed by RIQI's HIE vendor, InterSystems. Because of these plans, RIQI has a strong understanding of provider data relationships and the organizational passion to address provider data requirements. The state would undoubtedly require incremental data that extend beyond the data schema currently anticipated by RIQI. The RIQI team expects to deploy a data schema that is flexible and extensible. Using the RIQI provider schema as the foundation for the CPDB is a viable option. This approach would most likely be the fastest to implement and also likely the lowest incremental, near-term cost.

Additionally, RIQI has broad representation on its existing board of directors and includes a breadth of stakeholders necessary to provide broad-based oversight of the CPDB. Also, the operation of the state's REC by RIQI would ease the data collection, identity proofing, and user management complexities. RIQI also receives a regular provider file extract from Health Market Sciences, and hence has some experience with provider data reconciliation to improve quality. RIQI's existing carrier-based financial support represents a strong plan to sustain the solution. Lastly, RIQI's ability to assign resources and place significant emphasis on CPDB as a core program within their organization suggests that the effort would receive the attention it will require to be successful. The Ai team believes that implementation, management, and operation of CPDB program delivery requires a dedicated team, and a specific individual whose primary responsibility is the successful delivery of the solution.

The drawbacks to the use of RIQI are several-fold. First, RIQI is a state-designated entity, not a direct state agency. The Ai team noted minor discomfort during some interviews at the prospect of extending RIQI's responsibility beyond their existing HIE responsibilities. There was also a general sense of concern over RIQI's progress with core HIE activities, measured by utilization of the CurrentCare solution. Given the underlying opt-in policy constraint (which is a significant hindrance to HIE adoption), this concern should be tempered. Further, RIQI's HIE application is a commercial application package developed by their HIE vendor, InterSystems. InterSystems has performed well in support of RIQI, but some may contend that an asset as broadly valued as the CPDB should not be tied to the product development roadmap of a commercial vendor. Some extensions desired by the

state (such as the provider web portals) may be a lower priority for InterSystems, and may make this option less optimal. However, from a technology planning perspective, the InterSystems' provider database roadmap aligns well with the requirements as discovered to date. Further investigation of the alignment of the InterSystems roadmap with state requirements is warranted as a first step in the implementation process.

5.2.1.2 The interagency UHIP team as implementer and operator of the CPDB

An alternative option would be to add management of the CPDB to the interagency UHIP leadership team. Adding management of the provider database would be a relatively small incremental addition. Further, the HBE itself is likely to be a key driver of incremental provider data requirements, even beyond those described above, making co-location of operations with UHIP a practical option.

As a drawback, the volume of critical, near-term activity with UHIP would certainly defer a possible CPDB deployment until the first quarter of 2014. It is conceivable that new UHIP requirements for the HBE and Medicaid unrelated to the CPDB may cause the launch of the CPDB to be delayed even further.

Additionally, the interagency UHIP team would have to develop the CPDB from the ground up. None of this development is currently funded, and the domain experience in provider data is not currently available within the UHIP team. Given the timing, cost, and experience considerations, the Ai team believes the UHIP should be considered a secondary option, only if the preferred option is ruled out.

6. SUSTAINABILITY CONSIDERATIONS

Sustainability of the CPDB is critical. The CPDB will be a long-lived strategic asset for Rhode Island; therefore, long-term support for the CPDB is mandatory. Sustainability is typically driven by cost. The lower the cost profile of the CPDB, the more likely it is to be sustainable. The preferred option for CPDB management, RIQI, is likely the lowest cost option for initial implementation and for long-term operations. RIQI is already funded to implement a provider directory upgrade to support the evolution of the InterSystems HIE infrastructure. It is important to note, however, that this funding is limited to address their needs and use cases; additional funding will be required to address other organizations' needs and use cases. Cumulative implementation costs will be limited to design of incremental data fields/tables within that product. Realistically, the cumulative development cost is low (likely less than 2 years). Similarly, the operations and data management costs are likely lower in the context of RIQI management, certainly when compared to a custom-developed application. RIQI already incurs the operations cost of the technical infrastructure. Cumulative technical operations costs to support the CPDB incremental data are low. Other than these, the main costs for the CPDB are in data management: the ongoing tasks related to data collection, aggregation, cleansing, and data retrieval for the data-consuming applications. These components are likely to be similar regardless of the source of the technical platform. They are therefore not a driving factor for improvement of sustainability.

If evaluation of the RIQI solution confirms that the InterSystems infrastructure does not meet the strategic objectives of the state, the project will need to complete a traditional make/buy analysis to weigh custom development against other commercial options in the marketplace.

7. NEXT STEPS

Rhode Island leadership can immediately begin the evaluation of the InterSystems product roadmap. Confirmation of viability of the InterSystems directory as the foundation for the CPDB is most likely a 6-week effort. The state should engage RIQI and request detail of the InterSystems provider directory roadmap, and reconcile the calendar of the product roadmap with the preliminary requirements identified above. The state should assume that the InterSystems solution is unlikely to be "full featured" at the outset (i.e., meeting many of the requirements outlined in the use case section of this document). The state should anticipate that InterSystems product development/customization will meet state requirements over a reasonable horizon, perhaps 2 years. In the event that InterSystems is found to be lacking, Rhode Island should screen other vendors for possible off-the-shelf solutions.

Assuming InterSystems passes the confirmation step, the state should add structure to the process by encouraging the RIQI board to formally vote on their willingness to provide broader provider directory solutions to other entities within Rhode Island. This is an important step to identify this project as a priority and to ensure that it garners the internal support it will need to be successful.

Because major efforts such as a unified provider directory can become mired in complexities, establishing state-level sponsorship that is publicly communicated can be a critical spark and act as an aligning force. The state should work with the Lieutenant Governor's office or the Secretary of Health to set a goal around a unified provider directory (preferably with associated dates). Areas to highlight may include the increases in efficiency and reduction in duplicative efforts, the leveraging of federal and state investments, and the reduction of provider abrasion.

APPENDIX A: INTERVIEWEES

Organization/Agency/Project	Interviewees	Title
Unified Health Infrastructure Project	Thom Guertin	Chief Digital Excellence Officer, RI Department of Administration
Health Information Exchange CurrentCare	Darby Buroker	Beacon Program Manager, Rhode Island Quality Institute
	Charlie Hewitt	Director, HIE Program Management, RI Quality Institute
All Payer Claims Database	Pranali Trivedi	Project Manager, Freedman Health Care
Executive Office of Health and Human Services (Medicaid)	Bill McQuade	Medicaid Research and Evaluation, Xerox
	Deidre Gifford	Medical Director, RI Executive Office of Health and Human Services
	Art Schnure	Technical Consultant, RI Executive Office of Health and Human Services
Executive Office of Health and Human Services (State HIT Coordinator)	Amy Zimmerman	State HIT Coordinator RI Executive Office of Health and Human Services
Health Benefits Exchange	Sandi Ferretti	Issuer and Health Plan Certification Lead, RI Health Benefits Exchange. Office of the Governor,
Department of Health	Daniel Chaput	Public Health Meaningful Use/Informatics Coordinator, RI Department of Public Health
	Sally Johnson	Webmaster/Business Analyst, RI Department of Health
Department of Health (KIDSNET)	Ellen Amore	KIDSNET Program Manager, RI Department of Health
Lifespan	Carole Cotter	Chief Information Officer, Lifespan
Rhode Island Office of Health Professionals Regulation and Licensing	Beth O'Connor	Programmer/Analyst, licensure, RI Department of Health
	Mike Simoli	Systems Business Analyst, Licensure RI Department of Health
Blue Cross Blue Shield of Rhode Island	Gus Manocchia	Chief Medical Officer, RI Blue Cross Blue Shield
Care New England	Cedric Priebe	Chief Medical Information Officer Care New England

APPENDIX B: USE CASE SUMMARY

Use Case #	Unit	Requirement Group	Use Case	Description	Unique Data Requirements: Additional Individual Provider Detail	Unique Data Requirements: Provider Organization Detail	Unique Data Requirements: Individual to Organization Relationship Detail	Unique Data Requirements: Direct Update via Portal	Notes
1	**Medicaid**	PCMH Reporting	Revenue calculation	Calculate PCMH payment by "functional unit," a subset of a provider group	✓	✓	✓	✓	Likely requires integration with APCD data
2			Quality reporting	Report quality by "functional unit"	✓	✓	✓	✓	Likely requires integration with APCD data
3		Dual Eligibles Reporting	Revenue calculation	Calculate dual eligibles' payment by "functional unit"	✓	✓	✓	✓	Likely requires integration with APCD data
4			Quality reporting	Report quality by "functional unit"	✓	✓	✓	✓	Likely requires integration with APCD data
5	**RIQI/ CurrentCare**	PHI Security Control	Enable access of administrators to the query portal by attribution to a provider group	Enables provider access to patient data, based on affiliation with a provider group	-	✓	✓	✓	Needs patient consent detail with respect to authorized providers
6			Opt-in "option 3" support	Enable provider access to patient data based on patient specifying individual named providers or their groups	-	✓	✓	✓	Needs patient consent detail with respect to authorized providers
7	**APCD**	Cost/ Quality Analytics	Aggregate quality metrics by various subsets of providers	Evaluate quality by individual, by site, by group, or by plan	✓	✓	✓	✓	Many sites are a subset of a group

Use Case #	Unit	Requirement Group	Use Case	Description	Unique Data Requirements: Additional Individual Provider Detail	Unique Data Requirements: Provider Organization Detail	Unique Data Requirements: Individual to Organization Relationship Detail	Unique Data Requirements: Direct Update via Portal	Notes
8	**APCD**	Cost/ Quality Analytics	Keep provider data as current as claims data	Improve timeliness of reporting data	✓	✓	✓	✓	Claims expected to be 8 months old; direct portal access would improve detail
9	**Payers (BCBS RI)**	Credentialing	Single point or process for credentialing of providers	Enables providers to be credentialed for all payers through a single application	✓	✓	✓	✓	Would require common credentialing verification organization and alignment of calendars
10	**Payers (BCBS RI)**	General Administra-tive	Contact provider	Maintain provider contact, particularly e-mail	✓	✓	✓	✓	Requires direct portal updates of organization and individual detail
11	**Health Benefit Exchange**	Consumer Shopping Parameters	Search by hospital relationship	Find provider by hospital relationship	-	✓	✓	✓	In current HIX model
12			Search by physician group	Find physicians in a particular group	-	✓	✓	✓	Not in current HIX data model
13			Search by plan affiliation	Find physicians accepting a given benefit	-	✓	✓	✓	In current HIX model
14			Search by geography, gender, provider type, language, specialty	Find physicians by characteristic	-	✓	✓	✓	In current HIX model
15			Search by primary care provider yes/no	Find a primary care provider	-	-	✓	✓	In current HIX model
16			Search by open/closed	Find providers accepting new patients with a specific insurance plan	✓	✓	✓	✓	Not in current HIX data model

Use Case #	Unit	Requirement Group	Use Case	Description	Unique Data Requirements: Additional Individual Provider Detail	Unique Data Requirements: Provider Organization Detail	Unique Data Requirements: Individual to Organization Relationship Detail	Unique Data Requirements: Direct Update via Portal	Notes
17	**Provider (Care New England)**	Credentialing	Common process for credentialing	Single data collection process to address hospital and plan credentialing	✓	✓	✓	✓	Processes currently separated, hard to keep data current
18		Care Coordination	ID primary care provider at admission	Uniquely identify primary care provider	✓	✓	✓	✓	Many primary care providers are not admitters but need to be known to hospital
19		Care Coordination	Manage episodic payment	Identify providers in episode bundles	✓	✓	✓	✓	Accountable providers are often groups; need individual providers in groups
20		Care Coordination	Coordinate care post discharge	Notify primary care provider /other clinician for post-discharge management/coordination	✓	✓	✓	✓	Preferred communication method is a CCD via direct e-mail.

Use Case #	Unit	Requirement Group	Use Case	Description	Unique Data Requirements: Additional Individual Provider Detail	Unique Data Requirements: Provider Organization Detail	Unique Data Requirements: Individual to Organization Relationship Detail	Unique Data Requirements: Direct Update via Portal	Notes
21	**KidsNet**	Vaccine Site Management	ID users by site	A vaccine "site" is often one or more subsets of providers at a location; often multiple "sites" per electronic health record implementation	✓	✓	✓	✓	Each site has a lead physician, an administrative contact, and a vaccine lead
22			Emergency vaccine management	Manage vaccine inventory during crisis	✓	✓	✓	✓	Data are maintained now; valid contact information will improve efficacy of emergency management
23			Maintain contact information	At least three contacts per site; kept current with phone calls	✓	✓	✓	✓	Self-reporting of contact information would improve accuracy
24		Vaccine Site Management	Annual enrollment	Annual data collection process grants free vaccine access	✓	✓	✓	✓	Data are collected mostly manually; automated reenrollment reminders would improve accuracy and decrease cost
25	**Department of Health**	Consumer Inquiry	Provider search	Find a physician based on location, disciplinary action, services, or use of health IT	✓	✓	✓	✓	Could use additional search detail, particularly for services; could use more frequent updates (now 2 years)
26			Provider search	Additional detail preferred	✓	✓	✓	✓	Hours, services, "help" care detail, group URL, insurance accepted
27			Provider search	Prefer organization to directly update	✓	✓	✓	✓	To address timeliness and detail
28		Public Health Reporting	Reporting	Extend access methods	✓	✓	✓	✓	Would prefer to access via web services

Use Case #	Unit	Requirement Group	Use Case	Description	Unique Data Requirements				Notes
					Additional Individual Provider Detail	Provider Organization Detail	Individual to Organization Relationship Detail	Direct Update via Portal	
29	**Department of Health**	Public Health Reporting	Reporting	Public Health data analytics timeliness	✓	✓	✓	✓	Most analytics are very old; laborious data access results is rare report runs

APPENDIX C: IMPLEMENTATION APPROACH

If Rhode Island chooses to pursue the Ai team's recommendation to co-locate the CPDB within RIQI, the high-level view of the implementation approach would be the following.

- Confirm general alignment of the InterSystems' product roadmap with the requirements of the state.
  - Confirm InterSystems' intent to deploy a portal that will provide access to users representing individual providers and provider organizations.
  - Confirm architectural flexibility for the addition of tables and rows as needed.
  - Confirm flexibility in data access methods.
  - Confirm development calendar for key features, notably the portal components.
- Launch a design effort to detail incremental requirements for InterSystems.
  - Begin with RIQI requirements.
  - Add APCD requirements, including programmatic interfaces to support joins of the CPDB data with the APCD.
  - Defer HBE requirements until after January 1, 2014.
- Build a detailed implementation plan.
  - Establish a calendar of deliverables based on requirements detailed during design.
  - Align the deliverables with the InterSystems' roadmap; gain consensus from InterSystems.
  - Estimate budget for incremental requirements/costs outside of the RIQI budget.
- Build consensus on the aligned implementation calendar.

The Ai team estimates that the effort described above is approximately 6 months of effort with 2 to 3 full time employees). The portion of the work that requires HBE resources would necessarily be deferred until at least the first quarter of 2014, due to their prioritization of HBE conversion activities through the end of 2013.