

# USE CASE SPECIFICATION

Version 2.0

eHealth Exchange

## Version History

Version #	Date	Author(s)	Reason for Change
1.0	12/19/2019	Use Case Team - HealthTech	New
2.0	02/26/2020	Use Case Team - HealthTech	Added two new fields as requested by client, changed colors background to approved color scheme

# eHealth Exchange/Carequality

## HIE Use Case Summary

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The healthcare system in the United States (US) has made great improvements in building health information technology (HIT) infrastructure across the country within the past decade. Electronic Health Record (EHR) HIT is one such instance by which hospitals and providers have become meaningful users laying a strong foundation upon which other advancements can thrive. These advancements also provide a plethora of health information that could be used to improve population health; however, a major constraint is the access to this useful information through lack of interoperability between the disparate HIT systems. Making these systems interoperable will ensure that every individual and their care providers can access the health information they need in an electronic format when and how they need it in a convenient and well-coordinated manner.

The eHealth Exchange is a public-private, health information network and is the largest of its kind in the country. The eHealth Exchange network spans all 50 states supporting more than 120 million patients. Approximately 75 percent of US hospitals and 61 health information exchanges (HIE) participate in eHealth Exchange making the evolution from point-to-point connections to a one-gateway solution that will dramatically increase connectivity for the entire country. This network connects federal agencies such as Centers for Medicare and Medicaid Services (CMS), Veterans Affairs (VA), Department of Defense (DOD), Health and Human Services (HHS), and the Social Security Administration (SSA) to transact with private sector providers in addition to non-federal organizations such as regional and state HIEs.

The eHealth Exchange promotes interoperability with the exchange of patient data on a national scale. The eHealth Exchange network has various levels of exchange participants. For example, the responder-only participant shares patient information via their single Hub connection, and the two-way participant shares and requests patient information via their Hub connection. Both are able to securely connect and share data in a standardized and seamless manner. Utilizing eHealth Exchange connection eliminates the need for point-to-point agreements and interfaces among trading partners, resulting in substantial cost savings.

Carequality is not a network; however, it is a network-to-network, an interface that specifies signaling and management functions between two networks, a trust framework, a strict approach to cybersecurity in which every individual or device that attempt to access a private network, whether they are located inside or outside of that network, must be identified and authorized. It was developed by a diverse group of representatives from across healthcare to connect existing and future data sharing networks to each other. Examples of disparate networks include vendor, payor, and lab networks, among others including the eHealth Exchange network. Providers cannot join Carequality directly as this is not a network, but when their existing network adopts and implements the Carequality interoperability framework, they will be able to share healthcare data with other providers who connect through networks of which they are a member<sup>1</sup>. Some electronic health record (EHR) vendors and networks who utilize the Carequality trust framework include but are not limited to: NextGen, AthenaNet, EPIC, and Commonwell.

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<sup>1</sup> <https://sequoiaproject.org/about-us/whats-difference-ehealth-exchange-carequality-sequoia-project/>

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The primary goals of the eHealth Exchange are to:

- Facilitate secure data transmission through a de-centralized, federated exchange between signees of the data use and reciprocal support agreement (DURSA)
- Reduce costs and administrative burden
- Improve clinical and business decisions

In 2019, eHealth Exchange began the migration from a federated architecture where participants were required to establish multiple connections, to a centralized architecture utilizing a Hub where participants need only one connection. This expands reach, lowers costs, and introduces new capabilities. Adding the Carequality framework to BSCC HIE will give private sector providers and entities access to active service members', veterans' medical records, and other federal medical services with up-to-date medical histories giving access to critical information that is not available in the provider's EHR system or BSCC HIE system such as test results, medication history, allergy information, and immunizations.

## User Story

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Patients visiting Montana may find themselves in need of urgent care due to an injury or acute illness.

**Clinic:** Mr. Smith is an active-duty military member stationed in Colorado and has his medical care provided by the base clinic/hospital. He is on vacation in Montana. Mr. Smith is having some stomach discomfort that has been worsening over the past 24 hours. He decides to visit an urgent treatment clinic in Helena. The provider at the clinic has never before seen Mr. Smith and does not have his medical history. The provider is a member of BSCC HIE and can utilize the Carequality trust framework via BSCC HIE to connect to eHealth Exchange and access Mr. Smith's healthcare information housed in Colorado DOD.

The provider will be able to make more informed care decisions with access to the rich clinical data, including prescribed medications, lab results, and image reports. In addition to immediate benefits at the point of care, with the connection to the eHealth Exchange, Mr. Smith's home provider in Colorado will receive medical information from the urgent care encounter enhancing care coordination between providers.

**Hospital:** Montana is a state often visited by tourists who enjoy winter sports. Ski enthusiasts, for example, are prone to injury which could prompt them to seek care at one of Montana's healthcare facilities. Bob, an avid skier who is not a native Montanan, typically receives care from an out-of-state provider whose practice participates in their state's regional HIE. Bob has a ski accident that requires an emergency department (ED) visit for a possible broken arm. Bob informs the clinician that he has had x-rays on the same arm in the past at his home provider. Through BSCC HIE connection to eHealth Exchange, the clinician can run a query and retrieve any imaging reports that are available through the network.

The ED clinician in Montana will be able to view and bi-directionally exchange, through query/response, health information with the patient's home HIE through a connection with the eHealth Exchange. The ED clinician can access previous imaging study reports retrieved from the eHealth Exchange to compare with the current imaging study report. Through this bi-directional query/response imaging report exchange, Bob's home provider will have access to the imaging reports for follow-up care when Bob returns home.

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**Payor:** A payor needs to access additional data from a medical encounter in support of a claim that was submitted for a patient from a facility that may not be contributing data to BSCC HIE. The Montana payor community will appreciate the ease of compiling clinical and claims data through a single access point, eHealth Exchange, for patients whose data may not reside in a facility connected to BSCC HIE but is connected via eHealth Exchange.

eHealth Exchange can reduce fragmentation, communication difficulties, and treatment gaps by facilitating bidirectional data exchange between providers and payors. This can save payors resources for security protocols needed when sourcing information about patients. Health plans, including Medicaid and managed care plans, will have access to more complete demographic data to facilitate collaboration among with patients, providers, and payors regarding care coordination in the patient's immediate community reducing costs associated with redundant care.

## Key Actors

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Those who will be using the application or system; may be human or technology. Key actors include but are not limited to:

- Medical and non-medical staff serving at hospitals, clinics, some long-term health facilities, public health departments, and patient centered medical homes, as well as case managers, care managers, pharmacies, Emergency Medical Services (EMS), home care, hospice, Department of Correction (DOC), payors/health plans, state/federal agencies, and public health registries.
- EHR and HIE systems, Carequality

## Stakeholders

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Those who have an interest in the success of the use case. Stakeholders include but are not limited to:

- Key actors listed above.
- BSCC, Montana Medical Association (MMA), Department of Public Health and Human Services (DPHHS), Montana Board of Nursing, Montana Hospital Association (MHA), CMS, VA, DOD, SSA, as well as compliance teams representing providers, and legal teams representing providers.

## Function/Purpose

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eHealth Exchange connects private sector providers and state and regional HIEs to federal agencies. For over 10 years, eHealth Exchange was unique in that it had a federated architecture, which means the network did not have a central hub through which all data passed. In 2019, eHealth Exchange began deploying a new platform in which a single connection from an organization such as BSCC to the eHealth Exchange Hub would provide<sup>2</sup>a/an:

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<sup>2</sup> eHealth Exchange Hub-Packet 7-15-2019

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- Less expensive way to exchange data within the nationwide eHealth Exchange network
- Inexpensive solution to exchange patient data with healthcare organizations who are not part of the eHealth Exchange network, but who exchange within other networks such as those that utilize Carequality-enabled networks
- Connection with the patient unified lookup system for emergencies (PULSE) platform to facilitate patient care during disasters
- Platform to facilitate future potential capabilities

In addition to providing the ability to connect members to each other, the eHealth Exchange network does provide some shared services, including a rigorous testing program to ensure connectivity and interoperability<sup>3</sup>.

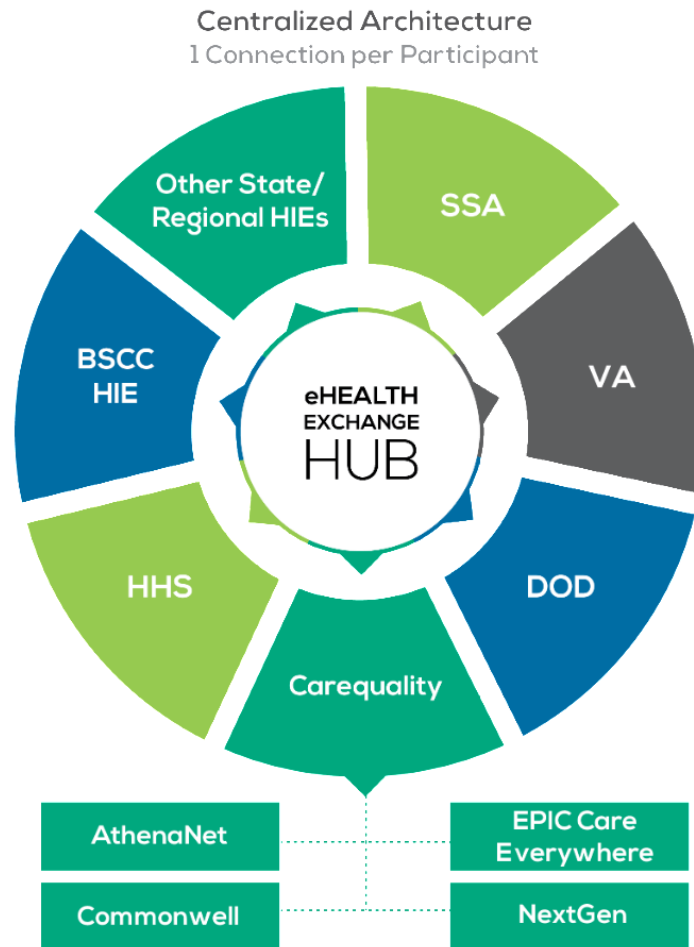
eHealth Exchange is a group of federal and non-federal organizations that came together with a common mission and purpose to improve patient care, streamline disability benefit claims, and improve public health reporting through secure, trusted, and interoperable HIE. The Exchange provides a legal framework and support services including testing, security validation, certification, and directory services to support federated gateways. Information is exchanged via a standardized flow by:

- Sending health information to other participating organizations
- Finding and requesting copies of health information from other participating organizations where permitted by law and policy
- Matching patients to their data without a national patient identifier
- Subscribing to receive updates to health information

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<sup>3</sup> <https://sequoiaproject.org/about-us/whats-difference-ehealth-exchange-carequality-sequoia-project/>

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## Value Proposition

While there are no identifiable hard dollar savings or revenues, there is significant value in implementing this eHealth Exchange/Carequality use case. Implementing this use case will culminate in better, more timely information resulting in more consistent care for patients. Additionally, significant cost savings and labor reduction are realized by the electronic exchange of health records for patients across disparate systems including federal systems.

Participating in the eHealth Exchange will decrease costs by minimizing legal fees and reducing the need to build custom interfaces to exchange data with trading partners. This is accomplished using common standards, legal agreements, and a governance framework for its participants to securely share data. Point-to-point connections will no longer be necessary.

The eHealth Exchange supports 120 million patients nationwide and allows providers and payors to exchange data with federal agencies to include DOD, VA, HHS, CMS, and SSA. Approximately 75 percent of US hospitals, 70,000 medical groups, 3,400 dialysis centers, 8,300 pharmacies, and 61 regional and state HIEs utilize eHealth Exchange making this the largest network in the

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country.

The utilization of eHealth Exchange services will contribute toward meeting Promoting Interoperability requirements and support quality reporting.

## Financial and Business Considerations

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### Financial Consideration

Since eHealth Exchange is a service offered by a single vendor, no special procurement process is required outside of completing the required application to qualify for the services and the signing of required standard legal agreements. Funding is available via the CMS 90/10 matching funding program and no fees will be required from end-users outside their normal BSCC HIE subscription fee. Per the value-proposition, there is significant savings through eliminating the need to track down patient records, supporting providers in meeting Promoting Interoperability requirements, and assisting with quality reporting. Additionally, the contribution this service will make to patient safety and increasing the quality of care Montana providers can deliver to their patients should not be minimized.

A provider, through BSCC HIE will be able to connect to eHealth Exchange. By utilizing this functionality rather than connecting directly to eHealth Exchange, the participant will save from \$5,000 to \$27,000 annually for the eHealth connection and \$2,500 to \$13,000 annually for the Carequality connection in addition to smoke testing fees of approximately \$11,000 and security testing fees of \$8,000 annually. Payor fees are substantially more. In addition, a provider who does not have the technical capability to connect today, can have access to eHealth Exchange through the BSCC HIE connection.

It is highly recommended that the connection with as many partners on the eHealth Exchange as possible be accomplished as early as possible within the 90/10 program funding opportunity. As there is a slight charge to add a partner in the system from the BSCC core HIE vendor, these should be completed while 90 percent of these charges can be paid for with federal funds available until September 2021. Providers across Montana have been assured they can access the VA, DOD state/regional HIEs, along with other large health systems across the country.

The initial eHealth Exchange application and testing fees are:

- eHealth Exchange      \$11,000
- Carequality            \$ 5,500
- Smoke Testing        \$11,000
- Security Testing        \$ 8,000

The Intersystems initial HIE build out costs include the cost of building the connection between the two systems and the cost to connect with 10 eHealth Exchange partners. Any remaining eHealth Exchange partners connected in excess of the 10 are at a cost of \$1,500 for the build and an ongoing monthly cost of \$19 per month. To connect 100 additional partners with the eHealth Exchange, the charges total \$150,000. Of this, the cost to BSCC at the 10 percent match rate is \$15,000 excluding the monthly ongoing costs.



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### Initial Build

- **Exchange Partners:** 10 included in the initial build cost
- **Additional Partners:**

Exchange Partners			
Initial Build	1	\$1,500	\$1,500
Monthly Maintenance Fee	12	\$19	\$228
<b>Total</b>			<b>\$1,728</b>

### Business Consideration

- **Business activities that must occur at BSCC**
  - Fill out and submit the eHealth Exchange application form
  - Sign the DURSA data sharing agreement
  - Participate in the compatibility testing phase to ensure data integrity throughout the system
- **Staffing requirements:** No additional staffing is anticipated for this endeavor. This can all be accomplished with current BSCC resources and without any staff repurposing.

## Upstream/Downstream Dependencies

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Upstream dependencies are those dependencies where something must happen before the use case development can start.

Downstream dependencies are those dependencies where the use case must deliver something before something else can start.

### Stakeholder

- **Upstream** - Stakeholders will be identified. Once stakeholders are identified, information will be gathered including the end-users who seek access.
- **Downstream** - Infrastructure/access will need to be established that will support end-users, participants, entities, and others to include establishing access and providing help in the future.

### End-User Level

- **Upstream** - Create access including credentials and roles for end-users.
- **Downstream** - Establish a user's role and grant authorization to those healthcare organizations and systems for which they are affiliated.

### Healthcare Organizations/Payers

- **Upstream** - Identify participant's access requirements (access to eHealth Exchange and adaptation of Carequality's framework).
- **Downstream** - Ensure the entities are accessible to all end-users who are approved to access the organization or system.

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### Technical

- **Upstream** - Identify standards, supporting infrastructure, and technology options to support eHealth Exchange and Carequality across multiple organizations, end-users, platforms, and healthcare organization participants.
- **Downstream** - Ensure entities are informed of requirements to connect and participate in eHealth Exchange and understand their network must adopt and implement Carequality interoperability framework requirements.

### Regulation

- **Upstream** - The review and analysis of federal and state laws that may impact eHealth Exchange/Carequality has been accomplished and described in the Legal/Policy Consideration section to include DURSA.
- **Downstream** - Establish procedures to ensure end-users are only accessing systems and applications they are approved to access. Establish security measures to lock down an end-user when possible violations are detected.

## Technology System Components and Services Utilization

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- eHealth Exchange has the ability to exchange health information electronically between healthcare organizations at both regional and national levels.
- Entities that would like to participate in the eHealth Exchange network would have to undergo participant testing. Participant testing would involve coordinating with the eHealth Exchange testing staff to complete both security tests and smoke tests, a type of software testing that comprises of a non-exhaustive set of tests that aim at ensuring that the most important functions work with the result used to decide if a build is stable enough to proceed with further testing. Intersystems Corporation is an eHealth Exchange validated product and, as such reduces the amount of testing required to utilize the system.
- eHealth Exchange uses integrating the healthcare enterprise (IHE) profiles/information technology infrastructure (ITI) transactions to accomplish this document exchange between various entities that participate in the network.

## Configuration/Interfaces Required

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Below are the configuration and interfaces required; however, this configuration and interface development has been included in the initial statement of work (SOW) with Intersystem's Corporation.

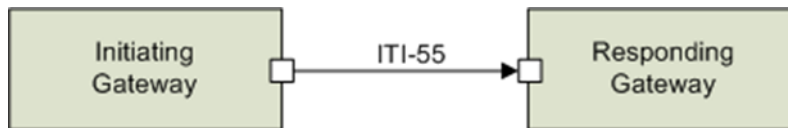
**Initiating Gateway** - the endpoint in initiating queries

**Responding Gateway** - the endpoint responding to the requests made by the Initiating Gateway  
The HIE technology vendor should implement the below IHE profiles/ITI transactions for exchanging documents.

- ITI-55 Cross Gateway Patient Discovery
- ITI-38 Cross Gateway Query
- ITI-39 Cross Gateway Retrieve

### ITI-55 Cross Gateway Patient Discovery

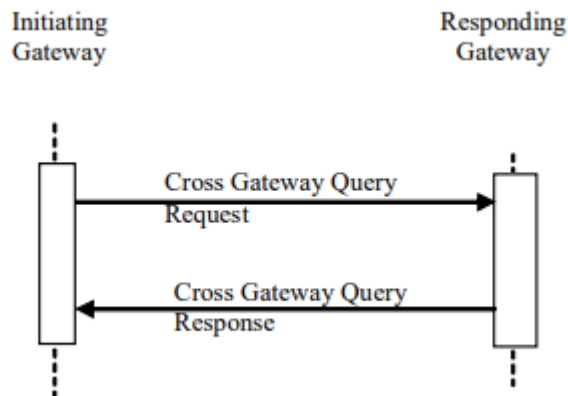
The Cross-Gateway Patient Discovery transaction is initiated by the Initiating Gateway to retrieve the patient details. This transaction returns the patients details back in the response. The transaction defines the following actors:



### ITI-38 Cross Gateway Query

This message is initiated when the Initiating Gateway has determined that it must interact with the Responding Gateway to satisfy a Registry Stored Query request received. When initiating this message to satisfy a Registry Stored Query request, the Initiating Gateway shall pass all parameters, either known or unknown, into the Cross Gateway Query. This query retrieves the document list.

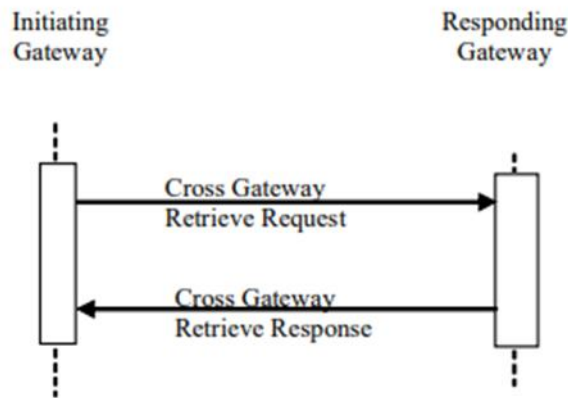
The transaction flow is as follows:



### ITI-39 Cross Gateway Retrieve

This message is initiated by the Initiating Gateway to retrieve a set of documents from another community represented by a Responding Gateway. The Initiating Gateway may be responding to a Retrieve Document Set transaction or may use a proprietary mechanism for triggering the Cross Gateway Retrieve. This query retrieves the actual document.

The transaction flow is as follows:



## External Dependencies

(Involves things that are beyond the control of the use case development team but should be reflected in the use case team’s schedule and the BSCC HIE integrated project schedule).

### Technology:

- The EHR vendor’s ability to adhere to IHE standards
- EHR vendor/Hospital IT team resource availability
- The EHR vendor’s ability to consume and display the CCD-As sent by the HIE

### Other:

- The ability of the eHealth Exchange partners to share data through the hub with BSCC HIE and meet the testing requirements of both parties
- eHealth Exchange partner access conflicts. For example, some Exchange partners may only allow providers to query their system, while others allow anyone that is a participant in an HIE to query them.
- eHealth Exchange partner usage conflicts. For example, some Exchange partners only allow access for treatment while others allow access for treatment, payment, and operations.

## Legal/Policy Considerations

### Executive order No. 14-2019

- The state of Montana’s **Executive order No.14-2019** established BSCC as Montana’s state designated HIE entity. This order authorizes innovations that drive an evolution of primary care such as enabling connection to the eHealth Exchange through BSCC HIE to support integrated care delivery.

### 21<sup>st</sup> Century Cures Act (Section 4001, 4003& 4004)

- Section 4001(a) (Reduction in burden) - establishes a goal with respect to the reduction of regulatory and administrative burdens relating to the use of EHRs. Supports eHealth

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Exchange by focusing on the reduction of administrative and clinical burden by supporting technology that enables exchange of, and complete access to electronic health information without special effort on the part of the user.

- Section 4003 (Interoperability) with respect to health information technology means such technology that will (1) enable the secure exchange of electronic health information with, and use of electronic health information from, other health IT without special effort on the part of the user; (2) allow for complete access, exchange, and use of all electronically accessible health information for authorized use under applicable state or federal law; and (3) does not constitute information blocking.

One of such regulations is the Trusted Exchange Framework and Common Agreement (TEFCA) which sustains the authority of eHealth exchange to provide a standard legal agreement (one set of legal/trust documents) that enables participants to exchange data with all other participants. The TEFCA agreement establishes the following:

- Common method of authentication
  - Set of rules for trusted exchange, organizational and operational policies that enables the exchange of health information
  - Process for filing and adjudicating non-compliance
  - Directory maintained of participating health information networks who have adopted the common agreement
- Section 4004 (Information blocking) may include practices that restrict authorized access, exchange, or use including transitions between certified health information technologies; implement health IT in ways that would restrict the access, exchange or use of electronic health information to include transitioning between health IT systems. This section of the Act provides for the trusted eHealth Exchange appropriate, uninhibited and fair flow of electronic health information that empowers providers and authorized third parties to support the exchange of health information for consumer access, care delivery, population health and other legitimate purposes.

### HITECH Act

- The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 provides HHS with the authority to establish programs to improve health care quality, safety, and efficiency through the promotion of health IT, including EHRs and private and secure electronic HIE. The HITECH act supports the establishment of BSCC HIE and its various functionalities such as eHealth Exchange/Carequality to support the exchange of health information amongst those connected to BSCC HIE and those HIEs (both regional and national) and federal organizations that are outside BSCC HIE.

### HIPAA (Pub.L.104-191, 110 Stat. 1936, enacted August 21, 1996, Title II)

- The HIPAA Privacy Rule describes what information is protected and how protected information can be used and disclosed. The HIPAA Security Rule describes who is covered by the HIPAA privacy protections and what safeguards must be in place to ensure appropriate protection of electronic protected health information. The eHealth Exchange provides a legal framework and support services including testing, security validation, certificate, and directory services to support federated gateways supporting the protection of patient health information.

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### Data Use and Reciprocal Support Agreement (DURSA)

- DURSA is not a law or regulation rather a comprehensive legal multi-party trust agreement that created the legal framework using existing laws for the electronic exchange of health data to promote and establish trust among participants in the eHealth Exchange. It codifies a common set of trust expectations into an enforceable legal framework and eliminates the need for point-to-point agreements.

Although the agreement is entered into voluntarily by all entities, organizations and federal agencies that desire to engage in electronic health information exchange through the eHealth Exchange, in order to demonstrate trust, BSCC will be required to implement this document.

### VA Missions Act

- Establishes the Veterans Community Care Program to furnish hospital care, medical services, and extended care services through certain non-VA providers to veterans who are enrolled in the VA health care system or otherwise entitled to VA care
- Authorizes the VA to enter agreements with non-VA providers to furnish veterans with care that is otherwise not feasibly available
- Strengthens the data sharing agreement with VA HIE and other eHealth Exchange participants

For BSCC, the above policies ensure the sustainability of eHealth Exchange and encourage innovations and infrastructures that support interoperability, prohibit information blocking, require payor participation in HIE, and promote both consumer access to health data and consumer directed HIE establishing trust amongst participants of the eHealth Exchange.

## Assumptions

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- Potential cost savings to stakeholders/key actors who are contemplating joining the eHealth Exchange allowing providers to have a process/method to access the eHealth Exchange who may not have the financial or technological means to join without BSCC HIE access
- All projections are for planning and estimate purposes only
- All projections/estimates do not consider undefined business scoping elements that may be found throughout the project life cycle due to stakeholder, business, and vendor requirements, negotiations with vendors, dependencies, durations, and any lag times which may result from the actual planning and implementation process
- Vendor costs are based on knowledge as of February 2020 and may increase or decrease depending upon final contract negotiated with vendors
- Vendor costs have not anticipated increased costs that may occur in the future
- Vendor costs do not include the outreach costs which are included in the outreach/onboarding contract
- Use case work and management is continual throughout the project. These activities will transfer to BSCC permanent staff as they are hired and trained. These are part of operational HIE process
- HealthTech Solutions is on a time and materials contract which states a cost to not exceed contract

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- All constraints, inclusions, and exclusions are based on our current knowledge as of March 2020 and may change
- Policies, legal and regulatory as well as technical standards for interoperability changes may take place on both the state and federal level
- The ten initial Interfaces ongoing monthly fees are part of the initial SOW
- Vendor costs identified in each use case do not include monthly fees which could increase overall costs once known
- There may be additional cost to connect to additional HIEs that are in excess of those contemplated in the SOW

## Key Performance Indicator/Metrics of Use Case

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The following are some examples of metrics that can be measured and related data quality surveillance and participating with BSCC HIE and eHealth Exchange:

- Number of organizations that have signed DURSA agreement and are trusted entities participating with BSCC HIE
- Number of organizations that have completed trusted security testing and interoperability testing to exchange data
- Percent change in trusted entities participating (growth/loss)
- Percent of users that access eHealth Exchange to obtain patient health information

## Alternative Paths

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An alternate option would be to connect to the eHealth Exchange but not adopt the Carequality trust framework. The advantage to this alternate path is cost savings but would limit access to additional patient health information which may not be readily available.

A second alternative option would be to choose not to connect to the eHealth Exchange. The only advantage here is cost savings as this option would prevent any sharing of information outside of Montana. This would also prevent obtaining and sharing patient information from federal entities unless they are a participant with BSCC HIE.

This project is funded in whole or in part under a Contract with the Montana Department of Public Health and Human Services. The statements herein do not necessarily reflect the opinion of the Department.