

State of Colorado

Department of Health Care Policy & Financing (HCPF)

Appendix D – HIE

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SECTION I – EXECUTIVE SUMMARY

Colorado’s Department of Health Care Policy and Finance (the Department) is submitting this Implementation Advanced Planning Document (IAPD) update to request Federal Financial Participation (FFP) Health Information Technology for Economic and Clinical Health (HITECH) Health Information Exchange (HIE) administrative funding from the Centers for Medicare & Medicaid Services (CMS). This funding will cover provider onboarding, as well as the strategic development and implementation of core infrastructure and technical solutions to create and enhance sustainable solutions for Medicaid providers serving Medicaid clients and supporting Medicaid eligible professionals’ (EPs’) and eligible hospitals’ (EHs’) achievement of Meaningful Use (MU). This IAPD-Update (IAPD-U) aligns to the Department’s strategy for advancing Health Information Technology (HIT) and HIE in Colorado by supporting the design, development, testing, and implementation of core infrastructure and technical solutions promoting HIE for EPs and EHs aligned with Colorado’s Medicaid Electronic Health Record (EHR) Incentive Program authorized by the American Recovery and Reinvestment Act of 2009 (ARRA). ***Although many states are struggling to create a sustainable HIE model, the Department is pleased to report that the Colorado HIE Network is sustainable to continue operations without the support of the Office of the National Coordinator (ONC) grantee funding.*** Since the previous IAPD-U, Colorado was awarded an Advanced Interoperability grant from ONC and a State Innovation Model (SIM) grant from the Centers for Medicare and Medicaid Innovation (CMMI) aimed at continuing Colorado’s expansion of HIT. To continue to support the valuable expansion of HIT/HIE in the State of Colorado, the Department has outlined the HIE Approach, Strategy, and Funding Request in this attached HIT IAPD-U Appendix D, in accordance with the guidance from CMS on FFP for Medicaid participation in statewide HIE networks.

This HIT IAPD-U Appendix D describes programs, activities, and strategies for advancing HIE over a two-year period beginning Federal Fiscal Year (FFY) 2016 through FFY 2017. This IAPD-U identifies infrastructure and programs necessary to facilitate the onboarding of EPs and EHs serving Colorado Medicaid recipients to the HIE Network while meeting current and future requirements for MU of EHRs.

This HIT IAPD-U Appendix D builds upon the Department’s goals to:

- Establish open and transparent statewide HIT/HIE **governance** that will leverage public and private sector resources to strengthen the sustainability of the HIT foundation.
- Implement consistent **strategies**, best practices, standards, policies, and procedures with respect to HIT/HIE, including the use of electronic health information to improve care delivery and outcomes.

- Identify and **engage community, public, and private sector HIT/HIE leaders** to address and resolve cost issues, fragmentation, and lack of cohesiveness that challenge widespread adoption (i.e., a “critical mass”) of HIT in Colorado.
- Achieve **widespread adoption** of healthcare providers utilizing HIT and fully participating in HIE.
- **Create and maintain a comprehensive, sustainable, and scalable HIT/HIE infrastructure** to support the aforementioned goals, both current and future, meeting MU objectives that include transitions and coordination of care, public health reporting, clinical quality measures (CQMs), and consumer engagement.
- **Implement and continuously improve HIT/HIE system capabilities** through a phased approach that includes, for EHRs, registries, reporting, secure messaging communication, community health records, and care coordination.

These goals are the foundation to the Colorado statewide HIE Network architecture and serve as a framework for the formulation of HIT and HIE goals specific to Medicaid. As indicated in the Colorado State Medicaid Health Information Technology Plan (SMHP), these goals align and help to define Medicaid HIT implementation strategy with respect to integration into the broader state and national HIT/HIE ecosystem seamlessly, efficiently, and effectively.

This HIT IAPD-U Appendix D builds upon Colorado’s SMHP, HITECH IAPD (approved on March 3, 2015), and the State HIE Strategic and Operational Plans (approved December 2010). This IAPD-U includes the following topics that contribute to improving the core HIE infrastructure in Colorado for review and approval by CMS:

- HIE Approach, Governance, and Colorado’s MU Strategy
- Role of State Government
- Value Proposition (including short-term and long-term)
- Payer/Provider Investments and Legal Agreements
- Early Investor Benefits
- HIE Infrastructure Transition to Operations
- Annual Benchmarks and Performance Goals
- Cost Allocation Methodology
- Funding Request Break-Out

By submitting this HIT IAPD-U Appendix D, the Department requests federal administrative funds totaling \$23,336,348 (FFP \$21,002,713 at 90%) for the planning and design, development, and implementation (DDI) of HIE programs and services only. These amounts are incorporated into the overall HIT IAPD-U totaling \$27,489,140 (FFP \$24,740,226 at 90%) between FFY 2016 for \$15,673,362 (FFP \$14,106,026) and FFY 2017 for \$11,815,778 (FFP \$10,634,200). The most recent HIT IAPD-U Appendix D was submitted September 1, 2014. The Department requested and was approved \$12,160,000 (FFP \$10,944,000 at 90%). Additionally, the Department has submitted and received approval for a separate Medicaid Management Information System (MMIS) IAPD that complements the HITECH HIE activities. The most recent update was October 15, 2015. The Department requested and was approved \$388,641,611. This HIT IAPD-U Appendix D outlines concurrent and staggered HIE infrastructure and program development and implementation over the next four years. The Department anticipates additional IAPD-U's as State HIT and HIE planning efforts evolve.

HIE Approach

The following details Colorado's HIE approach.

Current HIE Program Status

Colorado has created a diverse selection of programs and services within the HIE environment, proving that HIT and HIE implementation is not an end in itself, but rather a means to transform the state's healthcare system. Health system integration can only become transformative when a critical mass of providers share and utilize pertinent patient information, such as assessments, resource availability, and continuity of care documents to better coordinate patient care and transition patients across care settings. This level of integration requires a robust and fully capable HIE to support the data and care interactions necessary to generate clear value for providers, thus optimizing its usage.

Colorado's current HIE landscape consists of state, regional, and local stakeholders exchanging health information within the Colorado HIE Network. The HIE Network is composed of two geographically disbursed HIE Network providers: the Colorado Regional Health Information Organization (CORHIO) and the Quality Health Network (QHN). CORHIO covers the vast majority of the state, while QHN provides service to Colorado's western slope.

The Colorado HIE Network currently offers providers in the state the following three types of HIE services:

1. **EHR Integration:** The integration of a provider’s EHR directly with the HIE, where clinical results can be exchanged with the HIE, is one type of service provided. This service allows providers to stay within their work flows and gives access to their patients’ health information from other HIE participants within their EHRs. By giving participants a more complete set of clinical information, they are better able to coordinate their patients’ care.
2. **Community Health Record Access:** Participants are provided query access to the community health record through a portal that can also be accessed, in some cases, from participants’ EHRs through single sign-on (SSO) capability. Nearly seven million queries to the community health records have occurred to date. Query access to the community health record is useful when a participant sees a new patient or in emergency situations. It also provides access to the HIE for those providers that may not have an EHR or do not have an EHR that can be integrated with the HIE.
3. **Direct Messaging:** The HIE Network is an established Health Information Service Provider (HISP). This service provides for the direct messaging of clinical information among providers connected to the HISP or other interconnected HISPs. With MU Stage 2 and Stage 3 requirements for both transitions of care and patient engagement, the HIE Network is expanding direct messaging services to exchange information between providers and from providers to patients. Direct messaging also provides a mechanism for improving the referral process between providers.

Currently, the HIE Network has the levels of connectivity in the state for medical providers and hospitals through each of the service types found in **Table 1**.

Table 1: Current Services and Participants

| Service | Providers | Hospitals |
|---------------------------------|---------------|-----------|
| EHR Integration | 1,638 | 54 |
| Community Health Record (PC360) | 2,660 | 54 |
| Direct Messaging | 409 addresses | 2 |

NOTE: Since the submission of the previous HIT IAPD, the HIE Network has evolved and improved its reporting. The numbers previously reported were based on estimated participation. The numbers provided in this IAPD-U are more precise and will represent accurate participation going forward. The direct messaging counts only represent providers directly connected to the State HIE network HISPs and do not include providers using other HISPs. Messaging with providers on other HISPs is currently being expanded through membership in Direct Trust.

Assisted by the ONC Advanced Interoperability grant, Colorado will continue to target ambulatory, long-term, and post-acute care, as well as behavioral health providers for the encounter-based Continuity of Care Document (CCD) exchange program as described below.

Ambulatory Providers: Currently, the HIE Network has more than 4,000 office-based ambulatory connections as data receivers. This number of practices represents approximately 40 percent of the estimated number of practices in Colorado, making our network one of the largest in the nation, on a per-capita basis. Colorado does not have providers that submit encounter-based CCDs to the HIE Network. As part of the ONC Advanced Interoperability grant, Colorado will broadly assess provider capabilities, onboarding, complete data acquisition, and incorporation for 500 ambulatory providers. Findings from the Interoperability assessment will be incorporated into the future SMHP update. The Department plans to update the SMHP after this HIT IAPD-U Appendix D is approved.

These activities are funded through the Interoperability grant and are separate from funds requested in the HIT IAPD-U Appendix D. The Department will work in coordination with the Office of eHealth Innovation (OeHI) to ensure Interoperability grant-funded activities work in harmony and do not conflict with HITECH activities. In order to ensure there is no duplication of funds between Interoperability and HITECH for provider onboarding services, the Department will monitor monthly reports for which providers received onboarding services. These reports will come from various sources and will include necessary information to track provider identifiers. Currently, the Department receives reports from CORHIO detailing the providers that have been on boarded into the HIE through HIT funds. CORHIO also provides a report to ONC through ONC's Customer Relationship Management (CRM) which tracks provider onboarding activities related to the Interoperability grant. The Department will monitor onboarding through a license to the CRM that will allow access to information to further ensure no duplication of efforts.

Long-Term and Post-Acute Care Organizations: Colorado was a recipient of the Long-Term and Post-Acute Care Challenge (LTPAC) grant in 2011, resulting in 150 LTPAC facilities in Colorado that are now connected to the HIE Network and all have the ability to query longitudinal health records to receive hospital admit, discharge, and transfer information. At this time, Colorado does not have any long-term care (LTC) organizations exchanging encounter-based CCDs within the HIE Network. Regardless, approximately 60 percent of the skilled nursing facilities (SNFs) in Colorado have an EHR in place. Colorado will leverage the ONC Advanced Interoperability grant and established relationships with these organizations, along with planned partnerships, to bring critical LTPAC data into Colorado's HIE Network. The State plans to target 30 LTPAC organizations.

Behavioral Health Providers: In most cases within Colorado, behavioral health providers can share mental health data under Health Insurance Portability and Accountability Act (HIPAA) guidelines; Colorado has no statutory prohibition to prevent exchange. However, in addition to protections of substance abuse treatment records governed by 42 CFR Part 2, behavioral health providers have always been concerned about those providers who might view patient mental health data, specifically clinical notes, that do not need to do so. As part of the ONC Advanced Interoperability grant, Colorado will develop two demonstration projects to allow capabilities of the HIE Network to deliver on patient-based consent for behavioral health. It will also allow us to demonstrate our capacity for sharing encounter-based CCDs with the care community on an information-specific basis and with the patient's consent. Currently, Colorado does not have any behavioral health centers that exchange encounter-based CCDs.

As of today, there are over 5 million unique patients in the Colorado HIE Network.

Governance

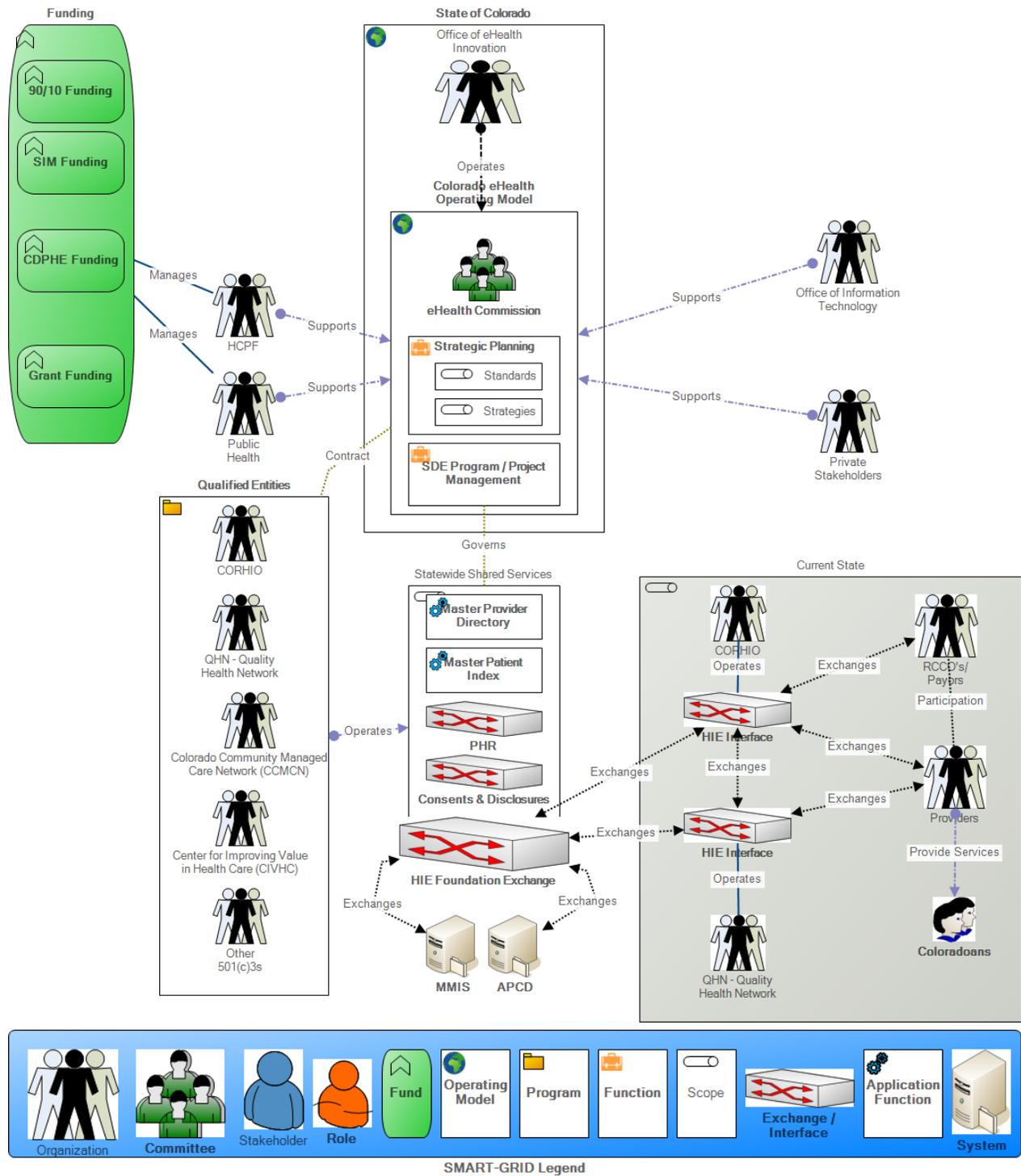
In order to support health transformation, a coordinated HIT governance structure is necessary to align health programs, unify technology investments, and advance data integration among state agencies and private health partners. Without a central governance advisory entity, organizations and agencies may implement technical standards in inconsistent ways and adopt contrary privacy, security, or trust policies that govern how electronic health information is exchanged and used, inhibiting or reducing opportunities to exchange and use electronic health information to improve care and care delivery.

To effectively avoid those pitfalls, the State combined input from leaders, stakeholders, and representatives from provider groups, hospitals, health plans, and technology non-profits with secondary research on HIT governance best practices across the country to inform the broadened and coordinated HIT governance structure. Through Executive Order B 2015-008, the eHealth Commission and OeHI were created under the Office of the Governor to strengthen its model to coordinate HIT governance and provide strategic oversight to support Colorado's health transformation trajectory.

Previously, the State Designated Entity (SDE) and chief coordinating entity for Colorado's HIE network was CORHIO. In October 2015, the SDE transitioned to the newly created OeHI. The eHealth Commission and OeHI now provide governance and strategic oversight on Colorado's HIT initiatives. The Department worked collaboratively with key stakeholders, including CORHIO and QHN, on the transition of the SDE. Both CORHIO and QHN agreed to the transition and were appointed by the Governor to participate on the eHealth Commission. They will continue to be involved in key strategic decisions regarding the HIE infrastructure and policies moving forward.

Figure 1 illustrates the HIT governance model in Colorado.

Figure 1: HIT Governance Model in Colorado



OeHI performs the role of the SDE and governs Colorado's eHealth HIT operating model. OeHI will be led by a Director to be selected by the Governor and supported by the State HIT Coordinator. The eHealth Commission, formed as a committee within OeHI, will be responsible for creating and coordinating specific initiatives and workgroups, including those essential to establish eHealth standards (e.g., privacy and security, interoperability, information, technology) that will provide a foundation for each strategic initiative.

The Department is the State Medicaid Agency (SMA) and continues to serve as the fiscal agent managing funding requests, procurements, contracts, and payments to vendors on behalf of the SDE. Funding requested in this IAPD-U will be used to support the SDE's strategic planning and DDI of infrastructure to support Colorado's HIE Statewide Shared Services, increasing care coordination.

OeHI and the eHealth Commission will work collaboratively with the Department, the Colorado Department of Public Health and Environment (CDPHE), the Office of Information Technology (OIT), and other public and private stakeholders to develop strategies and best practices for infrastructure development and the continuous improvement of the Colorado health ecosystem. This ensures that project initiatives, including the projects detailed in this IAPD-U, have strategic foundation and alignment, are coordinated to other related projects, and optimize resources and enterprise assets.

Colorado's vision is to create a list of qualified entities that will provide technology and related services supporting Colorado HIT infrastructure. The e-Health Commission, along with workgroups, will help distribute HIT funding (CMS, ONC, Centers for Disease Control and Prevention [CDC], etc.) through contracts to qualified entities. OeHI will not build or host any of Colorado's HIE infrastructure. Enhanced FFP does not support sustainability and maintenance and operation (M&O). In order for the qualified entities to be eligible for contract award, they will have to develop a sustainability plan established to support M&O of HIT. The intent of the grant awards to the qualified entities is to provide DDI of HIT infrastructure to better support sustainability. The funding will not go directly to vendors, but rather qualified entities that will leverage vendor assistance to implement HIT infrastructure. The eHealth Commission will set standards for HIE infrastructure DDI.

Future HIE Program Vision

Between now and FFY 2018, the State of Colorado will continue to implement a phased strategy for the adoption and widespread use of HIT/HIE by providers serving Medicaid recipients that will contribute significantly to statewide improvements in patient outcomes and reduction of healthcare costs.

This HIT IAPD-U Appendix D builds upon the phased strategy and includes expansion of existing concepts. It also includes initiatives and activities that are new requests for this HIT IAPD-U Appendix D. These are all considered essential to further enhance provider onboarding to the HIE as well as interoperability and increased care coordination in support of MU.

The following activities are new requests for this HIT IAPD-U Appendix D.

Coordination and Oversight within OeHI: The Department will provide strategic and administrative support for coordination and oversight of the expansion of HIE in the state, including providing oversight services to manage the DDI and onboarding efforts. The Department is identified in the Executive Order as the fiscal agent and will be responsible for managing funding requests, procurements, contracts, and payments to vendors. The Department will manage any Interagency Agreements with the Governor's office and the OeHI.

HIE Foundation: Today, the two HIE Network providers, CORHIO and QHN, are only partially interoperable. This enhancement will implement the HIE Foundation necessary to achieve a fully interoperable, coordinated Colorado HIE Network. Likened to a traditional enterprise infrastructure consolidation initiative, the HIE Foundation will optimize the consolidation and standardization of core HIE functionality across both HIE providers to improve capability/maturity on several Medicaid Information Technology Architecture (MITA) standards and conditions, including modularity and leverage. HCPF envisions this improvement to leverage existing functionality of the HIEs, while at the same time increasing efficiencies and standards as the HIE continues to evolve. Furthermore, the HIE Foundation will provide capability to effectively "plug in" to future HIEs regionally and nationally. OeHI is charged with developing and coordinating this and other strategic initiatives necessary to further health transformation, align health programs, unify technology investments, and advance data integration among state agencies and private health partners. All of the strategies share a common vision, mission, and guiding principles. Each strategy represents an important aspect to the overall program.

Specialized Registries for Enhanced Care Coordination: Improving health information sharing and utilization by implementing new information exchanges and registries will be defined through strategic planning efforts under OeHI. To support this extension and achieve the broader, national data sharing vision, the Department will leverage the HIE Foundation and the existing HIE interface capabilities coupled with the Colorado Statewide Shared Services infrastructure.

The Department and its stakeholders have identified four key data exchanges that are the initial candidates for specialized registries. Together, these registries are the building blocks to bridge critical gaps with respect to achieving interoperability and enhanced care coordination.

- **Assessments:** The Assessments registry will support highly utilized standard clinical assessment instruments, enriching the clinical information available. Making assessments readily available is a critical functionality to further promote sharing and trust across providers.
- **Advanced Directives:** The Advanced Directives registry will support exchange of patient advanced directives. Administrative in nature, this is an effective means to help promote usage and enhance care coordination.
- **Community Resources:** The Community Resources registry will create a valuable practice dimension to HIE to provide visibility into and optimize resources. Community providers will be incentivized to share information on programs, services, and capacity. This will improve efficiency of resource coordination and support care coordination improvement. Specifically, the community resource registry will facilitate eligible professionals and eligible hospital's ability to meet Meaningful Use measures around Health Information Exchange and transitions of care by providing contact information and facilitating communication of Medicaid providers. The Community Resource registry will play an integral role in improving care coordination among Medicaid providers in Colorado and helping the state achieve the goals of Meaningful Use.

Medicaid Personal Health Record (PHR): The DDI of a Medicaid PHR and online health education resource will support MU objectives around patient engagement and providing patients the ability to view online, download, and transmit their health information. Increased access to health information will help patients become better informed about their health conditions and treatment options, improving Medicaid client health and reducing spending on medical services.

Medicaid Provider Onboarding Program: The Department will support provider onboarding to the Colorado HIE Network with a Provider Onboarding Program. Funding for the activities requested were all previously approved in the previous HIE IAPD-U. No new activities are being requested. Medicaid Provider Onboarding includes the following:

- Providing interfaces to EPs and critical access hospitals (CAHs) to connect to the Colorado HIE Network
- Expanding traditional Regional Extension Center (REC) services to include EPs that were not eligible to receive REC services under the ONC definition (expansion serves to increase provider adoption of EHRs, as well as provide education and technical services by funding personnel to perform technical assistance [TA] and programmatic assistance)

Medicaid Master Data Management (MDM): The Department will implement MDM to achieve a unified view of Medicaid provider and member data across the HIE networks, improving the quality of data, collaboration, and reducing costs. MDM will create a suite of data records and services that will allow the Department to link and synchronize Medicaid member, provider, and organization data to HIE sources. This effort will result in a single, trusted, authoritative data source.

The MDM will include a Consents and Disclosures repository as part of Medicaid provider directory that will support precision for information sharing consents and disclosures across medical, behavioral, and substance abuse information. Creating a strong and legally sound consent framework will reduce barriers to information exchange improve interoperability and enhance care coordination.

The following items were approved in the previous HIE IAPD-U Appendix D. Funding is being requested to continue these activities and services.

MU Public Health Reporting: Enhancements to MU Public Health Reporting include improvements to interfacing capabilities to support reporting to CDPHE and providing staff to perform data validation services. Core HIE functionality that supports providers and public health reporting that includes transitions-of-care (ToC) documents, CCDs, and CQMs will be enhanced with respect to data enrichment and analytic capabilities. Data validation services are currently provided by CDPHE staff. The Department is not requesting funds to support CDPHE staff. The Department has contracted with CORHIO to plan for and implement additional data validation services in coordination with CDPHE staff. Funding and the contract were approved to support CORHIO's development of a plan for data validation services in the previous HIT IAPD-U Appendix D. Funds requested in this update will be used for CORHIO to implement the data validation plan, as approved by the department.

CQM Reporting: Similar to public health reporting, the Department seeks to improve the HIE data collection foundation to support the transition to automated MU reporting for Medicaid providers. The Department is planning to leverage infrastructure at the HIE to support CQM reporting to CMS and to implement CQM analytics for Medicaid providers and other care coordination organizations participating in the Medicaid Accountable Care Collaborative (ACC). The Department's approach includes updating infrastructure to effectively collect existing CQM data, additional data elements, and support MU reporting directly from the clinical health record from Medicaid providers. The data will be aggregated, normalized, and validated at the HIE Foundation, and ultimately shared as appropriate with the Medicaid enterprise data management solution (MMIS-BIDM). This improvement of data will be used to support advanced risk stratification analysis, enhance care coordination infrastructure and activities, and measure provider performance and outcomes within Medicaid programs. Updated CQM reporting will support Transitions of Care (ToC), CCDs, and the capability to run analytics on the CQMs submitted by EPs and EHs, with enhanced reporting and data validation services.

Link to Meaningful Use Strategy

The Department recognizes the importance of expanding HIT across the state of Colorado to enhance interoperability and improve care coordination, which will significantly reduce healthcare costs and improve patient outcomes. With the passage of the HITECH Act in 2009, the Department could be supported by 90% FFP to assist providers in becoming meaningful users of EHRs. The approach to HIE, as outlined in this HIT IAPD-U Appendix D, links directly to the Colorado Medicaid EHR Incentive Program and Colorado's SMHP by supporting the following initiatives that are directly related to assisting providers in adopting, implementing, or upgrading (AIU) a Certified EHR and becoming a meaningful user.

Risks and Mitigation Plans

The Department recognizes that with any new implementation, there are risks that need to be addressed and for which planning is required. The risks and mitigation strategies for this HIT IAPD-U Appendix D implementation strategy are outlined in **Table 2**. As noted in the Executive Summary, **the Colorado HIE Network is fully sustainable today without securing additional federal funds**, which limits the risk to the Department in the Colorado HIE Network's sustainability relying on these funds.

Table 2: Known Risks and Mitigation Strategies

| Risk ID | Risk Description | Mitigation Strategy |
|---------|--|--|
| 1 | EHR capabilities may be lacking the traditional “plug-and-play” functionality, making EHR integrations more costly and lengthy than expected | The HIE Network is in direct negotiations with the EHR companies that have a strong market presence in the state of Colorado to negotiate a hub model for each EHR platform, which significantly reduces the implementation time line and costs for onboarding HIE participants. |
| 2 | Provider readiness and technical capabilities may be lacking, especially in underserved and rural areas of the state | As part of this HIT IAPD-U Appendix D request, the Department is proposing to contract with CORHIO to promote provider onboarding to EPs and CAHs not otherwise eligible for the ONC REC program. This includes providing education, technical services, work flow redesign, MU support, and HIE interfaces. |
| 3 | Provider saturation of health transformation programs | As SDE, OeHI serves as a convener for HIT activities in the state, including continuing the support for HIT training resources in the form of the REC and the Medicaid EHR Incentive Program through CORHIO. OeHI will continue to align other state initiatives such as the SIM and the ONC Advanced Interoperability grant to reduce interruptions and support programs across initiatives. OeHI will continue to leverage previous federal invested programs, grants, and community partnerships. |
| 4 | Multiple requests from providers for data | Educating and using the HIE Network will reduce the burden on providers being asked for similar data sets. |
| 5 | Resource constraint for individual practice connectivity | TA will be supplied as part of provider onboarding. |

Role of State Government

The Department, Colorado's single SMA, submits this HIT IAPD-U Appendix D to pursue Colorado's strategy for HIT expansion by supporting MU through enhancements to Colorado's HIE infrastructure as described above, and the required oversight for the development and implementation of these strategies.

eHealth Commission

The eHealth Commission is comprised of members appointed by the Governor with experience in healthcare delivery, health insurance, non-profit HIT-related community organizations, interoperability and data exchange, consumer engagement in health care and healthcare quality measures. To ensure a holistic approach to the future of HIT in Colorado, the eHealth Commission includes private sector and consumer representation along with the public sector. The chief responsibility of the eHealth Commission is to provide guidance to the SDE, which transitioned from CORHIO to OeHI in October 2015.

Workgroups will be established to report to the eHealth Commission that will assess various policies, procedures, and technical approaches. These will be reviewed by the eHealth Commission for final adoption. Additionally, consultants will be utilized to minimize the workload impact on the individuals who volunteer to serve on the eHealth Commission and workgroups. These consultants will help research and organize successful HIT programs from other states and identify industry best practices to help inform the eHealth Commission through the workgroups. In addition, the workgroup will help review proposals from organizations who will invest in HIT.

Office of eHealth Innovation

The role of OeHI is to promote and advance the secure, efficient, and effective use of health information and help to inform future HIT initiatives. OeHI will provide an open and transparent statewide collaborative effort to develop common policies, procedures, and technical approaches aimed at enhancing Colorado's HIT network. This coordinated approach will help to reduce barriers for effective information sharing and interoperability while supporting innovation and transformation with the enhancement the state's HIT infrastructure.

As the SDE for HIE in Colorado, OeHI will work closely with Colorado state governance agencies and maintain transparency in its operational structure and policies, coordinating strategic initiatives at the statewide level.

In addition, by maintaining a State HIT Coordinator position within the Governor's office, the State takes an active role in HIE. This position works closely with community health partners, including the HIEs, the State's health agencies, and OIT to help coordinate HIT initiatives across the state.

OeHI will not build or host any of Colorado's HIT infrastructure, but rather provide governance and strategic oversight to inform future HIT initiatives by leveraging public and private sector resources and strengthening the sustainability of the HIT foundation that exists in Colorado.

The Department of Health Care Policy and Financing

The Department's role will largely remain the same within the new HIT governance model. The Department will remain the single SMA and fiscal agent leveraging the state's procurement, contracting, and accounting of established processes to manage solicitations, contracts, and payments to vendors and organizations on behalf of the new SDE. In addition, the Department will provide interim leadership for OeHI until a permanent Director can be selected and ultimately execute the strategy developed by the new SDE.

In 2010, legislation (HB 10-1330) was passed to develop the Colorado All-Payer Claims Database (CO APCD), the state's most comprehensive source of healthcare claims information. The goal of the CO APCD is to inform and advance the "Triple Aim" goals of better health, better care, and lower costs by providing comprehensive, transparent information about healthcare prices, spending, and utilization. The CO APCD is a tool for empowering decision-making by providers, policy-makers, purchasers, patients, researchers, and others, and is a necessary gateway to transparency to inform opportunities for positive change. Administered by the Center for Improving Value in Health Care (CIVHC) through appointment by the Department, the CO APCD is a unique and powerful public resource that can be used to inform innovation. The current APCD data warehouse contains claims information previously unavailable for the state.

Colorado's APCD is pioneering in its administration, design, and reporting capabilities. CIVHC, a non-profit, non-partisan organization, administers the database under authority from the Department. Housing the CO APCD with a non-profit organization provides several benefits, including the ability to provide timely, credible, actionable reports; generate non-taxpayer financial support; and gain buy-in across all stakeholder organizations. Colorado is unique across the United States in that most APCDs do not have access to this level of information to inform patterns of health and costs of care to stakeholders outside of state agencies. Colorado stands out as one of the states with the most robust public and non-public reporting to inform innovation and identify opportunities to effect positive healthcare change.

Security Assessment

Data security is a high priority for the Colorado HIE Network. Industry-standard security processes are followed in securing the data shared by the HIEs. Annual SSAE 16 audits and periodic penetration test are performed on the data centers. As required by HIPAA, both organizations employ a security officer to oversee security compliance for the organizations. Periodic security risk assessments are performed to provide assurance that proper security controls are in place and that any identified risks are mitigated.

Value Proposition

The HIE Network is working to advance data capture among Colorado's Medicaid providers and improve interoperability among private healthcare providers through enhanced MMIS and public health data. Yet, the full benefit of the State's HIE Network is only fully realized when a critical mass of provider EHR systems are connected and meaningfully using the network. It is at this critical mass that providers can rely on the network for comprehensive, cross-provider patient health information. Therefore, the Department supports providing proportional funding to enhance the statewide Colorado HIE Network being developed by CORHIO, who is providing HIE services for primarily the Front Range, and QHN, who is providing regional HIE services for the Western Slope.

Expanding Colorado's HIE Network provides standards-based, scalable, and sustainable solutions to and from multiple data sources, creating HIE service offerings that:

- Support current and future MU requirements.
- Facilitate onboarding for Medicaid providers deemed eligible for the Medicaid EHR Incentive Program.
- Improve interoperability and data exchange with the Department's and State's health information infrastructure, including public health reporting infrastructure, to CDPHE.

Short-Term Goals

This IAPD-U builds upon the Department's near-term goals to:

- Ensure that a "critical mass" of healthcare providers implement EHR systems and fully participate in HIE and its full range of health data opportunities and enhanced decision making.
- Provide opportunities for consumer/patient participation to drive demand for better health information and to help shape positive outcomes.

- Identify community, public, and private sector HIT leaders to address and resolve cost issues, fragmentation, and lack of cohesiveness that has made widespread adoption of electronic healthcare tools difficult in Colorado.
- Encourage the use of PHRs and other consumer access solutions to increase the participation of consumers (patients) in their healthcare decisions.
- Implement a phased approach for gradual and widespread adoption of a comprehensive and interoperable HIT system that includes EHRs, registry functionality with report capabilities, secure messaging communication, and PHRs.
- Link HIT adoption for providers to create a path to HIE.
- Provide HIE onboarding assistance to professionals and hospitals that are eligible for the Medicaid EHR Incentive Program.
- Create a sustainable, scalable HIE infrastructure to support current and future MU objectives for transitions of care, public health reporting, CQMs, and consumer engagement.

These objectives contribute to a statewide HIE architecture which serves as a framework for the formulation of HIT and HIE goals specific to Medicaid, and the development and implementation of the Colorado SMHP. With the plan laid out in this HIT IAPD-U Appendix D, the Department seeks to ensure that Medicaid HIT implementation fits into the broader state HIT implementation architecture seamlessly, efficiently, and effectively.

Long-Term Goals

Pursuant to the original findings and recommendations of the HIT Advisory Committee, and pursuant to the continued work of the SDE, Colorado's longer-term strategy for HIT includes:

- Utilizing and expanding HIT tools and HIE infrastructure to analyze and demonstrate significant quality improvement.
- Effectively coordinating efforts among relevant state agencies, the SDE, and other local HIE initiatives.
- Balancing public and private sector roles and investments so that private investments reflect a clear business case and public sector involvement supports investments that exceed stakeholder expectations.
- Guaranteeing medical record privacy and security.
- Ensuring that HIE serves all Colorado residents, especially those most vulnerable (e.g., the Medicaid population).
- Establishing official standards and governance for data sharing in order to build trust and minimize security and liability concerns.

The Department engaged with a wide range of public and private stakeholders to identify the current and future needs to support long-term, widespread HIT adoption and statewide HIE connectivity by creating a statewide network of health information interoperability.

**SECTION II – RESULTS OF ACTIVITIES INCLUDED IN PLANNING
ADVANCED PLANNING DOCUMENT (P-APD), INCLUDING SMHP 3**

This section is not applicable.

SECTION III – STATEMENT OF NEEDS AND OBJECTIVES

HIE Infrastructure Transition to Operations – Phased

The following describes the phased HIE infrastructure transition to operations.

Current HIE Environment

Colorado’s current HIE landscape consists of state, regional, and local stakeholders exchanging health information within the Colorado HIE Network. The HIE Network is composed of two geographically disbursed HIE Network providers: CORHIO and QHN. CORHIO covers the vast majority of the state, while QHN provides service to Colorado’s western slope.

Colorado’s current health information sharing community leveraged early strategic planning efforts with state agencies and non-state agency partners promoting HIE and care coordination among providers through use of HIT. Currently, HIE in Colorado consists of organizational participants working to promote integration and quality improvement through the HIE Network operational architecture.

Each organization has HIT systems and solutions at varying interoperability maturity and internal priorities for exchanging health information. Colorado health stakeholders identify HIE as a long-term strategy for improved care coordination, health outcomes, and reduced costs.

Statement of Needs, Requirements, and Objectives

The Department acknowledges and identifies HIE as a key component to its long-term HIT strategy aligning with CMS’s SMD letters (SMD# 10-016 and SMD# 11-004). The Department’s proportional share of costs for designing developing, implementing, and deploying new infrastructure and tools to enhance and expand the HIE Network supports the Department’s ACC framework, improving access to timely clinical data, reducing cost, and promoting patient-centered care.

Colorado’s HIE strategy supports development of a 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. This hybrid, federated system utilizes EHR systems at physician offices, hospitals, and clinical laboratories; independently-created regional HIE networks; and electronic public health registries at CDPHE. In many cases, the HIE Network enables directed and query-based exchange with participants. Colorado Medicaid providers and CAHs have begun to connect to and utilize the HIE Network in greater numbers than in previous years.

Statement of Need – Enhanced HIT Governance Structure

The State has broadened the HIT governance to enhance strategic planning and program management. OeHI and the eHealth Commission, recently organized under the Office of the Governor, are charged with governing strategic health transformation, aligning health programs, unifying technology investments, and advancing data integration among state agencies and private health partners. OeHI serves as a central point of contact, advising and coordinating governance at the state level.

Proposed Solution

OeHI, with support from the eHealth Commission and in coordination with the Department, will develop and coordinate strategic initiatives necessary to further health transformation, align health programs, unify technology investments, and advance data integration among state agencies and private health partners. These strategies share a common holistic vision to improve health and are focused to maintain alignment through mission and guiding principles. Each strategy represents an important aspect to overall program success.

OeHI operates the SDE governance by promoting and advancing interoperability of health information to improve health. OeHI governance will inform, advise, and influence all HIT initiatives. OeHI will govern a collaborative process in developing common policies, procedures, and technical approaches, aligning and coordinating with other health governance structures and project initiatives.

Strategies will be chartered into projects through the SDE Program and Project Management function, managing HIT resources.

Link to Meaningful Use

Establishing a coordinated HIT governance structure supports MU initiatives by effectively aligning HIT programs, unifying technology investments, and advancing data integration among state agencies and private health partners. A structured and coordinated approach to HIT builds the foundation for interoperability of HIT, improving care coordination and ultimately facilitating the adoption and MU of the EHR technology.

Statement of Need – Medicaid EHR Adoption

The strength of Colorado's HIE Network is dependent on effective provider EHR systems. Colorado has a high percentage of providers that have purchased EHRs; however, due to cost, necessary staff training, and technical complexity, not all Colorado medical providers have effectively implemented EHR systems, are using their EHR systems effectively, or have connected their systems 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 Colorado's HIE network, helping to alleviate some of the problems caused by lack of access to health information. Even so, 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.

Proposed Solution

The Department seeks to continue to charter an additional Provider Onboarding Program contract with CORHIO to continue providing funding for staffing outreach/educational support and technical services to Medicaid EPs that have adopted EHRs, but have not yet connected to the HIE Network, or were unable to take advantage of the ONC REC services because they were not eligible (e.g., primarily specialists, Medicaid ACC-contracted providers, etc.). Additionally, the Department recognized that the numbers of CAHs that have adopted EHRs and connected to the HIE Network is lacking. Therefore, CORHIO's contract will continue to include scope to provide outreach/educational support and technical services to CAHs in the state of Colorado. The updated Provider Onboarding Program will include the following objectives in providing assistance to EPs and CAHs:

- Provide staff for outreach, education, and training
- Provide resources to implement technical services for AIU of EHRs
- Meet milestones laid out by the Department for getting providers to meet MU and commit to a roadmap for connecting to the HIE Network
- Cover the onboarding costs (personnel and technical) for connecting EPs and CAHs to the HIE Network, including access to the community health record portal and value-added HIE services such as public health reporting to CIIS, CQM reporting, and secure messaging capabilities via HIE HISP services

The Department contracts directly with CORHIO and CORHIO subcontracts with QHN to support onboarding services. The Department will evaluate the best contractual relationship for future onboarding services, which may include a direct contract with both CORHIO and QHN. Regardless of the contractual relationship, the funding requested for onboarding services will remain the same. Any changes in contract, or new contracts related to onboarding services will be reviewed and approved by CMS before execution.

Additionally, the Department will improve health information utilization by responding to requests to enhance information availability in effective ways. The Department is engaging in strategic planning efforts across stakeholders to achieve this and the broader, national data-sharing vision.

Care coordination is a key area of focus and has been a national hot topic for years. It has had varied, but limited success across the country. The Department, through its initial strategic planning efforts, suggests that invoking access to four key registries will accelerate and transform care coordination. The combination of the four building blocks to transform care coordination, which includes access and sharing of assessments, consents and disclosures, advanced directives, and community resources, will further support the promotion of EHR adoption and HIE Network participation.

Link to Meaningful Use

The HIE Network continues to prove its success with the Provider Onboarding Program expanding outreach efforts and technical services to Medicaid EPs that were ineligible for the ONC REC program. This will continue to boost MU numbers and milestones in the State of Colorado to enhance the HIT vision outlined in the SMHP. In addition to AIU and MU education and technical services, the program will continue to assist providers in meeting MU Stage 2 and Stage 3 through onboarding provider interfaces and providing the capabilities to automatically meet several MU measures.

The Provider Onboarding Program directly feeds into the goals stated in the Colorado SMHP, Section 3.2, for implementing and expanding the use of HIT and HIE across the state. The program will continue to work toward those goals, specifically the following:

Of all primary care providers/safety-net community providers (such as CAHs), 85% have been meaningful users of EHRs since 2014

Of all providers, 85% are now meaningful users of EHRs as of 2015

Statement of Need – MU Public Health Reporting

The Department recognizes the need to increase public health agencies' data capacity, quality services, and validation requirements for the current and expected demand for public health reporting under the MU program.

Proposed Solution

The proposed solution is to improve and standardize the level of EP and EH MU public health reporting occurring via the HIE Network. Increased provider connectivity through the onboarding program and technical staffing to support data validation will improve the quality of public health data reported to the public health agency, as well as the Department and CMS.

Link to Meaningful Use

As part of the overall approach to MU strategy, the Department is looking to fund provider public health reporting via the HIE. The Department has accomplished this through funding interfaces between CORHIO and CDPHE to support specific measures reporting, such as rates of immunization for Medicaid clients. Centralized public health reporting has also facilitated important data sharing between CDPHE and the Department.

Additionally, CORHIO has been improving interfacing tools that the Department uses to fully realize the benefits of interoperability between the Colorado HIE Network and state agencies, while promoting the value of the Colorado HIE Network through enhancing the capabilities to assist providers to meet MU. This has been done by enhancing the CDPHE interface capabilities and providing CORHIO staff with the ability to supply data validation services. The interfacing tools have assisted EPs and EHs in achieving MU through public health reporting capabilities, such as automated reporting to the Colorado Immunization Information System (CIIS). Data validation services have ensured that the data is a clean source of truth. Furthermore, the enhanced HIE capabilities have provided the platform for interoperability between the Colorado HIE Network and the newly procured Colorado MMIS, merging clinical and administrative data in a meaningful way.

Statement of Need – Medicaid PHR and Online Health Education

The Department seeks to improve client health and reduce spending on medical services by engaging clients more effectively in their health program and related information.

Proposed Solution

To support Medicaid-eligible providers' achievement of MU, the Department proposes to implement online health education resources and PHR solutions for Medicaid clients. The PHR is envisioned to be hosted within the HIE Network. The Department suggests clients will use online health education resources to learn more about their health conditions and treatment/care options and, consequently, favor less-invasive, less-costly treatment/care, creating long-term cost savings on services for the Department. The Department anticipates clients will use PHR technology to view their electronic medical information, appropriately share the information, and communicate with providers through the PHR solution, leading to long-term cost savings on services for the Department and improved client health.

For the online health education component, the Department proposes to contract with vendors to provide an online health article repository and an online shared decision-making tool. Medicaid clients will have access to the online health article repository where trustworthy health articles will be maintained and regularly updated by a third-party vendor. Likewise, the shared decision-making tool will provide clients with videos, articles, and interactive questionnaires to guide them through their treatment options for any healthcare decisions they may face. Clients may be required to use the shared decision-making tool before certain services are approved (e.g., a client could be required to view a video outlining less invasive options before a surgery is approved). The Department is not requesting 90 percent HITECH funds for this component.

For the PHR component, the Department proposes to contract with a vendor to provide a PHR solution that enables Medicaid clients to view, add to, and share their health information, as well as securely communicate with their providers. The PHR system is envisioned to be hosted within the HIE Network to make it more readily available to interoperate with EHRs and to allow for ready expansion of the PHR system beyond Medicaid if desired in the future. The PHR system will also connect to MMIS for other Medicaid client health-related data. The Department intends for the PHR to be a modular solution with Application Program Interfaces (APIs) to further enhance interoperability.

Clients will only have access rights to their own information, but could access another client's information if authorized, such as a dependent child's information. For the client user experience, the Department proposes to create an experience/Web portal where clients log on for access to the online health education and PHR components previously described. Clients should be able to access the aforementioned from any Internet-connected computer or mobile device.

The Department considers the proposed solution the best for supporting MU objectives designed to promote patients' abilities to make informed decisions regarding their care, thereby improving care and reducing unnecessary costs. The Department has reviewed industry research, pilot programs, and recent implementations of this technology for best practices that are incorporated in this IAPD-U.

Link to Meaningful Use

Developing the Medicaid PHR with HIE and MMIS interoperability, the Department supports MU by providing patients the ability to view online, download, and transmit their health information, as well as provide patient specific education resources identified by Certified Electronic Health Record Technology (CEHRT). This technology will capitalize on Colorado's growing HIE Network and will be governed by OeHI.

MU objectives require Medicaid EPs and EHs to provide patients the ability to view online, download, and transmit their health information. PHRs allow patients on-demand access to their health information, leading to improved care and reduced spending. A PHR will facilitate eligible providers' abilities to achieve MU measures, including patient-specific education resources and ToC information. Moreover, the PHR will further enhance care coordination and promote HIE Network utilization.

A Medicaid PHR will focus on the Medicaid population and would be specific to Medicaid funding. By this token, the approach would be consistent with that statewide endeavor.

The PHR system will be hosted by the HIE in order to integrate with Colorado's HIE network, allowing access to EHRs, as well as for ready expansion of the PHR system beyond Medicaid if desired in the future. The PHR system will also interact with the MMIS and the Colorado Benefits Management System (CBMS) for other client health-related data. Medicaid clients will only have access rights to their own information, but could access another client's information if authorized, such as a dependent child's information.

The Department plans to measure the outcomes of the PHR by tracking and analyzing client use of the online health education and PHR technology. Data will be collected in several ways, including the following:

- Obtained from login data from the proposed centralized Web portal to reveal the frequency and length of client logins
- Gathered through statistics from the shared decision-making tool, revealing which videos or other shared decision-making tools each client has used

- Derived from statistics from the PHR technology, revealing, for example, which clients are participating in smoking cessation management or congestive heart failure remote monitoring through the PHR

The Department anticipates 1% of the Medicaid client population will access the PHR and have the ability to view online, download, and transmit health information. The provider population will access the PHR data through the HIE within the first year of completed development and implementation. In the second year, the Department anticipates roughly 2%, and a total of 5% in the third year. The Department is requesting funds to support Medicaid participation only. The intent is to drive participation of the HIE through enhanced data exchange that will create the critical mass necessary to support sustainability and eventually include participation from other payers. The Department will establish the appropriate cost allocation methodologies for private payer participation in the future. More information on the cost allocation strategy can be found in Section VII.

Statement of Need – Improved Master Data Management

The Department seeks to improve processes, policies, and tools to link and synchronize Medicaid member, provider, and organization data across HIE data sources. A unified view of Medicaid provider and member data across the Medicaid and HIE Network is necessary to improve the precision and quality of data necessary to enhance care coordination and data quality for eCQM reporting for Medicaid members.

Proposed Solution

MDM will be implemented at the HIE Foundation to achieve a unified view of Medicaid provider and member data across the Medicaid and HIE Network. This will help to achieve the Department's vision of enhancing care coordination and HIE Network usage by improving the quality and completeness of data, collaboration, and reducing associated costs. The MDM solution, as a shared service, will support HCPF and both HIE providers, targeting HCPF/Medicaid-centric data, including eCQMs. This will allow the Department to precisely correlate and synchronize member, provider, and organization data with HIE data sources. As this solution becomes available, the Department will plan for and request the funding necessary to enable the MMIS to effectively utilize this service.

Link to Meaningful Use

Implementing MDM to achieve a unified view of Medicaid provider and member data across the Medicaid and HIE Network significantly improves the precision and quality of data and facilitates the ability of EPs and EHs to achieve MU. MDM provides a critical component necessary to enhance care coordination and data quality for electronic Clinical Quality Measure (eCQM) reporting for Medicaid members.

SMD letter # 16-003 provides guidance that states may claim 90 percent HITECH match for costs related to the DDI of provider directories that allow for the exchange of secure messages and structured data to coordinate care or calculate CQMs between EPs and Medicaid providers to meet MU. The MDM will follow this guidance as it will be inclusive of both a Medicaid provider and member directory through the HIE network and will help EPs coordinate care more effectively with other Medicaid providers, such as LTC, behavioral health, etc.

Statement of Need – Improved CQM Reporting

In addition to core HIE services, the IAPD-U identifies MU CQM Reporting tools and services needed to support provider needs to meet the EHR Incentive Program requirements. The Department seeks to improve the HIE data collection foundation to support the transition to automated MU reporting for Medicaid providers. These tools and services include advancing use of secure messaging capabilities (e.g., ToC and CCD tools) across care settings, infrastructure for CQM analytic tools, and data validation and analytic services.

Proposed Solution

The Department is planning to leverage infrastructure at the HIE in coordination with the HIE Foundation to support CQM reporting to CMS and to implement CQM analytics for Medicaid providers and other care coordination organizations participating in the Medicaid Accountable Care Collaborative (ACC). The Department's approach includes updating infrastructure to effectively collect existing CQM data, additional data elements, and support MU reporting directly from the clinical health record from Medicaid providers. The data will be aggregated, normalized, and validated at the HIE Foundation, and ultimately shared as appropriate with the Medicaid enterprise data management solution (MMIS-BIDM). This improvement of data will be used to support advanced risk stratification analysis, enhance care coordination infrastructure and activities, and measure provider performance and outcomes within Medicaid programs. Updated CQM reporting will support Transitions of Care (ToC), CCDs, and the capability to run analytics on the CQMs submitted by EPs and EHS, with enhanced reporting and data validation services. The Department has performed initial planning and discussed similar improvement strategies with other states. The Department is requesting \$100k for finalizing planning and requirements activities and estimates \$500k to procure the solution and implementation services.

Link to Meaningful Use

CQM Reporting tools referenced in this HIT IAPD-U Appendix D directly support the vision for MU in the State of Colorado by providing specific capabilities that are required under MU Stage 2 and Stage 3, such as the ToC document and CCD handling. Additionally, the CQM Reporting tools will support CQM analytical capabilities and enhanced reporting and data validation services for information submitted by EPs and EHS. This improvement is necessary to promote the use of the Colorado HIE Network to meet MU and encourage EP adoption of HIE, by providing enhanced value for their ongoing subscription fees, which are used to continue ongoing operational funding for the Colorado HIE Network.

Statement of Need – HIE Network Connectivity to the Medicaid Enterprise

MMIS, the Department's main business intelligence system and repository of Medicaid client and provider data, is not currently connected to the HIE Network. The primary purpose of the MMIS is processing the Department's medical claims; it only houses the minimal data necessary to adjudicate and facilitate payment of claims. MMIS claims data has limited use 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 FFY 2013 - 2014 R-5 Budget Request, "Medicaid Management Information System re-procurement," 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.

Proposed Solution

The solution has been requested as a part of the MMIS IAPD, approved October 2015.

The Department will continue to work with state and non-state entities to identify other core, MU, and value-added HIE services for community providers. Additional services not proposed but under evaluation include, but are not limited to, medication management, access to a prescription drug management program (PDMP), and PHR and portal solutions.

SECTION IV – STATEMENT OF ALTERNATIVE CONSIDERATIONS

This section is not applicable.

SECTION V – PERSONNEL RESOURCE STATEMENT

Table 3: SDE Oversight and Coordination Staffing Roles and HIT Allocation

| State Staff Title | Description of Services to Meet Project-Specific Milestones | % of Time | Total Cost with Benefits | Cost Allocated to IAPD |
|--|--|-----------|--------------------------|------------------------|
| HCPF/Health Information Organization (HIO) – Internal Position Support HIT Allocation | | | | |
| HIO Office Director | <ul style="list-style-type: none"> Serves as the CORHIO Board Representative for HCPF, the APCD Board Representative for HCPF, and the SDE Governance Board Oversees HCPF’s HIT Strategic Plan and ACC Alignment | 20% | \$300,000 | \$60,000 |
| HIT Project Coordinator (New) | <ul style="list-style-type: none"> Coordinates HIT initiatives within the Department, and as an HCPF representative with other agencies, to ensure strategic alignment with the Department’s HIT strategy, the SMHP, and federal, state, and grant funding HIT and MU subject matter expert (SME) responsible for strategic direction and oversight | 100% | \$170,000 | \$170,000 |
| HIT Program Management (New) | <ul style="list-style-type: none"> Works with project team members to ensure timely completion of tasks and deliverables associated with all HIT projects Responsible for overall performance of projects, including project plans and other documentation | 100% | \$130,000 | \$130,000 |
| HIT Business Analyst (2) (New) | <ul style="list-style-type: none"> Collects, analyzes, and documents use cases and business requirements for all HIT projects to determine the needs of systems built with IAPD funding | 100% | \$260,000 | \$260,000 |
| HIO Special Projects Coordinator (2) | <ul style="list-style-type: none"> Coordinates with CORHIO on PHR DDI coordination, ONC Grant deliverables, APCD re-procurement, and MDM policy and research Coordinates HIPAA Release Consent Registry policy/research | 20% | \$260,000 | \$52,000 |
| HIT Administrative Contract Manager | <ul style="list-style-type: none"> Responsible for managing contracts related to the following: <ul style="list-style-type: none"> CORHIO HIE Payments, ONC Grant APCD Payments HCPF/SDE Contractor Support Governor’s Office’s <ul style="list-style-type: none"> SDE Office Director State Agency HIT Coordinator/Liaison | 20% | \$130,000 | \$26,000 |
| HIT Contract Manager (New) | <ul style="list-style-type: none"> Responsible for day-to-day management of contracts authorized for IAPD funding, including ensuring deliverables and contract deadlines have been met, contractors are in compliance with the contract, contractors have been paid, and contracts are updated as needed | 100% | \$130,000 | \$130,000 |

| State Staff Title | Description of Services to Meet Project-Specific Milestones | % of Time | Total Cost with Benefits | Cost Allocated to IAPD |
|---|--|-----------|--------------------------|------------------------|
| HIT/SDE Fiscal Agent Support | | | | |
| HIT/SDE Administration Support (New) | <ul style="list-style-type: none"> Performs administrative activities for HIT projects, including scheduling meetings and conference rooms, filing, and clearance | 100% | \$90,000 | \$90,000 |
| HIT/SDE Budget Analyst | <ul style="list-style-type: none"> Provides strategic leadership to OeHI to increase the interoperability of HIT systems, increase data sharing of HIT, and improving the coordination of budget requests to leverage funding sources | 20% | \$130,000 | \$26,000 |
| HIT/SDE Accountant | <ul style="list-style-type: none"> Responsible for providing accounting services to the SDE | 20% | \$130,000 | \$26,000 |
| HIT/SDE Procurement and Contract Development | <ul style="list-style-type: none"> Responsible for the development/review of procurement to support SDE contracts | 50% | \$130,000 | \$65,000 |
| HIT/SDE Communications | <ul style="list-style-type: none"> Provides outreach and communications services related to HIT/SDE initiatives and programs | 20% | \$130,000 | \$26,000 |
| Total HCPF Support | | | | \$1,061,000 |
| Contractor Support | | | | |
| HCPF/SDE Contractor Support HIT Allocation | | | | |
| SDE Director (Governor's Office) (New) | <ul style="list-style-type: none"> Serves as a CORHIO/SDE Board Representative for the Governor's Office Oversees the state HIT and HIE Strategic Plan, ensuring federal alignment with ONC, including SIM Office Alignment Supports other state agencies (e.g., CDPHE) on HIE integration | 100% | \$300,000 | \$300,000 |
| State HIT Coordinator (Governor's Office) | <ul style="list-style-type: none"> Responsible for ensuring the following: <ul style="list-style-type: none"> HCPF/DHS/CDPHE/OIT Coordination HIE Coordination and Integration for CDPHE and CORHIO/QHN EHR Coordination for CDPHE/DHS/DOC <p><i>Note: State HIE Cooperative Agreement Program required establishment of a State Government HIT Coordinator, an individual who is a state government official and who must coordinate state government participation in HIE</i></p> | 65% | \$200,000 | \$130,000 |
| OIT IT Architect (OIT, Governor's Office) | <ul style="list-style-type: none"> Provides an in-depth understanding of existing state information technology (IT) infrastructure between all state agencies to provide strategic direction on new IT platforms being built, ensuring intrastate systems interoperability | 100% | \$300,000 | \$300,000 |
| Total HCPF/SDE Contractor Support | | | | \$730,000 |

| State Staff Title | Description of Services to Meet Project-Specific Milestones | % of Time | Total Cost with Benefits | Cost Allocated to IAPD |
|---|---|-----------|--------------------------|------------------------|
| Vendor Support | | | | |
| Contractor (Compri) – HIT Project Manager (PM) | <ul style="list-style-type: none"> Provides project management support on projects requested in the IAPD | 100% | \$300,000 | \$300,000 |
| Contractor (Briljent) – HIT IAPD/SMHP Updates | <ul style="list-style-type: none"> Provides support with creating and updating documents for IAPD funding and the SMHP | 100% | \$300,000 | \$300,000 |
| Contractor (North Highlands) – PM for SDE | <ul style="list-style-type: none"> Provides facilitation support for the eHealth Commission and project management support for OeHI | 100% | \$170,000 | \$170,000 |
| Contractor – Statewide IT Architecture and HIT Consulting | <ul style="list-style-type: none"> Provides consultation on ideal future state IT infrastructure Creates the architecture for IT solutions requested in this IAPD | 100% | \$600,000 | \$600,000 |
| Contractor (Mosaica) – HIE and HIT Roadmap | <ul style="list-style-type: none"> Engages stakeholders in order to create a statewide HIE and HIT strategic roadmap | 100% | \$300,000 | \$300,000 |
| Contractor – RFP Development | <ul style="list-style-type: none"> Writes requests for proposals (RFPs) as needed to acquire qualified entities to perform the work described in this IAPD as designated by the eHealth Commission | 100% | \$300,000 | \$300,000 |
| Contractor – Legal Services for SDE | <ul style="list-style-type: none"> Provides legal advice and assistance to OeHI | 100% | \$300,000 | \$300,000 |
| Total Contractor Support | | | | \$2,270,000 |
| Total | | | | \$4,061,000 |

Note: All salaries noted are for two years:

- Business Analyst (\$260,000) – Two positions at \$65,000/year each
- SDE Director (\$300,000) – Senior executive-level position at \$150,000/year
- OIT Architect (\$300,000) – Highly technical position, and salary is comparable to an IT Architect in the private sector at \$150,000/year; will have an in-depth understanding of existing State IT infrastructure between all state agencies in order to provide strategic direction on new IT platforms being built, ensuring intrastate systems interoperability

SECTION VI – PROPOSED ACTIVITY SCHEDULE

Proposed Activity Schedule

The Department-proposed schedule for the design and development of the core HIE services is provided in **Figure 2**. The Department has worked closely with its partners to determine a realistic and achievable project schedule.

Figure 2: Proposed Project Schedule

| Task Name | Duration | Start | Finish |
|--|-----------------|--------------------|--------------------|
| Coordination and Oversight of OeHI | 641 days | Tue 12/1/15 | Wed 6/13/18 |
| Procure Contractors for OeHI (SDE Administrative Services) | 368 days | Tue 12/1/15 | Mon 5/15/17 |
| OeHI Creation (SDE Oversight and Coordination) | 641 days | Tue 12/1/15 | Wed 6/13/18 |
| Medicaid Provider Onboarding Program – CORHIO | 632 days | Fri 1/1/16 | Sat 6/30/18 |
| Provider Outreach and TA Services | 632 days | Fri 1/1/16 | Sat 6/30/18 |
| <i>Group A: HIE Agreements Executed - KPI</i> | <i>632 days</i> | <i>Fri 1/1/16</i> | <i>Sat 6/30/18</i> |
| 60% Executed | 127 days | Fri 1/1/16 | Thu 6/30/16 |
| 75% Executed | 251 days | Fri 7/1/16 | Thu 6/29/17 |
| 85% Executed | 252 days | Fri 6/30/17 | Thu 6/28/18 |
| <i>Group B: One Way Interfaces - KPI</i> | <i>632 days</i> | <i>Fri 1/1/16</i> | <i>Sat 6/30/18</i> |
| 48% Connected | 127 days | Fri 1/1/16 | Thu 6/30/16 |
| 65% Connected | 251 days | Fri 7/1/16 | Thu 6/29/17 |
| 75% Connected | 252 days | Fri 6/30/17 | Thu 6/28/18 |
| <i>Group C: Two Way Interfaces: KPI</i> | <i>632 days</i> | <i>Fri 1/1/16</i> | <i>Sat 6/30/18</i> |
| 2% Connected | 127 days | Fri 1/1/16 | Thu 6/30/16 |
| 10% Connected | 251 days | Fri 7/1/16 | Thu 6/29/17 |
| 30% Connected | 252 days | Fri 6/30/17 | Thu 6/28/18 |
| HIE/Provider Interfaces | 127 days | Fri 1/1/16 | Thu 6/30/16 |
| HIE Foundation | 461 days | Fri 7/1/16 | Tue 5/1/18 |
| Registry Planning/Proofs of Concept | 504 days | Fri 7/1/16 | Fri 6/29/18 |
| CQM Reporting and HIE Tools | 460 days | Fri 7/1/16 | Fri 4/27/18 |
| MU Public Health Reporting | 127 days | Fri 1/1/16 | Thu 6/30/16 |
| Data Validation Services | 63 days | Fri 4/1/16 | Thu 6/30/16 |
| Public Health Reporting Interface Enhancements | 64 days | Fri 4/1/16 | Thu 6/30/16 |
| MDM (Pending IAPD-U Approval) | 330 days | Wed 1/11/17 | Tue 5/1/18 |
| Master Patient Index | 330 days | Wed 1/11/17 | Tue 5/1/18 |
| Master Provider Directory | 330 days | Wed 1/11/17 | Tue 5/1/18 |
| Registry Planning/Proofs of Concept | 604 days | Fri 7/1/16 | Fri 6/29/18 |
| CQM Reporting and HIE Tools | 460 days | Fri 7/1/16 | Fri 4/27/18 |
| PHRs (Pending IAPD-U Approval) | 330 days | Wed 1/11/17 | Tue 5/1/18 |

| Task Name | Duration | Start | Finish |
|---------------------------------------|----------|------------|-------------|
| PHR System Implementation | 308 days | Mon 7/3/17 | Mon 4/30/18 |
| Clinical Data Interface | 208 days | Mon 7/3/17 | Mon 4/30/18 |
| Eligibility Data Interface | 208 days | Mon 7/3/17 | Mon 4/30/18 |
| Claims Data Interface | 208 days | Mon 7/3/17 | Mon 4/30/18 |
| Centralized Web Portal Implementation | 208 days | Mon 7/3/17 | Mon 4/30/18 |

Annual Benchmarks and Performance Goals

The Department is using the Proposed Project Schedule and annual benchmarks and performance goals to ensure implementation funds are dispersed during the HIT IAPD-U funding period, as planned. For project activities that are not measurable in numbers, the Department is monitoring the Proposed Project Schedule to determine when DDI is complete, meaning performance goals have been met.

For programmatic performance goals, the Department will monitor benchmarks related to provider onboarding to the HIE, utilization of the specialized registries, and Medicaid PHR participation.

Specialized Registries: The Department anticipates, based on the current level of HIE connectivity, that the following percentages of the Medicaid provider population will access the registries through the HIE in the specified years:

- First year: 10%
- Second year: 30%
- Third year: 50%

The expectation is that the registries will create additional value to the HIE and ultimately increase HIE participation.

Medicaid PHR: The Department anticipates that 1% of the Medicaid client population will access the Medicaid PHR and have the ability to view online, download, and transmit their health information through the HIE within the first year of completed development and implementation. In the second year, the Department anticipates roughly 2%, and a total of 5% in the third year.

Provider Onboarding: The Department and CORHIO's implementation strategy have leveraged the EHR Incentive Program provider list as the initial outreach target for the HIE Provider Onboarding Program. The second set of target providers are specialty providers, including but not limited to, behavioral health providers and specialists. The Department and CORHIO have also targeted ACC, Federally Qualified Health Centers (FQHCs), and underserved providers, ensuring widespread communication of the HIE Provider Onboarding Program. The Department and CORHIO continue to identify complex organizations, provider types, and client populations that may benefit from HIE onboarding assistance and core, MU, and value-added HIE services (e.g., EPs providing care to inmates). The Department expects the total number of physicians that are connected to the statewide HIE network to continue growing steadily at the pace projected in Table 3.

Annual Provider HIE Onboarding Goals

To monitor progress towards connectivity goals, key performance indicators (KPIs) have been established to measure and provide feedback on onboarding activities for providers, hospitals, payers, and other key participants.

Specifically, the Department has contracted with CORHIO to incentivize greater numbers of providers participating in one of the following three categories of HIE connectivity:

- **Group A: Executed HIE Service Commitment Agreement** – A provider is considered part of Group A when a fully executed agreement between the Medicaid Practice (EPs or EHs listed on Provider Matrix) and the HIE for delivery of HIE services is obtained. HIE services are based on technical assessment and include at least one of the following: secure messaging, longitudinal patient record access, or CCD/HL7 clinical data exchange. Agreement may be for initial HIE services or an expansion to additional HIE services.
- **Group B: One-Way Interface Completed** – A provider is considered part of Group B when there is a functioning interface to receive clinical results. The form of the interface is determined through onboarding TA in order to determine the best interfacing method for each practice, and may include results delivery into a clinical inbox with longitudinal patient record access or CCD/HL7 data exchange.
- **Group C: Two-Way Interface Completed** – A provider is considered part of Group C upon the completion of interface development that allows for both the sending and receiving of clinical results to and from the HIE. The form of interface is determined through onboarding TA to determine the best interfacing method for each practice.

SECTION VII – PROPOSED BUDGET

The Department presents the following budget to CMS for this HIT IAPD-U Appendix D. This budget includes the proposed costs for staffing and vendor costs to implement the strategy described in Section I and Section III of this HIT IAPD-U Appendix D to accelerate the success of Colorado’s Medicaid EHR Incentive Program and facilitate the adoption and MU of CEHRT. The proposed budget represents a total amount of \$12,160,000 through Q4 FFY 2016, of which, \$10,944,000 (90%) is proposed to be funded by FFP, and the remaining \$1,216,000 (10%) will be funded by the State of Colorado. **Table 4** represents the annual cost of each of the cost categories.

Table 4: Total Proposed HIT IAPD-U Appendix D Budget by FFY

| Cost Category | TOTAL | FFY 2016 | FFY 2017 |
|--|---------------------|---------------------|---------------------|
| Coordination & Oversight for HIE Activities | \$4,061,000 | \$2,030,500 | \$2,030,500 |
| SDE Oversight & Coordination (Personnel) | \$1,061,000 | 530,500 | \$530,500 |
| SDE Administrative Services (Contracted) | \$3,000,000 | \$1,500,000 | \$1,500,000 |
| Medicaid Provider Onboarding Program | \$12,690,000 | \$6,370,000 | \$6,320,000 |
| Provider Outreach and TA Services | \$3,900,000 | \$1,950,000 | \$1,950,000 |
| HIE/Provider Interfaces | \$5,440,000 | \$2,720,000 | \$2,720,000 |
| HIE Foundation | \$250,000 | \$150,000 | \$100,000 |
| Registry Planning and Proofs of Concept | \$2,500,000 | \$1,250,000 | \$1,250,000 |
| CQM Reporting | \$600,000 | \$300,000 | \$300,000 |
| MU Public Health Reporting | \$1,800,000 | \$900,000 | \$900,000 |
| Data Validation Services | \$1,300,000 | \$650,000 | \$650,000 |
| PHR Interface Enhancements | \$500,000 | \$250,000 | \$250,000 |
| Medicaid PHRs | \$1,665,348 | \$660,070 | \$1,005,278 |
| PHR System Implementation | \$300,000 | \$150,000 | \$150,000 |
| Clinical Data Interface | \$30,000 | \$15,000 | \$15,000 |
| Eligibility Data Interface | \$30,000 | \$0 | \$30,000 |
| Claims Data Interface | \$30,000 | \$0 | \$30,000 |
| Centralized Web Portal Implementation | \$800,000 | \$400,000 | \$400,000 |
| 2 Contracted PMs | \$285,209 | \$95,070 | \$190,139 |
| 2 Contracted Technical PMs | \$190,139 | \$0 | \$190,139 |
| Medicaid Data Management | \$3,000,000 | \$1,500,000 | \$1,500,000 |
| Master Provider/Client Directory | \$3,000,000 | \$1,500,000 | \$1,500,000 |
| State Travel/HIE Conferences | \$120,000 | \$60,000 | \$60,000 |
| TOTAL | \$23,336,348 | \$11,520,570 | \$11,815,778 |

Table 5 and **Table 6** outline the proposed funding requests, broken out by FFY and Quarter, including the proposed FFP amount.

Table 5: HIT IAPD-U Appendix D Budget by Quarter for FFY 2016 (Including FFP)

| Cost Category | TOTAL FFY 2016 | TOTAL 90% FFP | Q1 Oct-Dec | Q1 90% FFP | Q2 Jan-Mar | Q2 90% FFP | Q3 Apr-Jun | Q3 90% FFP | Q4 Jul-Sep | Q4 90% FFP |
|--|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Coordination & Oversight for HIE Activities | \$2,030,500 | \$1,827,450 | \$0 | \$0 | \$676,833 | \$609,150 | \$676,833 | \$609,150 | \$676,833 | \$609,150 |
| SDE Oversight & Coordination | \$530,500 | \$477,450 | \$0 | \$0 | \$176,833 | \$159,150 | \$176,833 | \$159,150 | \$176,833 | \$159,150 |
| SDE Administrative Contracted Services | \$1,500,000 | \$1,350,000 | \$0 | \$0 | \$500,000 | \$450,000 | \$500,000 | \$450,000 | \$500,000 | \$450,000 |
| Medicaid Provider Onboarding Program | \$6,370,000 | \$5,733,000 | \$1,592,500 | \$1,433,250 | \$1,592,500 | \$1,433,250 | \$1,592,500 | \$1,433,250 | \$1,592,500 | \$1,433,250 |
| Provider Outreach and TA Services | \$1,950,000 | \$1,755,000 | \$0 | \$0 | \$650,000 | \$585,000 | \$650,000 | \$585,000 | \$650,000 | \$585,000 |
| HIE/Provider Interfaces | \$2,720,000 | \$2,448,000 | \$0 | \$0 | \$906,667 | \$816,000 | \$906,667 | \$816,000 | \$906,667 | \$816,000 |
| HIE Foundation | \$150,000 | \$135,000 | \$37,500 | \$33,750 | \$37,500 | \$33,750 | \$37,500 | \$33,750 | \$37,500 | \$33,750 |
| Registry Planning and Proofs of Concept | \$1,250,000 | \$1,125,000 | \$0 | \$0 | \$416,667 | \$375,000 | \$416,667 | \$375,000 | \$416,667 | \$375,000 |
| CQM Reporting | \$300,000 | \$270,000 | \$0 | \$0 | \$100,000 | \$90,000 | \$100,000 | \$90,000 | \$100,000 | \$90,000 |
| MU Public Health Reporting | \$900,000 | \$810,000 | \$0 | \$0 | \$300,000 | \$270,000 | \$300,000 | \$270,000 | \$300,000 | \$270,000 |
| Data Validation Services | \$650,000 | \$585,000 | \$0 | \$0 | \$216,667 | \$195,000 | \$216,667 | \$195,000 | \$216,667 | \$195,000 |
| PHR Interface Enhancements | \$250,000 | \$225,000 | \$0 | \$0 | \$83,333 | \$75,000 | \$83,333 | \$75,000 | \$83,333 | \$75,000 |
| Medicaid PHR | \$660,070 | \$594,063 | \$0 | \$0 | \$220,023 | \$198,021 | \$220,023 | \$198,021 | \$220,023 | \$198,021 |
| PHR System Implementation | \$150,000 | \$135,000 | \$0 | \$0 | \$50,000 | \$45,000 | \$50,000 | \$45,000 | \$50,000 | \$45,000 |
| Clinical Data Interface | \$15,000 | \$13,500 | \$0 | \$0 | \$5,000 | \$4,500 | \$5,000 | \$4,500 | \$5,000 | \$4,500 |
| Eligibility Data Interface | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Claims Data interface | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Centralized Web Portal Implementation | \$400,000 | \$360,000 | \$0 | \$0 | \$133,333 | \$120,000 | \$133,333 | \$120,000 | \$133,333 | \$120,000 |
| 2 Contracted PMs | \$95,070 | \$85,563 | \$0 | \$0 | \$31,690 | \$28,521 | \$31,690 | \$28,521 | \$31,690 | \$28,521 |
| 2 Contracted Technical PMs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Medicaid Data Management | \$1,500,000 | \$1,350,000 | \$0 | \$0 | \$500,000 | \$450,000 | \$500,000 | \$450,000 | \$500,000 | \$450,000 |
| Master Provider/Client Directory | \$1,500,000 | \$1,350,000 | \$0 | \$0 | \$500,000 | \$450,000 | \$500,000 | \$450,000 | \$500,000 | \$450,000 |
| State Travel/HIE Conferences | \$60,000 | \$54,000 | \$0 | \$0 | \$20,000 | \$18,000 | \$20,000 | \$18,000 | \$20,000 | \$18,000 |
| TOTAL | \$11,520,570 | \$10,368,513 | \$2,880,143 | \$2,592,128 | \$2,880,143 | \$2,592,128 | \$2,880,143 | \$2,592,128 | \$2,880,143 | \$2,592,128 |

Table 6: HIT IAPD-U Appendix D Budget by Quarter for FFY 2017 (Including FFP)

| Cost Category | TOTAL FFY 2017 | TOTAL 90% FFP | Q1 Oct-Dec | Q1 90% FFP | Q2 Jan-Mar | Q2 90% FFP | Q3 Apr-Jun | Q3 90% FFP | Q4 Jul-Sep | Q4 90% FFP |
|--|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Coordination & Oversight for HIE Activities | \$2,030,500 | \$1,827,450 | \$507,625 | \$456,863 | \$507,625 | \$456,863 | \$507,625 | \$456,863 | \$507,625 | \$456,863 |
| SDE Oversight & Coordination | \$530,500 | \$477,450 | \$132,625 | \$119,363 | \$132,625 | \$119,363 | \$132,625 | \$119,363 | \$132,625 | \$119,363 |
| SDE Administrative Contracted Services | \$1,500,000 | \$1,350,000 | \$375,000 | \$337,500 | \$375,000 | \$337,500 | \$375,000 | \$337,500 | \$375,000 | \$337,500 |
| Medicaid Provider Onboarding Program | \$6,320,000 | \$5,688,000 | \$1,580,000 | \$1,422,000 | \$1,580,000 | \$1,422,000 | \$1,580,000 | \$1,422,000 | \$1,580,000 | \$1,422,000 |
| Provider Outreach and TA Services | \$1,950,000 | \$1,755,000 | \$487,500 | \$438,750 | \$487,500 | \$438,750 | \$487,500 | \$438,750 | \$487,500 | \$438,750 |
| HIE/Provider Interfaces | \$2,720,000 | \$2,448,000 | \$680,000 | \$612,000 | \$680,000 | \$612,000 | \$680,000 | \$612,000 | \$680,000 | \$612,000 |
| HIE Foundation | \$100,000 | \$90,000 | \$25,000 | \$22,500 | \$25,000 | \$22,500 | \$25,000 | \$22,500 | \$25,000 | \$22,500 |
| Registry Planning and Proofs of Concept | \$1,250,000 | \$1,125,000 | \$312,500 | \$281,250 | \$312,500 | \$281,250 | \$312,500 | \$281,250 | \$312,500 | \$281,250 |
| CQM Reporting | \$300,000 | \$270,000 | \$75,000 | \$67,500 | \$75,000 | \$67,500 | \$75,000 | \$67,500 | \$75,000 | \$67,500 |
| MU Public Health Reporting | \$900,000 | \$810,000 | \$225,000 | \$202,500 | \$225,000 | \$202,500 | \$225,000 | \$202,500 | \$225,000 | \$202,500 |
| Data Validation Services | \$650,000 | \$585,000 | \$162,500 | \$146,250 | \$162,500 | \$146,250 | \$162,500 | \$146,250 | \$162,500 | \$146,250 |
| PHR Interface Enhancements | \$250,000 | \$225,000 | \$62,500 | \$56,250 | \$62,500 | \$56,250 | \$62,500 | \$56,250 | \$62,500 | \$56,250 |
| Medicaid PHR | \$1,005,278 | \$904,750 | \$251,320 | \$226,188 | \$251,320 | \$226,188 | \$251,320 | \$226,188 | \$251,320 | \$226,188 |
| PHR System Implementation | \$150,000 | \$135,000 | \$37,500 | \$33,750 | \$37,500 | \$33,750 | \$37,500 | \$33,750 | \$37,500 | \$33,750 |
| Clinical Data Interface | \$15,000 | \$13,500 | \$3,750 | \$3,375 | \$3,750 | \$3,375 | \$3,750 | \$3,375 | \$3,750 | \$3,375 |
| Eligibility Data Interface | \$30,000 | \$27,000 | \$7,500 | \$6,750 | \$7,500 | \$6,750 | \$7,500 | \$6,750 | \$7,500 | \$6,750 |
| Claims Data interface | \$30,000 | \$27,000 | \$7,500 | \$6,750 | \$7,500 | \$6,750 | \$7,500 | \$6,750 | \$7,500 | \$6,750 |
| Centralized Web Portal Implementation | \$400,000 | \$360,000 | \$100,000 | \$90,000 | \$100,000 | \$90,000 | \$100,000 | \$90,000 | \$100,000 | \$90,000 |
| 2 Contracted PMs | \$190,139 | \$171,125 | \$47,535 | \$42,781 | \$47,535 | \$42,781 | \$47,535 | \$42,781 | \$47,535 | \$42,781 |
| 2 Contracted Technical PMs | \$190,139 | \$171,125 | \$47,535 | \$42,781 | \$47,535 | \$42,781 | \$47,535 | \$42,781 | \$47,535 | \$42,781 |
| Medicaid Data Management | \$1,500,000 | \$1,350,000 | \$375,000 | \$337,500 | \$375,000 | \$337,500 | \$375,000 | \$337,500 | \$375,000 | \$337,500 |
| Master Provider/Client Directory | \$1,500,000 | \$1,350,000 | \$375,000 | \$337,500 | \$375,000 | \$337,500 | \$375,000 | \$337,500 | \$375,000 | \$337,500 |
| State Travel/HIE Conferences | \$60,000 | \$54,000 | \$15,000 | \$13,500 | \$15,000 | \$13,500 | \$15,000 | \$13,500 | \$15,000 | \$13,500 |
| TOTAL | \$11,815,778 | \$10,634,200 | \$2,953,945 | \$2,658,550 | \$2,953,945 | \$2,658,550 | \$2,953,945 | \$2,658,550 | \$2,953,945 | \$2,658,550 |

Estimate of Prospective Cost Distribution to the State and Federal Funding Sources

The Department proposes a funding cost distribution using 90% FFP and 10% State funding sources (see **Table 7** through **Table 9**). These funds will be distributed using the standard reporting procedures currently used for financial management procedures for the HIT IAPD, approved by CMS.

Table 7: Funding Sources for HIT IAPD-U Appendix D Cost Categories – TOTAL

| Cost Category | TOTAL | 90% FFP | 10% State |
|--|---------------------|---------------------|--------------------|
| Coordination and Oversight for HIE Activities | \$4,061,000 | \$3,654,900 | \$406,100 |
| SDE Oversight & Coordination (Personnel) | \$1,061,000 | \$954,900 | \$106,100 |
| SDE Administrative Services (Contracted) | \$3,000,000 | \$2,700,000 | \$300,000 |
| Medicaid Provider Onboarding Program | \$12,690,000 | \$11,421,000 | \$1,269,000 |
| Provider Outreach and TA Services | \$3,900,000 | \$3,510,000 | \$390,000 |
| HIE/Provider Interfaces | \$5,440,000 | \$4,896,000 | \$544,000 |
| HIE Foundation | \$250,000 | \$225,000 | \$25,000 |
| Registry Planning and Proofs of Concept | \$2,500,000 | \$2,250,000 | \$250,000 |
| CQM Reporting | \$600,000 | \$540,000 | \$60,000 |
| MU Public Health Reporting | \$1,800,000 | \$1,620,000 | \$180,000 |
| Data Validation Services | \$1,300,000 | \$1,170,000 | \$130,000 |
| PHR Interface Enhancements | \$500,000 | \$450,000 | \$50,000 |
| Medicaid PHRs | \$1,665,348 | \$1,498,813 | \$166,535 |
| PHR System Implementation | \$300,000 | \$270,000 | \$30,000 |
| Clinical Data Interface | \$30,000 | \$27,000 | \$3,000 |
| Eligibility Data Interface | \$30,000 | \$27,000 | \$3,000 |
| Claims Data Interface | \$30,000 | \$27,000 | \$3,000 |
| Centralized Web Portal Implementation | \$800,000 | \$720,000 | \$80,000 |
| 2 Contracted PMs | \$285,209 | \$256,688 | \$28,521 |
| 2 Contracted Technical PMs | \$190,139 | \$171,125 | \$19,014 |
| Medicaid Data Management | \$3,000,000 | 2,700,000 | \$300,000 |
| Master Provider/Client Directory | \$3,000,000 | \$2,700,000 | \$300,000 |
| State Travel/HIE Conferences | \$120,000 | \$108,000 | \$12,000 |
| TOTAL | \$23,336,348 | \$19,754,713 | \$3,533,635 |

Table 8: Funding Sources for HIT IAPD-U Appendix Cost Categories – FFY 2016

| Cost Category | FFY 2016 | 90% FFP | 10% State |
|--|---------------------|---------------------|--------------------|
| Coordination and Oversight for HIE Activities | \$2,030,500 | \$1,827,450 | \$203,050 |
| SDE Oversight & Coordination | \$530,500 | \$477,450 | \$53,050 |
| SDE Administrative Contracted Services | \$1,500,000 | \$1,350,000 | \$150,000 |
| Medicaid Provider Onboarding Program | \$6,370,000 | \$5,733,000 | \$637,000 |
| Provider Outreach and TA Services | \$1,950,000 | \$1,755,000 | \$195,000 |
| HIE/Provider Interfaces | \$2,720,000 | \$2,448,000 | \$272,000 |
| HIE Foundation | \$150,000 | \$135,000 | \$15,000 |
| Registry Planning and Proofs of Concept | \$1,250,000 | \$1,125,000 | \$125,000 |
| CQM Reporting | \$300,000 | \$270,000 | \$30,000 |
| MU Public Health Reporting | \$900,000 | \$810,000 | \$90,000 |
| Data Validation Services | \$650,000 | \$585,000 | \$65,000 |
| PHR Interface Enhancements | \$250,000 | \$225,000 | \$25,000 |
| Medicaid PHR | \$660,070 | \$594,063 | \$66,007 |
| PHR System Implementation | \$150,000 | \$135,000 | \$15,000 |
| Clinical Data Interface | \$15,000 | \$13,500 | \$1,500 |
| Eligibility Data Interface | \$0 | \$0 | \$0 |
| Claims Data interface | \$0 | \$0 | \$0 |
| Centralized Web Portal Implementation | \$400,000 | \$360,000 | \$40,000 |
| 2 Contracted PMs | \$95,070 | \$85,563 | \$9,507 |
| 2 Contracted Technical PMs | \$0 | \$0 | \$0 |
| Medicaid Data Management | \$1,500,000 | \$1,350,000 | \$150,000 |
| Master Provider/Client Directory | \$1,500,000 | \$1,350,000 | \$150,000 |
| State Travel/HIE Conferences | \$60,000 | \$54,000 | \$6,000 |
| TOTAL | \$11,520,570 | \$10,368,513 | \$1,152,057 |

Table 9: Funding Sources for HIT IAPD-U Appendix Cost Categories – FFY 2017

| Cost Category | FFY 2016 | 90% FFP | 10% State |
|--|---------------------|---------------------|--------------------|
| Coordination and Oversight for HIE Activities | \$2,030,500 | \$1,827,450 | \$203,050 |
| SDE Oversight & Coordination | \$530,500 | \$477,450 | \$53,050 |
| SDE Administrative Contracted Services | \$1,500,000 | \$1,350,000 | \$150,000 |
| Medicaid Provider Onboarding Program | \$6,320,000 | \$5,688,000 | \$632,000 |
| Provider Outreach and TA Services | \$1,950,000 | \$1,755,000 | \$195,000 |
| HIE/Provider Interfaces | \$2,720,000 | \$2,448,000 | \$272,000 |
| HIE Foundation | \$100,000 | \$90,000 | \$10,000 |
| Registry Planning and Proofs of Concept | \$1,250,000 | \$1,125,000 | \$125,000 |
| CQM Reporting | \$300,000 | \$270,000 | \$30,000 |
| MU Public Health Reporting | \$900,000 | \$810,000 | \$90,000 |
| Data Validation Services | \$650,000 | \$585,000 | \$65,000 |
| PHR Interface Enhancements | \$250,000 | \$225,000 | \$25,000 |
| Medicaid PHR | \$1,005,278 | \$904,750 | \$100,528 |
| PHR System Implementation | \$150,000 | \$135,000 | \$15,000 |
| Clinical Data Interface | \$15,000 | \$13,500 | \$1,500 |
| Eligibility Data Interface | \$30,000 | \$27,000 | \$3,000 |
| Claims Data interface | \$30,000 | \$27,000 | \$3,000 |
| Centralized Web Portal Implementation | \$400,000 | \$360,000 | \$40,000 |
| 2 Contracted PMs | \$190,139 | \$171,125 | \$19,014 |
| 2 Contracted Technical PMs | \$190,139 | \$171,125 | \$19,014 |
| Medicaid Data Management | \$1,500,000 | \$1,350,000 | \$150,000 |
| Master Provider/Client Directory | \$1,500,000 | \$1,350,000 | \$150,000 |
| State Travel/HIE Conferences | \$60,000 | \$54,000 | \$6,000 |
| TOTAL | \$11,815,778 | \$10,634,200 | \$1,181,578 |

Funding Cost Categories

The information in the budget tables represents the following cost categories and subcategories:

1. Coordination and Oversight for HIE Activities

SDE Oversight and Coordination – Estimated to support SDE services to plan and manage the Medicaid HIE activity projects, including those identified in the IAPD-U and future improvements to support MU. Section V – Personnel Resource Statement

- a. Table 3 outlines SDE Oversight and Coordination staffing roles and HIT allocation.

2. Provider Onboarding Program

- a. Medicaid Provider Interfaces – DDI costs for interfaces connecting Medicaid providers to the HIEs. This enables point-of-care health information to be shared with the HIE, such as a clinical encounter summary, and HIE data to be directly integrated with provider EHRs, such as lab results.
- b. CAH Interfaces – DDI costs for interfaces connecting CAHs to the HIEs. This enables point-of-care health information to be shared with the HIE, such as a clinical encounter summary, and HIE data to be directly integrated with CAH EHRs.
- c. Medicaid Provider Outreach and TA Services – Provide education and TA to CAHs, Medicaid EP providers with training, technical support, and a path to statewide HIE connectivity advocating improved health information sharing by meeting MU. The contractor is reimbursed based on contract deliverables and outcomes (as described in Section VI, Annual Benchmarks and Performance Goals), not for direct full-time employee (FTE) costs or staffing levels.

- d. HIE Foundation – Enhancements to provide the HIE foundation necessary to achieve a fully, interoperable, coordinated Colorado HIE Network. Likened to a traditional enterprise infrastructure consolidation initiative, the HIE Foundation will consolidate and standardize core HIE functionality across both HIE providers to improve capability/maturity on several MITA standards and conditions, including modularity and leverage. HCPF envisions this improvement to leverage existing functionality of the HIEs, while at the same time increasing efficiencies and standards as the HIE continues to evolve. Although the overlap of functionality across the two HIE providers is not currently problematic, the next generation of enhancements warrant this approach. For example, the Department does not want to implement multiple instances of MDM or specialized registries. These solutions will be implemented in a shared services model/Service-Oriented Architecture (SOA) within the HIE Foundation. The funding request is based on an estimate of a six-month vendor-neutral assessment that will include findings and recommendations, as well as architectural precision. The HIE Foundation will provide capability to effectively “plug in” to future HIEs regionally and nationally. The OeHI is charged to develop and coordinate this and other strategic initiatives necessary to further health transformation, align health programs, unify technology investments, and advance data integration among state agencies and private health partners.
- e. Specialized Registries for Enhanced Care Coordination – Improve health information sharing and utilization by implementing new information exchanges and registries. The Department and its stakeholders have identified 4 key data exchanges that are the initial candidates for specialized registries. Together, these registries are the building blocks to achieving critical mass of HIE provider onboarding necessary to enhance HIE value to and bridging the gap for enhanced care coordination:
- i. Assessments: The Assessments registry will support highly utilized standard clinical assessment instruments, enriching the clinical information available. Making assessments readily available is critical functionality to further promote sharing and trust across providers.
 - ii. Advanced Directives: The Advanced Directives registry will support exchange of patient advanced directives. Administrative in nature, this is an effective means to help promote usage and enhance care coordination.

- iii. **Community Resources:** The Community Resources registry will create a valuable practice dimension to the HIE to provide visibility into and optimize resources. Community providers will be incentivized to share information on programs, services, and capacity. This will improve efficiency of resource coordination and support care coordination improvement. Specifically, the community resource registry will facilitate eligible professionals and eligible hospital's ability to meet Meaningful Use measures around Health Information Exchange and Transitions of Care by providing contact information and facilitating communication of Medicaid providers. The Community Resource registry will play an integral role in improving care coordination among Medicaid providers in Colorado and helping the state achieve the goals of Meaningful Use.

3. MU Public Health Reporting

- a. Data Validation Services – Supports costs to perform MU reporting data validation. MU requires active participation resulting in ongoing health data to public health. Each public health reporting objective, such as immunizations reporting, requires additional data validation to ensure that the data meets minimum standards and requirements. The contractor is reimbursed based on contract deliverables and outcomes (as described in Section VI, Annual Benchmarks and Performance Goals), not for direct FTE costs or staffing levels.
- b. PHR Interface Enhancements – Providers can submit data to the public health department through the HIE by developing interfaces to the registries via the Colorado HIE Network. This includes DDI costs to provide HIE and public health infrastructure that enable providers to meet MU objectives (e.g., electronic lab reporting, immunization registries, cancer registries, specialized registries, and syndromic surveillance).

4. Medicaid PHR

- a. Online Health Education Resources – The Department proposes to contract with vendors to provide an online health article repository and an online shared decision-making tool. Medicaid clients will have access to the online health article repository where trustworthy health articles will be maintained and regularly updated by a third-party vendor. The shared decision-making tool will provide clients with videos, articles, and interactive questionnaires to guide them through their treatment options for any healthcare decisions they may face.

- b. PHR – The Department proposes to contract with a vendor to provide a PHR solution that enables Medicaid clients to view, add to, and share their health information, as well as securely communicate with their providers. The PHR system is envisioned to be hosted within the HIE Network, interoperate with EHRs, and to allow for ready expansion of the PHR system beyond Medicaid if desired in the future. The PHR system will also connect to the MMIS for other Medicaid client health-related data. For the client user experience, the Department proposes to contract with a vendor to create an experience/Web portal where clients log on for access to the online health education and PHR components previously described.

5. Medicaid Data Management

- a. MDM – The Department proposes to contract with qualified entities to provide an MDM solution as a key component of the HIE Foundation. The MDM solution will service HCPF and both HIE providers, targeting HCPF/Medicaid-centric data. This will allow the Department to precisely correlate and synchronize member, provider, and organization data with HIE data sources. As this solution becomes available, the Department will plan for and request the funding necessary to enable the MMIS to effectively utilize this service. The Department envisions that this capability will be extended and shared with appropriate cost allocation in the future. As component of the MDM a Consents & Disclosures registry will support precision for information sharing consents and disclosures across medical, behavioral, and substance abuse information. Creating a strong, legally sound, consent framework will improve interoperability and enhance care coordination.

SECTION VIII – COST ALLOCATION PLAN FOR IMPLEMENTATION ACTIVITIES

Cost Allocation Methodology

The following describes Colorado’s cost allocation methodology.

Fair Share Cost Allocation

SDE Coordination and Oversight: The Department is seeking funding for state and SDE services to provide coordination and oversight for the HIE activities proposed in this HIT IAPD-U Appendix D. The services requested in this IAPD-U are 100% applicable to benefiting Medicaid providers and do not require fair share cost allocation.

Medicaid Provider Onboarding: Onboarding functions requested in this IAPD-U update are 100% applicable to benefiting Medicaid providers and do not require fair share cost allocation. Additional onboarding support to non-EPs is supported through the ONC Advanced Interoperability grant.

Public Health Reporting: As the State of Colorado does not mandate public health reporting by healthcare providers, public health reporting in Colorado is of most concern to providers currently receiving or eligible to receive MU incentive payments. In order to reduce the overall burden on Medicaid for MU reporting, the Colorado legislature has authorized a \$533,516 state general fund annually to the public health agency, CDPHE, to supplement staffing and infrastructure projects related to public health reporting. Total public health reporting costs are shown in Table 10.

Table 10: Proposed Public Health Reporting Funding Sources

| Cost Category | Two-Year Total | CDPHE (Non-Medicaid Share) | Medicaid 90% Federal Share | Medicaid 10% State Share | Medicaid Percent of Total |
|----------------------------|----------------|----------------------------|----------------------------|--------------------------|---------------------------|
| MU Public Health Reporting | \$2,867,032 | \$1,067,032 | \$1,620,000 | \$180,000 | 63% |

Public Health Reporting Enhancements

For public health reporting project implementations primarily relevant to EPs (e.g., immunization registries), the Department estimates Medicaid fair share to be the number of Medicaid providers receiving MU payments relative to all EPs in Colorado currently **2,550 out of 5,244 EPs, or roughly 48%**.

For public health reporting project implementations primarily relevant to eligible hospitals (e.g., electronic lab results), the Department estimates Medicaid fair share to be the number of CAHs and Safety Net Hospitals receiving MU payments relative to all EHs in Colorado, **currently 67 out of 76 EHs, or roughly 88%**.

A **63%** fair share allocation is a reasonable estimate of the benefit to Medicaid providers for these combined enhancements.

Medicaid PHR: Funding requested in the IAPD-U will be used for the DDI of a Medicaid PHR that will only be accessible by Medicaid recipients. DDI functions requested in this IAPD-U are 100% applicable to benefiting Medicaid providers and do not require fair share cost allocation. It is the intent of the Department to build a Medicaid-only PHR to develop a proof of concept which will show value to other payers. As a critical mass of Medicaid PHR users is achieved, the Department and OeHI will work with private payers to determine appropriate cost allocation to support enhancements necessary to expand the PHR beyond Medicaid recipients. Funding requests will be updated in future IAPD-U's to accommodate for additional payer participation and enhancements to DDI.

Master Data Management: Funding requested in this IAPD-U will be used for the DDI of Medicaid MDM to achieve a unified view of Medicaid provider and member data across the Medicaid and HIE Network, improving the quality of data and collaboration and reducing costs. The functions of the MDM will benefit Medicaid providers and do not require fair share cost allocation. Future enhancement to MDM beyond Medicaid will require fair share allocation from private payers. Funding to support the DDI of Medicaid MDM will be updated in future IAPD-U's as necessary to accommodate for changes in strategy and cost allocation.

FFP Cost Allocation

The Department has further cost-allocated the funding request according to CMS guidance, using 90% FFP and a 10% state match, as shown in Table 11: Proposed Funding Sources. The proposed budget for these efforts represents a total HIE amount of \$12,160,000. The funding request includes proposed costs for the Provider Onboarding Program and related initiatives for staff and vendor costs only. The funding request does not include costs for ongoing operations. The funding request does include a fair share cost allocation, according to CMS guidance. Activities directly relate to assisting Medicaid providers in meeting MU through onboarding activities and assistance toward MU reporting.

Table 11: Proposed Funding Sources

| Cost Category | Total | 90% Federal Share | 10% State Share |
|---|---------------------|---------------------|--------------------|
| Coordination and Oversight for HIE Activities | \$4,061,000 | \$3,654,900.0 | \$406,100.0 |
| Medicaid Provider Onboarding Program | \$12,690,000 | \$11,421,000.0 | \$1,269,000.0 |
| MU Public Health Reporting | \$1,800,000 | \$1,620,000.0 | \$180,000.0 |
| Medicaid PHR | \$1,665,348 | \$1,498,813.2 | \$166,534.8 |
| Medicaid Data Management | \$3,000,000 | \$2,700,000.0 | \$300,000.0 |
| State Travel for HIE Conferences | \$120,000 | \$108,000.0 | \$12,000.0 |
| TOTAL | \$23,336,348 | \$21,002,713 | \$2,333,635 |

Detailed line item requests and funding breakdowns can be found in Section VII, Funding Request Break-Out.

Payer/Provider Investments

Through early investments made by payers, providers, and other non-Medicaid grant sources, the foundational HIE infrastructure in the state has been successfully established. The robust HIE platforms in place in the Colorado HIE Network provide the capability to connect providers across the state. These funding sources have also assisted in starting the initial integration of HIE with provider EHRs.

The investments made by payers, providers, and non-Medicaid sources have provided for over 90% of the hospital beds in the state being connected to HIE. In addition, approximately 30% of the providers in the state are connected or in the process of being connected to the HIE as the result of these investments. The level of connectivity for these providers varies and includes portal access to the community health record and unidirectional clinical results delivery.

Sustainability for HIE in Colorado is based on the development, implementation, and support of exchange services that are not readily available or cannot be easily provided by the marketplace. Sustainability is not reliant upon one specific group of participants or one product. This multi-faceted approach to sustainability provides flexibility in adjusting to changing market needs and reduces the risk of not attaining sustainability.

As a result of the value created by providing clinical information exchange across the state, HIE operations are currently supported by subscription fees generated from HIE participants, including hospitals, physicians, health plans, LTC providers, behavioral health providers, EMS operators, and commercial laboratories.

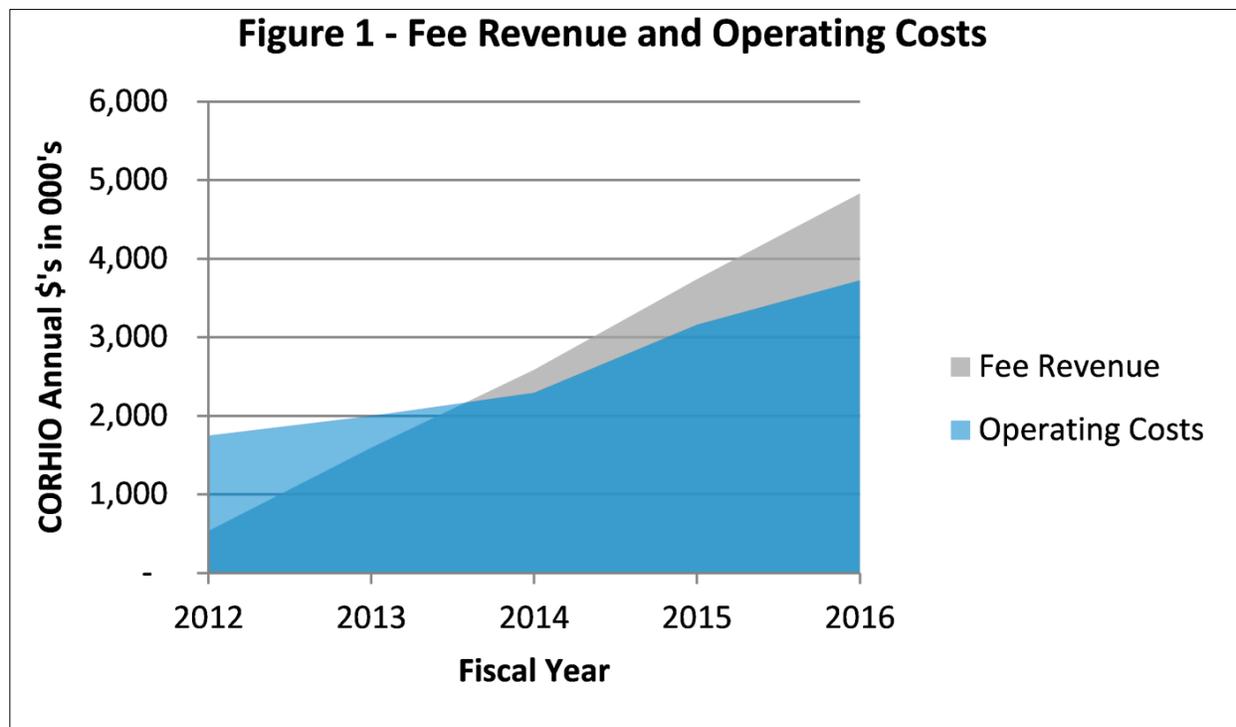
Participants in CORHIO’s HIE pay monthly subscription fees that cover the operating costs for the HIE. The fee structure has been in place since inception of the HIE and was developed through initial stakeholder meetings. A summary of these fees is provided in Table 12.

Table 12: HIE Fees

| Participant Type | Fee Basis | Monthly Subscription Fees |
|------------------|-----------------------|---|
| Hospitals | Bed size | \$1,000 - \$25,000 based on bed size |
| Providers | Per provider | \$35 for EHR results delivery, \$25 for portal access |
| Health Plans | Per Member, Per Month | \$.15 - \$.25 depending upon level of data needs |

This fee structure was vetted both financially and through extensive stakeholder engagement. Financial forecasting is routinely updated to ensure sustainability goals are being met. The growth in fee revenues is depicted in Figure 3. This graph compares the fee revenue with the operating costs.

Figure 3: Fee Revenue and Operating Costs



As shown in the graph, HIE has reached the point where ongoing operations are supported through the subscription fees. These fees are projected to continue to grow as more participants use HIE services. Because these fees are based on long-term contracts with the participants, the risk of loss of ongoing fee revenue is diminished. Since inception, the rate of contract termination upon renewal has been less than 1% and has primarily been the result of the participant retiring or merging with another organization.

HIE operating costs include the ongoing maintenance/support/hosting costs for the HIE infrastructure, including ongoing participant interface maintenance. These operating costs also include ongoing help desk support for participants, including resolving technical infrastructure issues as they arise and ongoing training made available to participants. The operating costs are tightly controlled through a robust cost accounting/tracking system that provides timely reporting of any cost variances. Due to the knowledge gained since inception regarding resource needs for operations, along with long-term fixed-price vendor contracts for infrastructure, these costs can be accurately predicted into the future.

As a result of the maturation of the HIE in the state of Colorado, new revenue streams are now being added to the current stream of fees. These new streams include exchange services for accountable care organizations (ACOs) along with health plans. Due to changes in payment models, the Colorado HIE Network is also generating additional fees by supporting the data exchange and population health needs resulting from changes in cost reimbursement models from both private and public payers.

While ongoing subscription fees are sufficient to cover operating costs, they are not designed to support the costs of onboarding new participants or services. These costs are covered through a combination of one-time implementation fees charged to participants (when practical/possible), use of private and public grants, and contractual/program revenue designated for onboarding purposes. Additionally, through the ONC Advanced Interoperability grant, Colorado will focus additional provider onboarding services to ambulatory providers, long-term and post-acute care organizations, and behavioral health providers. Additionally, HIE in the state of Colorado has had strong private foundation support for expanding, along with state government support for the expansion of the public health HIE infrastructure. In order to ensure there is no duplication of funds between SIM, Interoperability, and HITECH for provider onboarding services, the Department will monitor monthly reports of which providers received onboarding services and will work in coordination with the OeHI to monitor onboarding activities.

Payer/Provider Legal Agreements

Participation in the Colorado HIE Network requires every entity to enter into a contractual relationship with the respective HIE (i.e., CORHIO or QHN). The contract is the foundation for the creation of a trusted network of providers for the exchange of health information. Within the contract is a requirement for each participant to adhere to a consistent set of policies that governs how data can be used by participants in the exchange.

A key component of the contract is establishing subscription fees that support the ongoing operating costs for HIE services. The subscription fees vary depending upon the type of provider and level of services they receive. With the success of the Colorado HIE Network in connecting providers, the ongoing operating costs for the network are currently supported by HIE participant subscription fees.

Early Investor Benefits

The Department has strived to reach a critical mass of providers to fully realize the benefits of an interoperable, functioning statewide HIE. **Although the HIE Network is sustainable today**, the Department has worked to improve MU attestations among Medicaid providers through the Provider Onboarding Program, including funding EPs' and CAHs' interfaces to the Colorado HIE Network. By supporting the Colorado HIE Network in onboarding Medicaid providers, the Department achieves the following two aims:

1. Expands the use of HIT/HIE among Medicaid providers to promote data exchange between providers and the Department
2. Increases the population of meaningful users in the HIE, pushing other payers to pay for the onboarding costs of providers ineligible for the Medicaid EHR Incentive Program

The Department has not provided fund allocation using fair share; thus, costs to provide HIE onboarding to Medicaid providers do not need to be reallocated as other payers/providers work to support the Colorado HIE Network. However, the Department is hoping to increase the number of meaningful users connected to the Colorado HIE Network, achieving the critical mass required to pull in additional payers to support any non-eligible providers and hospitals in interfacing with the Colorado HIE Network.

SECTION IX – ASSURANCES, SECURITY, AND INTERFACE REQUIREMENTS

Please indicate by checking “yes” or “no” whether or not the State will comply with the Code of Federal Regulations (CFR) and the State Medicaid Manual (SMM) citations.

Please provide an explanation for any “No” responses.

Procurement Standards (Competition / Sole Source)

| Citation | Yes | No |
|---------------------|-----|----|
| 42 CFR Part 495.348 | X | |
| SMM Section 11267 | X | |
| 45 CFR Part 95.615 | X | |
| 45 CFR Part 92.36 | X | |

Access to Records, Reporting and Agency Attestations

| Citation | Yes | No |
|---------------------------------|-----|----|
| 42 CFR Part 495.350 | X | |
| 42 CFR Part 495.352 | X | |
| 42 CFR Part 495.346 | X | |
| 42 CFR Part 433.112(b)(5) – (9) | X | |
| 45 CFR Part 95.615 | X | |
| SMM Section 11267 | X | |

Software & Ownership Rights, Federal Licenses, Information Safeguarding, HIPAA Compliance, and Progress Reports

| Citation | Yes | No |
|---------------------|-----|----|
| 42 CFR Part 495.360 | X | |
| 45 CFR Part 95.617 | X | |
| 42 CFR Part 431.300 | X | |
| 42 CFR Part 433.112 | X | |

Security and Interface Requirements to be Employed for All State HIT Systems

| Citation | Yes | No |
|-----------------------------------|-----|----|
| 45 CFR 164 Securities and Privacy | X | |

APPENDIX A – MMIS

This appendix is not applicable.

APPENDIX B – PROVIDER INCENTIVE PAYMENTS

This appendix is not applicable.

APPENDIX C – GRANTS

This appendix is not applicable.

APPENDIX D – HIE

The following is the State of Colorado’s HIE checklist:

| Question/Issue | Y/N |
|---|-----|
| Description of the HIE approach (statewide, sub-state HIOs, etc.); discussion of anticipated risks and mitigation strategies; linkages to meaningful use of certified EHR technology; plans for collection of clinical quality measures and/or public health interfaces as appropriate; the short and long-term value-proposition to providers; role of State government in governance and policy-setting and a description of the exchange standards and policies and how they align with Federal guidance | Y |
| Description of proportional investments by other payers/providers then Medicaid; including market share and projected transactional volume | Y |
| Annual benchmarks and performance goals (Year 1, Year 2 of funding, etc.) | Y |
| Description of (including copies) of legal agreements with other payers/providers regarding their contributions to HIE costs and governance (including scope, timing and budget) | Y |
| Discussion of how the State handles early investor benefits and reallocation of costs as other payers/providers join | Y |
| Description of the transition from HIE infrastructure development for core activities to on-going operations (including timeline, benchmarks and proposed sustainability strategy for on-going operations) | Y |
| Description of the cost allocation methodology and data sources by activity and by funding stream (e.g., MMIS vs. HITECH) | Y |
| Break-out of funding request by MMIS or HITECH, as appropriate (and with varying cost allocation methodologies, as appropriate) | Y |

APPENDIX E – 7 STANDARDS AND CONDITIONS

Appendix E should contain information about how the system plans supported under this HIT IAPDU are aligned with the 7 standards and conditions in 42 CFR Part 433. States should develop a chart that describes how their proposed IT solutions will meet each of the 7 standards and conditions and how they will ensure that the HIT-related systems are integrated within the total Medicaid IT enterprise, as appropriate, rather than being a stand-alone system. The relevant information can be found at:

<http://www.cms.gov/Medicaid-Information-Technology-MIT/Downloads/Enhanced-Funding-Requirement-Seven-Conditions-and-Standards.pdf>

The Contractor will be responsible for the statements of work listed in this IAPDU and accompanying SMHP, with a preference towards solutions that comply with 42 CFR Part 433, as follows:

| Standard/ Condition | Compliance Discussion |
|------------------------------|--|
| Modularity Standard | All solutions requested follow the modularity standard. The addition of these modules adheres to the Department's service oriented architecture (SOA) approach to implement a complex system with open interfaces. The architecture will continue to provide flexibility for future system improvements. |
| MITA Condition | Implementation of the aforementioned modules allows the Department to improve its provider management business process maturity by automating current manual processes and connecting the MMIS to multiple state, regional, and national systems for validation/verification. |
| Industry Standards Condition | <p>The Department is a Covered Entity under HIPAA (42 U.S.C. 1320d-1320d-8) and its implementing regulations. The Department will comply fully with all industry standards adopted by the Secretary of the U.S. Department of Health and Human Services (HHS). Additionally, these projects will evaluate applicable federal and state regulations on IT system architectures that relate to the MMIS and health technology, including, but not limited to, all of the following:</p> <ul style="list-style-type: none"> • Governor's OIT guidelines for State IT systems, architectures, and data sharing • Federal regulations and guidance for the following: <ul style="list-style-type: none"> • HIE technology • EHRs and HIE and associated provider incentive payments related to MU • The Department's ability to receive enhanced federal matching funds for the MMIS, eligibility determination systems, and other IT • Provider enrollment in Medicaid • Implementation of the Patient Protection and Affordable Care Act (PPACA) (P.L. 111-148) |
| Leverage Condition | These projects allow the Department to leverage work done by the Medicare Provider Enrollment, Chain, and Ownership System (PECOS); previous federal Unified Provider Enrollment Project (UPEP) project; Provider Directory initiative by CORHIO; and new state-level license management software implemented at the Colorado Division of Regulatory Affairs (DORA). |
| Business Results Condition | The Department would expect the HIE to have a highly automated data exchange to facilitate the improved health outcomes of its clients. The Department will document how to produce a 21st century customer and provider enrollment experience, as well as increased oversight for licensure and exclusions. |
| Reporting Condition | Reporting across all modules will be enhanced and adhere to CMS specifications. |

| Standard/ Condition | Compliance Discussion |
|-------------------------------|---|
| Interoperability Condition | Through the use of consistent transaction formats and data elements, these projects will enable the Department to easily interact with multiple provider management software applications. This reduces administrative burden and costs on providers, beneficiaries, and other stakeholders. The concept of the HIE predisposes it to an interoperable design. The use of interoperability will increase the usage of the HIE, while maximizing value and minimizing the administrative burden and costs on providers, beneficiaries, and other stakeholders. |