

**Schedule 13**  
**Funding Request for the 2014-15 Budget Cycle**

Department: Health Care Policy and Financing  
 Request Title: Medicaid Health Information Exchange  
 Priority Number: R-5

Dept. Approval by: Josh Block *[Signature]* 4/1/13  
 Date

OSPB Approval by: [Signature] 10/29/13  
 Date

- |                                     |                                |
|-------------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> | Decision Item FY 2014-15       |
| <input type="checkbox"/>            | Base Reduction Item FY 2014-15 |
| <input type="checkbox"/>            | Supplemental FY 2013-14        |
| <input type="checkbox"/>            | Budget Amendment FY 2014-15    |

Line Item Information		FY 2013-14		FY 2014-15		FY 2015-16
		1	2	3	4	5
	Fund	Appropriation FY 2013-14	Supplemental Request FY 2013-14	Base Request FY 2014-15	Funding Change Request FY 2014-15	Continuation Amount FY 2015-16
<b>Total of All Line Items</b>	<b>Total</b>	10,256,618	-	8,398,735	5,748,926	9,716,176
	FTE	-	-	-	-	-
	GF	3,240,943	-	2,336,492	1,054,893	1,451,618
	GFE	-	-	-	-	-
	CF	699,910	-	625,557	-	-
	RF	23,910	-	23,910	-	-
	FF	6,291,855	-	5,412,776	4,694,033	8,264,558
<b>(1) Executive Director's Office; (A) General Administration, Operating Expenses</b>	<b>Total</b>	1,764,066	-	1,738,183	20,000	20,000
	FTE	-	-	-	-	-
	GF	733,525	-	789,074	2,000	2,000
	GFE	-	-	-	-	-
	CF	131,410	-	63,057	-	-
	RF	23,910	-	23,910	-	-
	FF	875,221	-	862,142	18,000	18,000
<b>(1) Executive Director's Office; (A) General Administration, General Professional Services and Special Projects</b>	<b>Total</b>	8,492,552	-	6,660,552	(2,500,000)	(2,500,000)
	FTE	-	-	-	-	-
	GF	2,507,418	-	1,547,418	(250,000)	(250,000)
	GFE	-	-	-	-	-
	CF	568,500	-	562,500	-	-
	RF	-	-	-	-	-
	FF	5,416,634	-	4,550,634	(2,250,000)	(2,250,000)
<b>NEW ITEM (1) Executive Director's Office; (C) Information Technology Contracts and Projects, Health Information Exchange Maintenance and Projects</b>	<b>Total</b>	-	-	-	8,228,926	12,196,176
	FTE	-	-	-	-	-
	GF	-	-	-	1,302,893	1,699,618
	GFE	-	-	-	-	-
	CF	-	-	-	-	-
	RF	-	-	-	-	-
	FF	-	-	-	6,926,033	10,496,558

Letternote Text Revision Required? Yes:  No:  If yes, describe the Letternote Text Revision:

Cash or Federal Fund Name and COFRS Fund Number: FF: Title XIX  
 Reappropriated Funds Source, by Department and Line Item Name: N/A  
 Approval by OIT? Yes:  No:  Not Required:   
 Schedule 13s from Affected Departments: N/A  
 Other Information: N/A



# COLORADO

Department of Health Care Policy  
and Financing

Priority: R-5  
Medicaid Health Information Exchange  
FY 2014-15 Change Request

## ***Cost and FTE***

- FY 2014-15: \$5,748,926 total funds, \$1,054,893 General Fund, and \$4,694,033 federal funds;
- FY 2015-16: \$9,716,176 total funds, \$1,451,618 General Fund, and \$8,264,558 federal funds;
- FY 2016-17: \$6,657,176 total funds, \$1,445,718 General Fund, and \$5,211,458 federal funds;
- FY 2017-18 and ongoing: \$4,442,176 total funds, \$1,222,218 General Fund, and \$3,199,958 federal funds.

## ***Link to Operations***

- Enhancing the Department's and Medicaid providers' ability to exchange and aggregate Medicaid client health-related information would result in improved care coordination and client experience, better-informed care decisions, expanded opportunities for preventative care, and advanced clinical and cost analytics to identify Medicaid cost-savings opportunities.

## ***Problem or Opportunity***

- Health-related information about Colorado Medicaid clients is fragmented and isolated in doctors' offices, clinics, hospitals, labs, and state government databases.
- The Department has a unique opportunity to build a shared Medicaid health information resource for relatively little state investment by utilizing time-limited enhanced federal matching funds and leveraging the infrastructure of Colorado's health information exchange (HIE) network.
- This would enable the Department and Medicaid providers to aggregate and exchange their Medicaid client health-related information; this would improve care coordination and client experience; prevent duplicative and unnecessary treatments; create new opportunities to identify health risks and provide preventative services; and generate novel data analytics that could identify the most effective health care services for the least cost, providing a basis for payment reform.

## ***Consequences of Problem***

- Without this resource, the Department has a compromised ability to proactively understand and improve client health and measure the effectiveness of Medicaid services; Medicaid providers have a compromised ability to coordinate care and avoid duplicative or unnecessary treatments.

## ***Proposed Solution***

- The Department requests funding to assist Medicaid providers with adopting electronic health record (EHR) systems and with connecting to Colorado's HIE network; the Department also requests funding for interfaces and electronic infrastructure that would allow Medicaid client health data to be aggregated and exchanged between provider EHR systems, the Department's Medicaid Management Information System (MMIS), and other Medicaid-related systems in the state.



# COLORADO

## Department of Health Care Policy and Financing

FY 2014-15 Funding Request | November 1, 2013

John W. Hickenlooper  
Governor

Susan E. Birch  
Executive Director

**Department Priority: R-5**  
**Request Detail: Medicaid Health Information Exchange**

Summary of Incremental Funding Change for FY 2014-15	Total Funds	General Fund
Medicaid Health Information Exchange	\$5,748,926	\$1,054,893

### ***Problem or Opportunity:***

Medicaid client health-related information is fragmented and isolated in doctor's offices, clinics, hospitals, labs, and state government databases, giving the Department and Medicaid providers limited ability to view a holistic record of a client's health. As a result, the Department has a compromised ability to measure and predict the impact of its services on client health and providers have a compromised ability to coordinate care and prevent duplicative or unnecessary treatments. Given the high level of investment in improving Medicaid client health care access and outcomes and the significant impact a complete health record has on care decisions, this scarce access to health information is unacceptable.

The Department has an opportunity to ameliorate this lack of access to Medicaid health-related information for a relatively small investment of state funds due to a time-limited enhanced federal funding opportunity and an opportunity to leverage existing infrastructure created for Colorado's health information exchange (HIE) network.

### **Background**

Colorado's HIE network is a developing "network of networks" that enables secure electronic exchange of patient medical records, referrals, lab results, and other health information between health entities in the state. These entities include electronic health record (EHR) systems at physician offices, hospitals, and clinical laboratories; independently-created regional HIE networks; and electronic public health registries at the Colorado Department of Public Health and Environment (DPHE). In many cases, the HIE network currently enables real-time communication between these entities and many, but not all, Colorado Medicaid providers are beginning to connect to and utilize the network.

The ongoing effort to create Colorado's HIE network was spurred in particular by federal investments and grants to support HIE under the Health Information Technology for Economic and Clinical Health (HITECH) Act, a portion of the federal American Recovery and Reinvestment Act (ARRA) of 2009. The HITECH Act made a 90% federal financial participation (FFP) rate available to state Medicaid agencies through 2021 for Medicaid-related HIE projects.

The lead coordinating entity for Colorado's HIE network is the nonprofit Colorado Regional Health Information Organization (CORHIO). CORHIO coordinates with Colorado health entities to develop data sharing policies, provide technical assistance, promote HIE, and build electronic infrastructure that allows data exchange between different health systems. CORHIO works alongside the nonprofit Quality Health Network (QHN), the organization leading the HIE effort on Colorado's western slope. Together, CORHIO and QHN have been responsible for facilitating a state-wide Colorado HIE network.

Colorado's HIE network primarily connects provider EHR systems. EHR systems are specialized computer software products at physicians' offices and hospitals meant to replace paper medical records. Connecting to the state's HIE network allows an EHR system to realize its greatest benefit: the ability to instantly query and exchange patient health information such as past complaints, diagnoses, treatments, doctor's notes, lab results, and insurance information with any other EHR system connected to the HIE network. The benefit of the state's HIE network is only fully realized when a critical mass of provider EHR systems are connected to the network, because only then can providers rely on the network for comprehensive, cross-provider patient health information.

However, due to cost, necessary staff training, and technical complexity, not all Colorado medical providers have purchased EHR systems or have connected their system to Colorado's HIE network. To assist Medicaid providers in reaching these goals, the Department implemented the Medicaid Provider EHR Incentive Payment Program, which pays Medicaid providers for adopting an EHR system. The program was created by the HITECH Act; the incentive payments are 100% federally funded and the program's administrative costs receive a 90% FFP rate through 2021. This program has made it possible for many Medicaid providers to adopt EHR systems and begin connecting to and utilizing the state's HIE network, helping to alleviate some of the problems caused by lack of access to health information. However, many Medicaid providers have yet to adopt EHR systems and among those who have, many are only in the beginning stages of implementation, only modestly utilizing the technology and able only to receive but not send data to the HIE network.

The Department's main business intelligence system and repository of Medicaid client and provider data, the Medicaid Management Information System (MMIS), is not connected to Colorado's HIE network. Thus, the MMIS cannot access or communicate with provider EHR systems and other systems connected to the state's HIE network. The MMIS was built for the primary purpose of processing the Department's medical claims and so only houses the minimal data necessary to adjudicate and facilitate payment of claims. This claims data is of limited usefulness in understanding the actual clinical outcomes of medical claims and the health of Medicaid clients. The Department's MMIS is currently being re-procured per the Department's FY 2013-14 R-5 Budget Request, "Medicaid Management Information System Reprocurement," and will be built to integrate with Colorado's HIE infrastructure for both public and private providers. However, such integration would require new Medicaid HIE infrastructure and interfacing with the MMIS.

## **Enhanced Federal Funding for Investment in Health Information Exchange Technology**

Recognizing the potential of EHR technology and state HIE networks to reduce health care costs and improve health care quality through administrative efficiencies and better care coordination, the United States Congress, through the HITECH Act, has granted 90% FFP rates through 2021 to state Medicaid agencies for projects that support and expand HIE. This enhanced federal funding gives the Department an opportunity, for relatively little state investment, to build upon the existing infrastructure of Colorado's HIE network in order to expand HIE to the Department's MMIS and to continue assisting Medicaid providers in utilizing EHR technology and in connecting to Colorado's HIE network. Such an investment would allow both the Department and Medicaid providers greater access to Medicaid client health information and improve the problems described above that result from the current lack of access to this information.

### ***Proposed Solution:***

The Department requests \$5,748,926 total funds, \$1,054,893 General Fund, and \$4,694,033 federal funds in FY 2014-15; \$9,716,176 total funds, \$1,451,618 General Fund, and \$8,264,558 federal funds in FY 2015-16; \$6,657,176 total funds, \$1,445,718 General Fund, and \$5,211,458 federal funds in FY 2016-17; and \$4,442,176 total funds, \$1,222,218 General Fund, and \$3,199,958 federal funds in FY 2017-18 and ongoing in order to carry out the following proposed projects:

First, leveraging Colorado's already existing HIE network infrastructure, the Department proposes to build interfaces and expand the network's infrastructure so that more Medicaid provider EHR systems, the Department's MMIS, and several other Medicaid-related systems become fully connected to the HIE network. This infrastructure and the resulting enhanced ability to securely exchange Medicaid client health data would allow the Department to more accurately measure Medicaid services and understand the health of Medicaid clients and would enable Medicaid providers to make better-informed clinical decisions and achieve more congruent care coordination.

Second, the Department proposes to support Medicaid providers with continued incentive payments, outreach, and training in adopting and utilizing EHR technology and the state's HIE network in their practice. Supporting providers in this way is critical to the success of the proposed expanded HIE infrastructure because the availability of Medicaid client clinical data on the HIE network depends upon Medicaid providers connecting their EHR systems to the network and providing the information. Moreover, much of the benefit of the HIE network such as better care coordination and better-informed care decisions directly depends on providers being knowledgeable about their EHR systems and participating in statewide HIE. Details of the proposed solution are discussed below.

### **Build and Maintain HIE Infrastructure**

#### **Directory of HIE Systems and Reporting Tools**

In order to accurately cross-reference the client data found in Medicaid provider EHR systems, the Department's MMIS, and several other health information systems, and then combine and store this data, the Department requests funding to expand the electronic client and provider directories created for the

Colorado HIE network and to create a clinical data repository. To then allow the Department and providers to analyze and gain insight from this newly linked data, as well as ease interface management and accommodate expected increases in public health reporting, the Department requests funding to procure various software tools and enhance the reporting capacity of public health reporting systems.

To accurately cross-reference client data found in different systems, the Department requests funding to contract with CORHIO to expand the existing client and provider directories of the Colorado HIE network so that it encompasses the MMIS and several other Medicaid-related systems.<sup>1</sup> These expanded directories would allow fragmented information about the same client or provider found in these different systems to be cross-referenced and combined. Cross-referencing data in this way would enable the Department to access data that would allow better measurement of the full impact and effectiveness of its policies, ranging from prior authorizations on individual services, to drug utilization, and the overall efficacy of the Accountable Care Collaborative.

The Department requests funding for a clinical data repository to securely combine and efficiently store this cross-referenced data. This would be an electronic storage system that Department staff and Medicaid providers could securely access for viewing and analysis of the combined data from the different systems. Without this repository, Department staff and Medicaid providers would have no way to actually reference the data that was cross-referenced together by the client and provider directories, limiting data access to time-consuming data requests and thus undermining the ability to analyze and act on the data in a timely fashion.

The Department requests funding to contract with CORHIO and QHN to develop various helpful software tools accessible to entities connected to the Colorado HIE network to enable the Department and Medicaid providers to better analyze and act on the health-related data exchanged on the Colorado HIE network and ease interface management between various systems,. The software would include: Transition of Care (ToC) and Continuity of Care Document (CCD) tools that expand electronic health information exchange between providers when clients change providers; a Clinical Quality Measure (CQM) analysis tool that would measure provider activities; clinical data analytical tools that would allow grouping and analysis of Medicaid client clinical data; and, an interface engine tool that would ease management of interfaces between the Colorado HIE network and other entities.

Also, in order to accommodate expected increases in electronic public health reporting by Medicaid providers (due to adoption of EHR and HIE technology), the Department requests funding to expand the capacity of DPHE public health reporting systems. Specifically, this would include increasing server storage for public health reporting databases, rebuilding public health reporting databases as necessary to make them more robust, and contracting with CORHIO to perform data validation. Without this increased capacity, the expanded public health reporting data would be more than current systems could handle and consequently Medicaid public health data would be backlogged and inaccessible. The Department requests

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<sup>1</sup> These systems include the Department's MMIS, Colorado's HIE network (which would encompass all Medicaid provider EHR systems), the Center for Improving Value in Health Care's (CIVHC's) All-Payer Claims Database (APCD), the Colorado Department of Public Health and Environment's (DPHE's) public health registries, the Colorado Department of Regulatory Agencies' (DORA's) provider licensing system, the Colorado Department of Human Services' (DHS's) mental health and substance use systems, and the Department of Corrections' (DOC's) facility-based health care systems.

funding only for the portion of increased public health reporting that is due to Medicaid providers; DPHE's FY 2014-15 Budget Request R-4 "Health Information Exchange" requests funding for the portion of these upgrades that is not eligible for Medicaid funding.

If the above-proposed projects are not approved, the benefits of the projects to the Department, Medicaid clients, and providers would likely not otherwise be realized. Data in these isolated systems would remain fragmented and unable to be accessed by the Department or Medicaid providers, and useful analytical software tools and public health reporting data would be unavailable. If the proposed projects are approved, but the approval is significantly delayed, then the projects would likely cost more in state funds to implement due to the 2021 expiration of time-limited HITECH funding; furthermore, the benefits of these projects would be delayed.

## **Interfaces**

In order for the expanded client and provider directories to aggregate information from the various health information records maintained by providers and other entities, the Department would be required to build interfaces that would allow for the actual flow of electronic information between the systems and the directories. These interfaces would not just enable reporting to the directory; rather, they would allow for the various health-related information systems and HIE networks around the state to communicate with each other. For example, interfaces would connect Medicaid providers and public health reporting systems at DPHE with the CORHIO or QHN HIE network, as well as connect the QHN and CORHIO HIE networks together. These interfaces would enable connected Medicaid providers to both send and receive health-related information with the HIE network, allowing instant access to useful and relevant data, such as past health services and diagnoses, lab results, public health reports, and referrals, enabling all HIE users to develop a better informed plan of care, while avoiding duplicative treatments.

If these interfaces are not built, it would severely limit the actual flow of data between entities connected to the HIE network, or may result in the interfaces being created at a later time, which would cost more in state funds (due to the 2021 expiration of enhanced HITECH funding) and would delay the benefits of building the interfaces. As an alternative, many of the interfaces could be implemented as more traditional point-to-point interfaces between each of the various systems; for instance, multiple point-to-point interfaces could be built between each DPHE public health system and the MMIS or between each DHS system and the MMIS instead of a single interface between each relevant system and the expanded client or provider directory. However, this approach would not leverage the existing infrastructure of Colorado's HIE network; it would also be less flexible because multiple interfaces would need to be rebuilt whenever a system was changed or created and any unforeseen future data exchange paths would require a new point-to-point interface.

## **Ongoing Costs**

The Department requests funding to maintain and operate the infrastructure proposed above, regularly updating software, refreshing and replacing hardware, and troubleshooting and repairing problems. Supporting ongoing maintenance and operations allows the infrastructure to work as intended and exchange information securely in the future. Without ongoing maintenance and operations, the infrastructure

proposed above could not function after it was built. The Department also proposes to subscribe to ongoing transmission of data and analytics to the proposed clinical data repository from the Colorado HIE network via CORHIO and CIVHC's ACPD. Subscribing to these data sources would provide the Department with access to up-to-date data and analytics from these systems including clinical data and cross-payer claims data. Without these subscriptions, the Department would not have access to Colorado's HIE network or ACPD data, severely diminishing the amount of data available to the Department through the proposed infrastructure.

## **Coordination and Oversight**

The Department does not have the capability to coordinate and maintain this infrastructure project. Rather than request a large number of FTE and internal resources to manage this project, the Department proposes to contract with CORHIO to coordinate and oversee the entire infrastructure project. CORHIO is uniquely qualified to handle this project because, as the designated lead organization for expanding HIE in Colorado (per Executive Order D 008 09), it has not only the in-house technical, policy, and coordinating expertise for HIE projects, but also the relationships within Colorado's health information community and broad public and private governance structures and input channels that would be necessary for implementing the proposed projects.

This CORHIO resource would ensure coordination between the Department, CORHIO, QHN, CIVHC, OIT, and other state agencies to expand and connect to the client and provider directories including coordinating and directing the vision, creating data sharing agreements, and developing appropriate policies and inclusive governance structures. If this request is approved, the Department would work closely with OIT and other state agencies that are investing in HIE solutions to ensure that all state resources are leveraged and the Department's efforts are not duplicative or misguided. This would include working closely with DPHE on their FY 2014-15 Budget Request R-4 "Health Information Exchange," mentioned above. With this coordination, oversight, and dedicated resources, the Department will avoid unintentionally duplicating efforts by other departments, gain opportunities to leverage shared visions and resources with other departments and health entities, ensure compliance with security and privacy policies, and efficiently and adequately manage required contractors.

## **Support Providers**

### **Provider Incentive Payments, Outreach, and Training**

The success of any HIE solution is dependent on provider engagement and adoption. In order to encourage Medicaid Providers to install, maintain, and use EHR technology and connect to the Colorado HIE network, the Department intends to continue administering the Medicaid Provider EHR Incentive Payment Program previously approved with the Department's FY 2011-12 BA-8 budget request "ARRA HITECH Provider Incentive Payments," and requests additional funding to conduct provider outreach and training about EHR technology. Provider outreach and training such as mailings, seminars, written training materials, and live technical support are currently offered to Medicaid providers by CORHIO using funds under an ARRA HITECH grant received by CORHIO called the Regional Extension Center (REC) program. However, this federal funding is slated to expire and because of the benefits of this program, the

Department is requesting funding to continue these integral outreach and training efforts to Medicaid providers.

Without this continued provider support, the Department believes that Medicaid providers would be less likely to continue adopting EHR technology and interfacing with Colorado's HIE network due to the high costs and complexity of EHR and HIE technology. This would undermine the usefulness of the infrastructure proposed in this request because much of its benefit derives from provider participation, and moreover, the availability of the infrastructure's intended data depends upon providers supplying it through HIE-connected EHR systems.

***Anticipated Outcomes:***

The proposed solution would allow Medicaid provider EHR systems, the MMIS, public health reporting systems, and other currently isolated systems to securely exchange electronic Medicaid client data gradually as infrastructure is built between FY 2014-15 and FY 2017-18. The proposed solution would allow the fragmented data in these systems to be aggregated and analyzed by the Department and Medicaid providers. Ultimately, the ability of the Department and Medicaid providers to securely exchange, aggregate, and analyze this Medicaid health-related data would enable better Medicaid client care and lower Medicaid health care costs.

With the proposed solution, the Department and providers would be alerted to certain client clinical conditions in real-time, allowing the Department and providers to take actions that are clinically beneficial or would reduce costs. For example, if a client requires follow-up care after an emergency room discharge, then thanks to real-time alerts from hospital EHR systems, the Department and providers could reach out to a client to use a less-costly clinic for follow-up care instead of going back to the emergency room. As another example, thanks to the availability of diabetes-related lab results from lab EHR systems, the Department and providers could be alerted to abnormal results and follow up with clients to advise proper care. This would help to improve client health and would lower costs by potentially avoiding costly acute care later on.

Similarly, the proposed solution would enable the Department to contain health care costs and improve client health by identifying patterns in client demographic and other data that correlate with certain health risks. For instance, through the proposed data repository, the Department would be able to search for correlations between client data housed in DHS's mental health and substance use systems with the clinical data found in provider EHR systems. Such analysis could identify common demographic or other patterns in clients that indicate higher risk for certain health conditions. This would allow the Department to then reach out to these clients and providers to mitigate potential health risks, and thus improve client health and avoid costlier care later on.

The proposed solution would also allow the Department to understand the clinical outcomes of the medical services for which it pays, giving the Department the ability to reform payment policies to be based on clinical outcomes, promoting more effective care and containing costs. Currently the Department pays for allowable services with little ability to evaluate the effectiveness of the service. Access to additional data about a client allows comprehensive measurement of outcomes of services. For instance, surgeons often

use different prosthetic devices for knee replacements. Access to the data repository would allow measurement of the effectiveness of different types of devices based on client clinical data found in provider EHR systems. This would allow for potential payment reform that supports the most clinically-effective prosthetic device at the lowest cost.

The proposed solution would also allow Medicaid providers to access and analyze the information about their patients across the different systems as well as instantly and securely exchange patient health information with other providers, leading to better informed and timelier health care decisions, better care coordination, and administrative efficiencies. For instance, Medicaid providers would be able to quickly query the state's HIE network to view health information from other provider EHR systems on a new patient and use this information to avoid treatments that are duplicative or have been ineffective in the past, thus providing better care and avoiding unnecessary costs. Providers would also be able to easily send patient information to a referred specialist or receive lab results, resulting in administrative efficiencies, better care coordination, and better client experience. This access to and timely exchange of client health information would not be possible without the proposed HIE infrastructure.

If approved, the proposed solution would help the Department achieve three goals of the Department's five-year strategy plan. First, the proposed solution would help achieve the goal to "improve health outcomes, client experience, and lower per capita costs" by delivering comprehensive client information to the Department and Medicaid providers for better-informed care decisions, leading to improved health outcomes and less waste on duplicative or unnecessary treatment; better care coordination between providers for improved client experience; and, proactive prediction and prevention of health risks to avoid costly future care. Second, the proposed solution would help achieve the goal to "provide exceptional service through technological innovation" by implementing state-of-the-art HIE technology that provides secure patient health care information sharing and analysis never before possible in the Medicaid program. Lastly, the proposed solution would help achieve the goal to "ensure sound stewardship of financial resources" by correlating clinical data with claims data and thereby allowing the Department and providers to identify services and practices that lead to the same or better clinical outcomes for the least cost.

#### ***Assumptions and Calculations:***

##### **Cost Estimates**

Cost estimates for the proposed solution are based on estimates and actual costs from CORHIO, DPHE, and CIVHC, and are also based on the Department's experience with systems of similar technical complexity such as the MMIS.

The Department assumes that many of the proposed projects would be able to leverage the already-existing infrastructure of Colorado's HIE network. For instance, instead of building client and provider directories from scratch, the Department assumes it would expand the existing directories of CORHIO and QHN that are already used by the Colorado HIE network to route patient health data between provider EHR systems.

The Department also assumes that many of the proposed projects could be utilized for payers other than Medicaid, and as such, the cost estimates for the proposed solution only reflect Medicaid's assumed fair

share of the cost. For instance, many interfaces are expected to be used to exchange both Medicaid and non-Medicaid health-related information, so cost estimates for building the interfaces are prorated based on the expected amount of Medicaid data flowing across the interfaces divided by the expected total amount of data flowing across the interfaces. CORHIO would be required to obtain investment from other payers to cover costs that do not benefit the Medicaid program.

Cost estimates for coordination and oversight are based on estimates from CORHIO of 2 FTE for this purpose. Although the coordination and oversight required for the proposed projects would be extensive, the Department assumes that 2 FTE at CORHIO would be sufficient because of their opportunity, as CORHIO personnel, to leverage CORHIO's existing resources and expertise.

The Department assumes that Medicaid would pay its fair share for operations and maintenance of the expanded provider and client directories, clinical data repository, and interfaces between health systems and the expanded provider and client directories. The Department assumes DPHE would cover ongoing costs for public health reporting capacity enhancements. The Department assumes that ongoing costs for provider and critical access hospital interfaces with the Colorado HIE network as well as the software tools to be used on the network would be covered by CORHIO. The Department assumes that the long-term financial sustainability of CORHIO, QHN, and the Colorado HIE network would be self-sustaining and not supported by Department funding, except for specific value-add services such as providing ongoing data and analytics to the Department.

Cost estimates for supporting providers are based on the Department's actual current costs for administering the Medicaid Provider EHR Incentive Payment Program and actual current costs to CORHIO for conducting provider outreach and training under the REC program grant.

Based on the cost estimates and assumptions described above, Tables 1.1 through 1.4 in the attached appendix provide a summary of the request by line item. Tables 2.1 through 2.4 summarize the request by FFP rate and major project heading while Table 3 summarizes the request by major project heading and shows detailed sub-projects. Table 4 summarizes existing funding and need for the Medicaid Provider EHR Incentive Program.

## **Financing**

As shown in Tables 1.1 through 1.4, the Department assumes most of the requested funding would be housed in a new line item named Health Information Exchange Maintenance and Projects in the Department's (1) Executive Director's Office; (C) Information Technology Contracts and Projects Long Bill group. As shown, the Department assumes that \$20,000 each fiscal year for state staff travel for the EHR incentive payment program would be housed in the Department's Operating Expenses line item.

Also shown in Tables 1.1 through 1.4 is a requested \$2,500,000 ongoing reduction to the General Professional Services and Special Projects line item. The Department was appropriated this \$2,500,000 with the Department's FY 2011-12 Budget Request BA-8 "ARRA HITECH Provider Incentive Payments" for the purpose of administering the Medicaid Provider EHR Incentive Payment Program. The Department now requests to move the funding for this program from the General Professional Services and Special

Projects line item into the new Health Information Exchange Maintenance and Projects and Operating Expenses line items. However, as shown in Table 4, the actual need for administering the EHR incentive payment program is significantly less than the original \$2,500,000 appropriation for the program, resulting in an overall cost savings for the program of \$1,391,824. As shown in Table 3, the Department is consequently requesting an overall reduction in funding for the EHR incentive payment program equal to this cost savings.

The Department assumes that a 90% FFP rate will be available for all items of the proposed solution except for ongoing maintenance, operations, and data subscriptions, which the Department assumes will receive 75% and 50% FFP rates. The Department assumes all enhanced FFP rates will be granted under either the HITECH Act or under the enhanced FFP available for MMIS projects outlined in Chapter 11 of the State Medicaid Manual.

R-5 Medicaid Health Information Exchange  
Appendix A: Calculations and Assumptions

<b>Table 1.1 - Total Request for FY 2014-15 by Line Item</b>			
<b>Line Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>
(1) Executive Director's Office; (A) General Administration, Operating Expenses	\$20,000	\$2,000	\$18,000
(1) Executive Director's Office; (A) General Administration, General Professional Services and Special Projects	(\$2,500,000)	(\$250,000)	(\$2,250,000)
(1) Executive Director's Office; (C) Information Technology Contracts and Projects, Health Information Exchange Maintenance and Projects	\$8,228,926	\$1,302,893	\$6,926,033
<b>Total Request for FY 2014-15</b>	<b>\$5,748,926</b>	<b>\$1,054,893</b>	<b>\$4,694,033</b>

<b>Table 1.2 - Total Request for FY 2015-16 by Line Item</b>			
<b>Line Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>
(1) Executive Director's Office; (A) General Administration, Operating Expenses	\$20,000	\$2,000	\$18,000
(1) Executive Director's Office; (A) General Administration, General Professional Services and Special Projects	(\$2,500,000)	(\$250,000)	(\$2,250,000)
(1) Executive Director's Office; (C) Information Technology Contracts and Projects, Health Information Exchange Maintenance and Projects	\$12,196,176	\$1,699,618	\$10,496,558
<b>Total Request for FY 2015-16</b>	<b>\$9,716,176</b>	<b>\$1,451,618</b>	<b>\$8,264,558</b>

<b>Table 1.3 - Total Request for FY 2016-17 by Line Item</b>			
<b>Line Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>
(1) Executive Director's Office; (A) General Administration, Operating Expenses	\$20,000	\$2,000	\$18,000
(1) Executive Director's Office; (A) General Administration, General Professional Services and Special Projects	(\$2,500,000)	(\$250,000)	(\$2,250,000)
(1) Executive Director's Office; (C) Information Technology Contracts and Projects, Health Information Exchange Maintenance and Projects	\$9,137,176	\$1,693,718	\$7,443,458
<b>Total Request for FY 2016-17</b>	<b>\$6,657,176</b>	<b>\$1,445,718</b>	<b>\$5,211,458</b>

<b>Table 1.4 - Total Request for FY 2017-18 by Line Item</b>			
<b>Line Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>
(1) Executive Director's Office; (A) General Administration, Operating Expenses	\$20,000	\$2,000	\$18,000
(1) Executive Director's Office; (A) General Administration, General Professional Services and Special Projects	(\$2,500,000)	(\$250,000)	(\$2,250,000)
(1) Executive Director's Office; (C) Information Technology Contracts and Projects, Health Information Exchange Maintenance and Projects	\$6,902,176	\$1,470,218	\$5,431,958
<b>Total Request for FY 2017-18</b>	<b>\$4,422,176</b>	<b>\$1,222,218</b>	<b>\$3,199,958</b>

R-5 Medicaid Health Information Exchange  
Appendix A: Calculations and Assumptions

<b>Table 2.1 - Total Request for FY 2014-15 by FFP Rate</b>				
<b>Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>	<b>FFP</b>
<b>90% FFP Rate</b>				
Directory of HIE Systems and Reporting Tools	\$1,202,000	\$120,200	\$1,081,800	90%
Interfaces	\$2,938,750	\$293,875	\$2,644,875	90%
Coordination and Oversight	\$250,000	\$25,000	\$225,000	90%
Provider EHR Incentive Payments, Outreach, and Training	\$158,176	\$15,818	\$142,358	90%
<b>Subtotal: 90% FFP Rate</b>	<b>\$4,548,926</b>	<b>\$454,893</b>	<b>\$4,094,033</b>	<b>90%</b>
<b>75% FFP Rate</b>				
Ongoing Costs: Operations and Maintenance	\$0	\$0	\$0	75%
<b>Subtotal: 75% FFP Rate</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>75%</b>
<b>50% FFP Rate</b>				
Ongoing Costs: HIE network data and analytics; APCD data and analytics	\$1,200,000	\$600,000	\$600,000	50%
<b>Subtotal: 50% FFP Rate</b>	<b>\$1,200,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>50%</b>
<b>Total Request for FY 2014-15</b>	<b>\$5,748,926</b>	<b>\$1,054,893</b>	<b>\$4,694,033</b>	<b>Mix</b>

<b>Table 2.2 - Total Request for FY 2015-16 by FFP Rate</b>				
<b>Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>	<b>FFP</b>
<b>90% FFP Rate</b>				
Directory of HIE Systems and Reporting Tools	\$1,913,000	\$191,300	\$1,721,700	90%
Interfaces	\$6,195,000	\$619,500	\$5,575,500	90%
Coordination and Oversight	\$250,000	\$25,000	\$225,000	90%
Provider EHR Incentive Payments, Outreach, and Training	\$158,176	\$15,818	\$142,358	90%
<b>Subtotal: 90% FFP Rate</b>	<b>\$8,516,176</b>	<b>\$851,618</b>	<b>\$7,664,558</b>	<b>90%</b>
<b>75% FFP Rate</b>				
Ongoing Costs: Operations and Maintenance	\$0	\$0	\$0	75%
<b>Subtotal: 75% FFP Rate</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>75%</b>
<b>50% FFP Rate</b>				
Ongoing Costs: HIE network data and analytics; APCD data and analytics	\$1,200,000	\$600,000	\$600,000	50%
<b>Subtotal: 50% FFP Rate</b>	<b>\$1,200,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>50%</b>
<b>Total Request for FY 2015-16</b>	<b>\$9,716,176</b>	<b>\$1,451,618</b>	<b>\$8,264,558</b>	<b>Mix</b>

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Appendix A: Calculations and Assumptions

<b>Table 2.3 - Total Request for FY 2016-17 by FFP Rate</b>				
<b>Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>	<b>FFP</b>
<b>90% FFP Rate</b>				
Directory of HIE Systems and Reporting Tools	\$1,419,000	\$141,900	\$1,277,100	90%
Interfaces	\$1,630,000	\$163,000	\$1,467,000	90%
Coordination and Oversight	\$250,000	\$25,000	\$225,000	90%
Provider EHR Incentive Payments, Outreach, and Training	\$158,176	\$15,818	\$142,358	90%
<b>Subtotal: 90% FFP Rate</b>	<b>\$3,457,176</b>	<b>\$345,718</b>	<b>\$3,111,458</b>	<b>90%</b>
<b>75% FFP Rate</b>				
Ongoing Costs: Operations and Maintenance	\$2,000,000	\$500,000	\$1,500,000	75%
<b>Subtotal: 75% FFP Rate</b>	<b>\$2,000,000</b>	<b>\$500,000</b>	<b>\$1,500,000</b>	<b>75%</b>
<b>50% FFP Rate</b>				
Ongoing Costs: HIE network data and analytics; APCD data and analytics	\$1,200,000	\$600,000	\$600,000	50%
<b>Subtotal: 50% FFP Rate</b>	<b>\$1,200,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>50%</b>
<b>Total Request for FY 2016-17</b>	<b>\$6,657,176</b>	<b>\$1,445,718</b>	<b>\$5,211,458</b>	<b>Mix</b>

<b>Table 2.4 - Total Request for FY 2017-18 by FFP Rate</b>				
<b>Item</b>	<b>Total Funds</b>	<b>General Fund</b>	<b>Federal Funds</b>	<b>FFP</b>
<b>90% FFP Rate</b>				
Directory of HIE Systems and Reporting Tools	\$794,000	\$79,400	\$714,600	90%
Interfaces	\$20,000	\$2,000	\$18,000	90%
Coordination and Oversight	\$250,000	\$25,000	\$225,000	90%
Provider EHR Incentive Payments, Outreach, and Training	\$158,176	\$15,818	\$142,358	90%
<b>Subtotal: 90% FFP Rate</b>	<b>\$1,222,176</b>	<b>\$122,218</b>	<b>\$1,099,958</b>	<b>90%</b>
<b>75% FFP Rate</b>				
Ongoing Costs: Operations and Maintenance	\$2,000,000	\$500,000	\$1,500,000	75%
<b>Subtotal: 75% FFP Rate</b>	<b>\$2,000,000</b>	<b>\$500,000</b>	<b>\$1,500,000</b>	<b>75%</b>
<b>50% FFP Rate</b>				
Ongoing Costs: HIE network data and analytics; APCD data and analytics	\$1,200,000	\$600,000	\$600,000	50%
<b>Subtotal: 50% FFP Rate</b>	<b>\$1,200,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>50%</b>
<b>Total Request for FY 2017-18</b>	<b>\$4,422,176</b>	<b>\$1,222,218</b>	<b>\$3,199,958</b>	<b>Mix</b>

<b>Table 3 - Total Request by Project</b>						
<b>Item</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>	<b>Total</b>	<b>FFP</b>
<b><u>Build and Maintain HIE Infrastructure</u></b>						
<b>Directory of HIE Systems and Reporting Tools</b>						
Client directory	\$200,000	\$250,000	\$0	\$0	<b>\$450,000</b>	90%
Provider directory	\$300,000	\$500,000	\$0	\$0	<b>\$800,000</b>	90%
Clinical data repository	\$0	\$500,000	\$500,000	\$0	<b>\$1,000,000</b>	90%
ToC and CCD tools	\$125,000	\$125,000	\$0	\$0	<b>\$250,000</b>	90%
CQM analytical tool	\$0	\$125,000	\$125,000	\$0	<b>\$250,000</b>	90%
Clinical data analytical tools	\$0	\$0	\$576,000	\$576,000	<b>\$1,152,000</b>	90%
Interface engine	\$195,000	\$195,000	\$0	\$0	<b>\$390,000</b>	90%
Public health reporting capacity increase	\$164,000	\$0	\$0	\$0	<b>\$164,000</b>	90%
Public health reporting data validation	\$218,000	\$218,000	\$218,000	\$218,000	<b>\$872,000</b>	90%
<b>Subtotal: Directory of HIE Systems and Reporting Tools</b>	<b>\$1,202,000</b>	<b>\$1,913,000</b>	<b>\$1,419,000</b>	<b>\$794,000</b>	<b>\$5,328,000</b>	<b>90%</b>
<b>Interfaces</b>						
Medicaid provider interfaces	\$1,500,000	\$1,500,000	\$1,500,000	\$0	<b>\$4,500,000</b>	90%
Critical access hospital interfaces	\$138,750	\$125,000	\$110,000	\$0	<b>\$373,750</b>	90%
QHN to CORHIO interface	\$40,000	\$20,000	\$20,000	\$20,000	<b>\$100,000</b>	90%
Interfaces with the expanded client/provider directories (including the MMIS, APCD, and systems at DPHE, DHS and DORA)	\$1,260,000	\$4,550,000	\$0	\$0	<b>\$5,810,000</b>	90%
<b>Subtotal: Interfaces</b>	<b>\$2,938,750</b>	<b>\$6,195,000</b>	<b>\$1,630,000</b>	<b>\$20,000</b>	<b>\$10,783,750</b>	<b>90%</b>
<b>Ongoing Costs</b>						
Operations and maintenance	\$0	\$0	\$2,000,000	\$2,000,000	<b>\$4,000,000</b>	75%
HIE network data and analytics	\$800,000	\$800,000	\$800,000	\$800,000	<b>\$3,200,000</b>	50%
APCD data and analytics	\$400,000	\$400,000	\$400,000	\$400,000	<b>\$1,600,000</b>	50%
<b>Subtotal: Ongoing Costs</b>	<b>\$1,200,000</b>	<b>\$1,200,000</b>	<b>\$3,200,000</b>	<b>\$3,200,000</b>	<b>\$8,800,000</b>	<b>Mix</b>
<b>Coordination and Oversight</b>						
2 FTE at CORHIO	\$250,000	\$250,000	\$250,000	\$250,000	<b>\$1,000,000</b>	90%
<b>Subtotal: Coordination and Oversight</b>	<b>\$250,000</b>	<b>\$250,000</b>	<b>\$250,000</b>	<b>\$250,000</b>	<b>\$1,000,000</b>	<b>90%</b>
<b><u>Support Providers</u></b>						
<b>Provider EHR Incentive Payments, Outreach, and Training</b>						
EHR Incentive Payment Program Cost Savings (See Table 4)	(\$1,391,824)	(\$1,391,824)	(\$1,391,824)	(\$1,391,824)	<b>(\$5,567,296)</b>	90%
Outreach, education, and technical services	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	<b>\$6,200,000</b>	90%
<b>Subtotal: Provider EHR Incentive Payments, Outreach, and Training</b>	<b>\$158,176</b>	<b>\$158,176</b>	<b>\$158,176</b>	<b>\$158,176</b>	<b>\$632,704</b>	<b>90%</b>
<b>Total Request</b>	<b>\$5,748,926</b>	<b>\$9,716,176</b>	<b>\$6,657,176</b>	<b>\$4,422,176</b>	<b>\$26,544,454</b>	<b>Mix</b>

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Appendix A: Calculations and Assumptions

<b>Table 4 - Medicaid Provider EHR Incentive Program Administrative Costs</b>			
<b>Row</b>	<b>Item</b>	<b>FY 2014-15<sup>1</sup></b>	<b>FFP</b>
	<b>Existing Appropriation</b>		
A	FY 2011-12 BA-8 "ARRA HITECH Provider Incentive Payments"	\$2,500,000	90%
	<b>Actual Program Need</b>		
B	Provider attestation processing	\$439,176	90%
C	Auditing	\$424,000	90%
D	Coordination and oversight	\$225,000	90%
E	Department staff travel (Operating Expenses Line Item)	\$20,000	90%
<b>F</b>	<b>Subtotal: Program Need</b>	<b>\$1,108,176</b>	<b>90%</b>
<b>G</b>	<b>Program Cost Savings (Row A - Row F)</b>	<b>\$1,391,824</b>	<b>90%</b>
<sup>1</sup> These amounts are the same for FY 2015-16, FY 2016-17, and FY 2017-18.			