# USE CASE SPECIFICATION

Version 2.0

Alerting

# Version History

| Version # | Date | Author(s) | Reason for Change |
|---|---|---|---|
| **1.0** | 12/19/2019 | Use Case Team - HealthTech | New |
| **2.0** | 02/07/2020 | Use Case Team - HealthTech | Added two new fields as requested by client, changed colors background to approved color scheme |
| **3.0** | 3/23/2020 | Use Case Team – HealthTech | Addendum added to final page of document with client's questions addressed. |
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# Alerting (Admission, Discharge, and Transfer) Notifications

## HIE Use Case Summary

A key factor to the success of care transitions and coordination efforts is providing effective communication of the patient's status at each point across the care continuum. Alerting notifications such as admission, discharge, and/or transfer (ADT) are a core offering of Big Sky Care Connect (BSCC) health information exchange (HIE) facilitating improvement in patient care coordination. Alerts are triggered by an ADT event in a hospital or emergency department (ED) information system that sends a message to the HIE system. The BSCC system would process the message and transform it into an alert sent to the primary care practice or community-based care manager. This communication notifies the physician, care manager, or care management team of the patient's event status enabling the provider or care manager to initiate an intervention to improve the post-discharge transition enhancing communication with the patient's care providers and supporting care management of patients. This can be consequential to patients with chronic medical conditions.

Hospitals, payors, primary care practices, and other health care providers such as mental health/behavioral health practices are often searching for strategies to improve care transitions and coordination to reduce readmissions and avoidable redundant laboratory tests and emergency room utilizations. BSCC provides Montana's healthcare community with a robust foundation for improved care coordination. ADT alert notifications offer a patient's provider and care team, with whom there is an active provider/patient care relationship, near real-time insight regarding the patient's status. Alerting involves sending automatic notifications or alerts from hospitals and/or EDs to primary care practices and/or care managers when a patient has an admission, discharge, or transfer to another point of care.

The ADT alert notification contains new or adjusted information obtained and recorded during the encounter. This includes medications prescribed upon discharge, abnormal labs, and updated demographic information. By supporting better communication across the care continuum, this information empowers providers and payors with tools to enhance care management, reduce readmissions, improve post-discharge instructions, and provide timely follow-up appointments.

Alerting services provide clinicians with timely information regarding their patient's medical encounters, enabling them to provide enhanced care coordination, post-discharge follow-up care, and identify frequent users of the healthcare system. The providers are then able to steer those patients toward both clinical and non-clinical interventions reducing unnecessary overutilization by preventing avoidable ED visits and minimize hospital readmission rates.

There are several defined events. Some of the most commonly used event types include:

- ADT-A01 – patient admit
- ADT-A02 – patient transfer
- ADT-A03 – patient discharge
- ADT-A04 – patient registration
- ADT-A05 – patient pre-admission

- ADT-A08 – patient information update
- ADT-A11 – cancel patient admit
- ADT-A12 – cancel patient transfer
- ADT-A13 – cancel patient discharge

# User Story

**Clinic:** Sue has a follow-up appointment with her pulmonologist after having been recently diagnosed with Chronic Obstructive Pulmonary Disease (COPD). Her last appointment was five weeks ago when she was put on a maintenance medication. However, two weeks ago, she was seen in a local ED for acute chest discomfort and shortness of breath. Her pulmonologist was aware of this information due to the near real-time ADT alerts received through the HIE services provided by BSCC. This insight into a significant medical event occurring outside of the pulmonology clinic provided a better means to manage the patient's COPD and related ailments in a non-acute setting through collaborative care. The notification of the ED encounter enabled the pulmonologist to contact the patient the day of discharge from the ED to schedule a follow-up appointment with her within two days. At the follow-up appointment, the pulmonologist was able to assess her post-discharge condition, adjust the maintenance medication, and continue education for the recent COPD diagnosis.

**Hospital:** Bob is admitted to the hospital to have a minor surgery that will require a 24-48-hour hospital stay. His family physician had referred him to a reputable general surgeon. The surgery went well, but before Bob was discharged, he unfortunately contracted a nosocomial infection, an infection that is acquired in a hospital or other healthcare facility, which extended his length of stay by two days. In addition to Bob's surgery-related discharge instructions, he will also need to remain on an antibiotic regimen and receive additional follow-up care with his family physician. Throughout this patient's hospital encounter, the surgeon has updated the patient's chart in the hospital's electronic health record (EHR). As this occurs, valuable information is generated which will improve post-discharge transitions and prompt follow-up care as automated alerts are transmitted to the patient's care team, including his family physician.

The alerting functionality provided by BSCC kept all relevant providers aware of Bob's condition as he moved across the care continuum. As Bob seeks care with other members of his care team, they will also be equipped with the knowledge of his previous encounters which will enable them to make more informed clinical decisions, provide precise medical care, and reduce the likelihood he is readmitted to the hospital due to complications from his prior surgical encounter.

**Payor:** BSCC's alerting functionality will enable health plans to better collaborate with providers in guiding patients along the most appropriate pathway to receive care as they navigate the complexities of the healthcare system. Specifically, payors can analyze ADT alert reports to identify members who could have addressed their healthcare concerns in a primary care setting as opposed to the ED. This information could also be used to flag members who would benefit from care management should they continue to improperly utilize healthcare resources.

Alerting services will equip payors with timely information regarding their members' medical encounters, enabling them to enhance care coordination and management through improved post-discharge follow-up rates. Doing so will help decrease costly ED usage and potentially avoidable hospital readmissions. ADT alerts will also provide insight to identify high-risk and chronically ill members. All of which will help reduce healthcare costs for payors, providers, and patients.

**Care Coordination**[1]**:** Billy, the four-year-old son of Joan and William, has been suffering from a number of health complications resulting from rubella he contracted before birth: cataracts, hearing loss, and a congenital heart defect. Billy and his parents' lives revolve around doctor visits with Joan often taking Billy to specialists around their home state and sometimes nationwide. Billy sees 13 different specialists and physicians each of whom needs to stay up to date with Billy's condition to help coordinate his care.

Joan is relentlessly vigilant in managing Billy's healthcare because she knows his condition puts him at a higher risk for infection, meningitis, and heart failure. Joan tries to keep all of Billy's physicians and care team members on the same page with changes in Billy's status, but this is an exhausting process. Joan hates feeling like she spends more time updating Billy's specialists over the phone than she does with her sick child.

One night, Joan wakes up to a terrifying sound: Billy crying out in pain. He has a high-grade fever, confusion, and muscular pain; Joan frantically rushes him to the nearest ED. Immediately after Billy is admitted, hospital staff update Billy's electronic chart to reflect his admission, an action that generates an ADT notification. Copies of the ADT notification are then automatically sent to each member of Billy's care team because they have signed up to receive electronic updates on Billy's status. Receiving real-time information on changes in Billy's condition helps all the providers on Billy's care team make coordinated and informed decisions on Billy's care plan. What's more, when Billy is discharged, another notification will be sent to his care team members alerting them to his change in status including any medication changes so they can begin working to ensure Billy's care transition is smooth and well-managed.

# Key Actors

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

- Healthcare providers serving at hospitals, clinics, long-term health facilities, post-acute care providers, public health departments, patient centered medical homes, pharmacies, emergency medical services (EMS), home care, hospice, as well as payors/health plans including Medicaid and Medicare.

- Platforms that support alerting notifications

# Stakeholders

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), as well as compliance teams and legal teams representing providers.

[1] https://mihin.org/admission-discharge-transfer-notifications-use-case

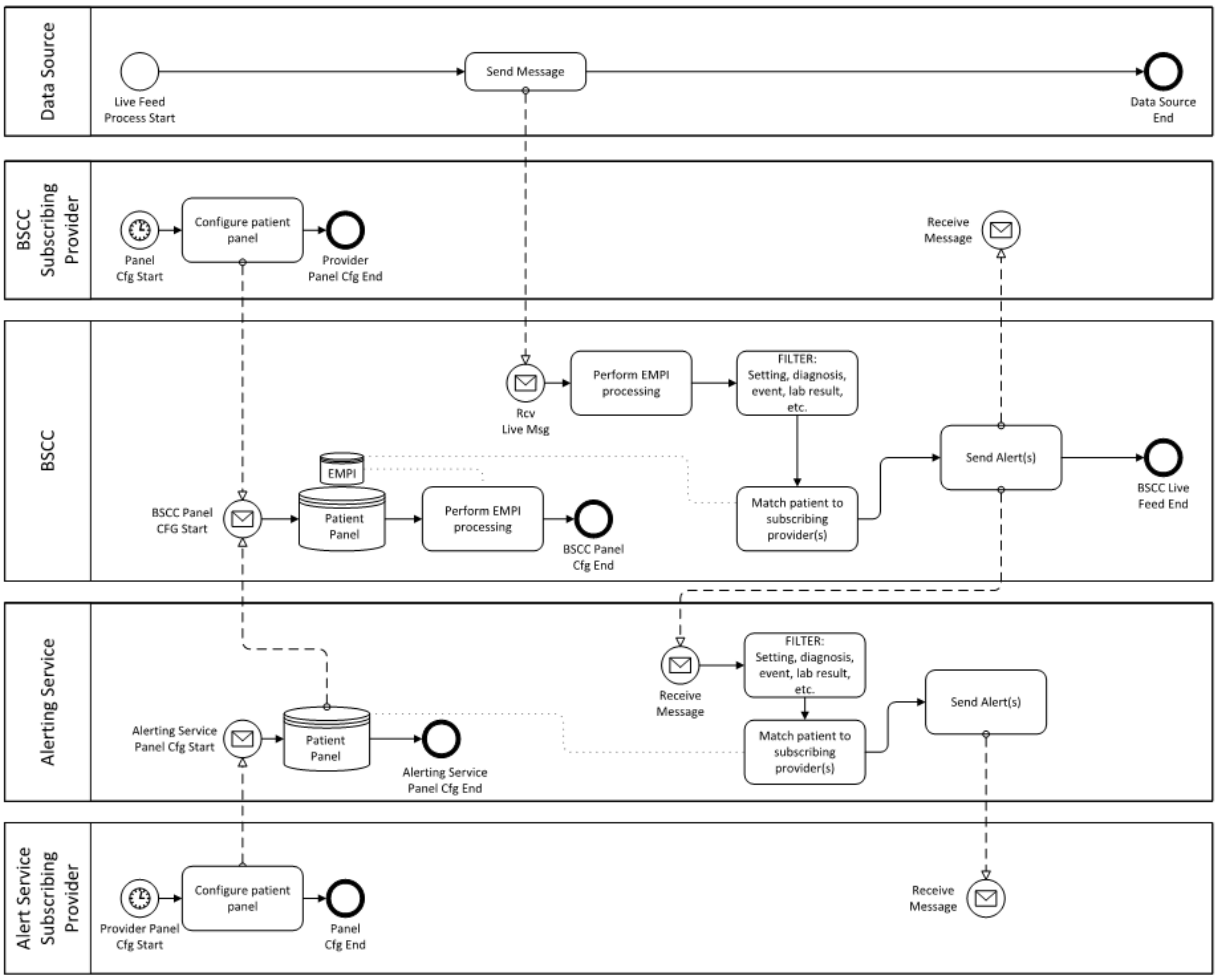
- Patients

# Function/Purpose

BSCC HIE alerting services will provide every member of a patient's care team with real-time, actionable notifications on the patients' status as they transition from the ED, to being a hospital inpatient, or to being discharged.

Alerting services provide analytical capabilities for proactive care management by sending triggered alert notifications to assist in reduction of ED visits or in-patient events.

Alerting serves as the foundation to assist in the identification of individuals who are disproportionately high users of hospital services. This allows for a better understanding of the shared cost of these high utilizers, and direct supportive clinical and non-clinical services to prevent unnecessary utilization.



# Value Proposition

The Agency for Healthcare Research and Quality (AHRQ) has reported that 50 percent of a hospital's health budget is spent on the top 5 percent of its most seriously ill patients[2]. In addition, the State of Maryland's Chesapeake Regional Information System for our Patients (CRISP) has reported the use of an alerting system yielded a 6.5 percent reduction of hospital readmissions[3].

Alerting is a means of delivering real-time ADT information about a patient's medical services encounter. There are several areas where alerting can create value and are as follows:

- **Care Coordination**. Alerting supports communication among primary care physicians and care managers who may not know when a patient is admitted to or discharged from a hospital or transferred to or discharged from a post-acute care facility, or who may not find out until well after the hospital event. Since ADT feeds are already generated by most hospitals and are compatible with HIE infrastructures, the use of alerting is a low-cost means to drive accurate notifications.

- **Regulatory Compliance and Reducing Readmissions**. Alerting reduces readmissions by helping hospitals comply with the Centers for Medicare and Medicaid Services (CMS) Conditions of Participation (CoP) Regulation A-0133: "The patient has the right to have a family member or representative of his or her choice and his or her own physician notified promptly of his or her admission to the hospital."

- **Transitional Care Management and Provider Follow-Up**. CMS recently approved two new transitional care management (TCM) codes to reflect non face-to-face care management work involved in primary care. They are Current Procedural Terminology (CPT) codes 99495 and 99496:
    - Both codes require communication (in-person contact, telephone or electronic) with the patient and/or caregiver within two business days of discharge.
    - Both codes require medical decision making of moderate complexity and high complexity respectively during the service period.
    - Both codes require a face-to-face visit within 14 calendar days and seven calendar days respectively of discharge.
    - By assuming the transitional care of their patients, primary care providers can use these codes to bill at higher-than-usual rates while also providing better care for their patients and reducing readmissions.

# Financial and Business Considerations

### Financial considerations

- No additional procurements are needed if BSCC HIE decides to stay with the alerting capabilities of the core InterSystems platform. Should the organization decide that extra functionality is needed by specific use cases, additional procurements would need to be

[2] Agency for Healthcare Research and Quality http://www.ahrq.gov/research/findings/factsheets/costs/expriach/expriach1.html

[3] Statistics taken from a study of Maryland hospitals by CRISP, Maryland's statewide HIE. The CRISP deployment of its Electronic Notification System (ENS) currently serves 562 providers and four payor organizations covering 550,000 patients and sends 1,000+ notifications every day.

executed. Funding sources are included in the current 90/10 grant from CMS. No fees should be incurred by the end-users. Per the stated value proposition, value will be obtained through care coordination, regulatory compliance, reduction in hospital and/or ED readmissions, transitional care management and post-discharge provider follow-up. These are particularly attractive as the alerting functionality is included in the base HIE core platform at no additional charge.

## Business Considerations

- No additional staff hiring, or repurposing will need to occur to implement this use case beyond that of which the consultants, HealthTech Solutions, are already offering. Workflow re-design may be helpful for some participants. However, these can be addressed by the outreach and on-boarding team as part of the standard workflow design consulting services included.

## Additional Considerations

### CMS Interoperability Final Rule Conditions of Participation Update: March 9, 2020[4]

- The CMS Final Interoperability Rule establishes a new CMS CoP requiring hospitals to send electronic notifications to another healthcare facility, community provider, or practitioner when a patient is admitted, discharged, or transferred. These ADT event notifications can facilitate better care coordination and improve patient outcomes by allowing a receiving provider, facility, or practitioner to reach out to the patient and deliver appropriate follow-up care in a timely manner.

- CMS is expanding their requirements for interoperability within the hospitals and critical access hospitals (CAH) CoP by focusing on electronic patient event notifications [Section X of the final rule for hospitals at 42 CFR 482.24(d), for psychiatric hospitals at 42 CFR 482.61(f), and for CAHs at 42 CFR 485.638(d)].

- Revisions will require electronic patient event notifications to be available to applicable post-acute care services providers and suppliers and to community practitioners, such as the patient's established primary care practitioner, established primary care practice group or entity, or other practitioner or practice group or entity identified by the patient as primarily responsible for his or her care.

### Who is affected?

- Hospitals, psychiatric hospitals, and CAHs that utilize electronic medical records systems, or other electronic administrative systems, which are conformant with the content exchange standard at 45 CFR 170.205(d)(2), recognizing that not all Medicare and Medicaid participating hospitals have been eligible for past programs promoting adoption of EHR systems. If the hospital or CAH's, system conforms to the content exchange standard at 45 CFR 170.205(d)(2), the hospital, or CAH must then demonstrate that its system's notification capacity is fully operational and that it operates in accordance with all state and federal statutes and regulations regarding the exchange of patient health information, and that it's system, to the extent permissible under applicable federal and state law and regulations, and not inconsistent with the patient's expressed privacy preferences, sends the notifications either directly, or through an intermediary that

[4] https://www.cms.gov/files/document/cms-9115-f.pdf

facilitates exchange of health information.

**What are the requirements?**

- Upon the patient's registration in the ED or admission to inpatient services, and also either immediately prior to or at the time of, the patient's discharge or transfer (from the ED or inpatient services), the hospital, or CAH, must demonstrate that it has made a reasonable effort to ensure that its system sends the notifications to all applicable post-acute care services providers and suppliers, as well as to any of the following practitioners and entities, which need to receive notification of the patient's status for treatment, care coordination, or quality improvement purposes:
    - the patient's established primary care practitioner
    - the patient's established primary care practice group or entity
    - other practitioner, or other practice group or entity, identified by the patient as the practitioner, or practice group or entity, primarily responsible for his or her care

**What information needs to be included in the notification?**

- A hospital, or CAH, must demonstrate that the notifications include at least patient name, treating practitioner name, and sending institution name.

**When will this be effective?**

- This provision is effective six months after publication. The final rule was released on March 9, 2020, and publication usually takes place in the Federal Register within 10-14 business days.

# Upstream/Downstream Dependencies

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 to receive ADT alerts.
- **Downstream** – Infrastructure will need to be established that will support ADT notifications to end-users, participants, and contributing entities and include establishing access, workflow, 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/Payors**

- **Upstream** – Identify either entity or participant's role – identify providers, practices, and hospitals who will be registering patients and accessing/receiving ADT notification information via BSCC HIE and identify workflow standards.

- **Downstream** – Ensure the aggregated information is accessible to all end-users that are approved to access the system and attributed patients and communicate workflow standards to all participants.

**Technical**

- **Upstream** – Identify solution options and determine standards, supporting infrastructure, and technology options to support ADT alert notifications across multiple organizations, end-users, platforms, and healthcare organization participants. Create networks within the ADT alerts, develop connections to those networks, create organization access, identify technical standards between providers, hospitals, practices and other end-users to accurately receive BSCC HIE messages.
- **Downstream** – Ensure entities are informed of requirements to participate in ADT alert notifications, including applications, platforms, networks, and organizations, ensure practices and providers are informed of the ADT alert information standards and are prepared for the workflows.

**Business**

- **Upstream** - Identify and develop metrics in advance to establish goals and thresholds to show improvement in patient care. For example, are providers able to access up-to-date information concerning their patients, including admissions, discharges, or transfers that occur in near real-time?
- **Downstream** - Identify where to gather the metrics/key performance indicators and establish methods to use those indicators to show progress.

**Regulation**

- **Upstream** – The review and analysis of federal and state laws that may impact ADT alert notifications has been accomplished and described in the Legal/Policy Consideration section.
- **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

- An alert is generated by a trigger event. The normal workflow includes the HIE receiving the health level seven (HL7) messages; these messages are now evaluated based on pre-defined criteria/conditions. If the incoming HL7 messages meet the criteria, then an alert notification message is generated.

- The HIE should have the technology to receive HL7 messages [ADTs, observation results (ORU) etc.] via virtual private network (VPN), webservices, or file transfer protocol (FTP) and be able to parse these messages. This data is evaluated against multiple triggers/filters. An example of such trigger/filter is an ED discharge trigger which is used to generate and ED discharge alert.

- An incoming message is first evaluated to see if it is an ADT A03 (patient discharge)

message; this information is present in message segment header (MHS) 9. This segment defines the intent, source, destination, and some specifics of the syntax of a message in the ADT message. If this criterion matches, then patient visit (PV1) and/or patient visit with additional information (PV-2) is evaluated to see if the Patient Class within the HL7 is 'E' for Emergency. This is now evaluated against a patient panel to see if this patient's name, which is present in the patient identification segment (PID 5), patient name, is present in the pre-defined list which was matched against the BSCC HIE enterprise master patient index (eMPI). If there is a match found, then the ADT is sent to the list of providers present in the patient panel for this patient.

    - As an example, University Hospital identified as hospital 'U' and has completed their patient panel and has marked they want to be alerted on any ED discharge for patient 'X'.

        - In the above example if patient 'X' has visited the ED and has been discharged, the information would be sent to BSCC HIE and would have triggered an alert on patient 'X' to hospital 'U' as patient 'X' is attributed to hospital 'U's' patient panel.

- This is completed by the incoming message being parsed and then evaluated on predefined criteria. Multiple alerts can be built each of which would be evaluated against a different set of triggers resulting in the data being routed appropriately.

### Alerting Subscription Configuration

- Providers must be able to control their message traffic to a level that is useful to them. Too much information is distracting and potentially places the provider in legal jeopardy if they receive information they cannot act upon due to time or resource constraints. This means providers must have a mechanism to configure their subscriptions to alerts.

- The first component is to define the patients to the services for which the provider wishes to receive alerts. This entails registering the patients with the service and having them matched with the service's MPI. This is required for two reasons, first the patient would need to be registered in the MPI if they are not already present. Second, the demographics supplied by the provider would need to be resolved to the MPI to get the eMPI identifier.

- The next component is to define the event to be alerted. This would require enumerating a list of events and their data definitions. For example, ADT A03 is a discharge message whereas ADT A01 is an admission message. A message from a hospital would be significantly different in terms of interest from one emanating from an ambulatory provider. Providers are likely most interested in receiving notifications for discharges from hospitals, ED visits, and urgent treatment centers. Taken together, the providers will need to be able to indicate the setting or facility type(s) of interest.

- Another configuration component is defining conditions. Chronic conditions are of particular interest as they require long-term monitoring. However, acute conditions are also important in some cases. Conditions are expressed as diagnoses represented by diagnosis codes such as ICD-10.

# Configuration/Interfaces Required

- Inbound HL7 interfaces to receive data (ADTs)
- Outbound interfaces to route alerts (via HL7 or flat files)
- System development to parse the HL7 data and build required trigger events
- Interoperability with third-party alerting services as needed

# External Dependencies

Describes the relationship between the use case development activities and non-use case development activities.

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 BSCC HIE integrated project schedule.

Technology:

- EHR vendors ability to consume an ADT feed
- EHR vendors ability to ingest a custom batch feed for alerts
- EHR vendor/hospital IT team resource availability
- EHR vendor's ability to consume and display the alerts sent by BSCC HIE
- EHR vendor's technology capabilities to connect (VPN/HTTPS, etc.) and receive data from BSCC HIE

# 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 alerting through BSCC HIE to support optimal transitions of care and care coordination.

**MONT. CODE ANN. § 50-16-525 - Disclosure by healthcare provider under the health and safety law.**

- The State of Montana's MONT. CODE ANN. § 50-16-525 - Disclosure by healthcare provider under the health and safety law outlines that a healthcare provider may not disclose health care information without a patient's written authorization. This law will affect BSCC HIE's ability to send out patient's information via the alerting system because a disclosure made under a patient's written authorization must conform to the authorization. Therefore, BSCC will have to develop legal and technical mechanism to authentic patient's authorization.

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

- The Health Insurance Portability and Accountability Act (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. With the assumption that BSCC HIE will house protected health information(PHI), HIPAA will determine how BSCC, as a covered entity, will implement safeguards to ensure the confidentiality, integrity, and availability of PHI while if it decides to be a business associate, HIPAA will guide the contents of the contractual agreements to be obtained with the covered entities that BSCC HIE will receive and share alerts with.

**Patient Protection and Affordable Care Act (42 U.S.C § 18001 (2010)**

- The Affordable Care Act (ACA) of 2010 establishes comprehensive health care reforms that aim to increase access to health care, improve quality and lower health care costs, and provide new consumer protections. The ACA supports technological innovations that promote integration of health IT systems that promote patient care and improved health outcomes. The alerting services is strongly aligned with the ACA because it is crucial to care transitions, care management, and coordination. The ACA capitalizes on transitions and coordination as one of the many ways to reform health care.

# Assumptions

- Providers will comply with state and federal policy drivers as they utilize the alerting mechanism.
- Providers and case managers/care coordinators will utilize alerts for their high healthcare consumers.
- Emergency departments will utilize alerts.
- 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 March 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's 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.
- 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.
- Interface ongoing monthly fees are being negotiated as part of the initial SOW.
- Vendor costs identified in each use case do not include monthly fees which could increase overall costs once known.

# Key Performance Indicator/Metrics of Use Case

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

- Percentage of hospital admissions, discharges, and transfers of care sent and received through the ADT notification service tracked to evaluate performance
- Percentage of ED admissions, discharges, and transfers of care sent and received through the ADT notification service tracked to evaluate performance
- Percentage of 30-day readmissions to hospital and ED

Set up annual goals and measure if these have been met. See the following examples:

- 70 percent of all hospital/ED admissions in the State are being sent through BSCC HIE by the end of year XX.
- 50 percent of participating organizations receiving ADT messages through BSCC HIE by the end of year XX.

# Alternative Paths

InterSystems offers a basic alerting package in their core product offered to BSCC HIE. Below are some identified alternative paths.

The first option is to stay with the basic alerting offering and do not add additional alerting functionality. Since InterSystems' basic alerting package includes hospital admissions, discharges, and transfers for patients along with ED visits, this would cover the current gap in care that has been identified with primary care providers being unaware of ED and hospital admissions.

A second alternative path, InterSystems can perform additional alerts beyond the core package offering as they already have the infrastructure set-up and can add additional conditions and/or triggers for new alerts that are required which would be indicated in another scope of work. Below is the list of additional alerts supported by InterSystems.

Some examples of additional alerting notifications include but are not limited to:

- Notification to onsite care managers when a patient of interest presents at the ED to facilitate an in-person intervention (use of programs)
- Notification of discharge for Healthcare Effectiveness Data and Information Set (HEDIS) related admissions to facilitate required follow-up for the measures (using diagnosis coding)

A third alternative path includes a third-party alerting service such as Collective Medical Technologies (CMT) can be used for additional alert notifications. This would require integration and data flow between the third-party alerting service and BSCC HIE. The data would be triggered from BSCC HIE to the third-party alerting service based on certain patients or conditions. The detailed workflow for this type of integration would be finalized during implementation.

- With this alternative path, BSCC HIE may have to connect to a third-party alerting service and be able to interoperate routing data as required. The third-party alerting service's patient panel is matched against the HIE eMPI service and data is routed based on the patient panel.

# Addendum – CMT Additional Information

The third alternative path that was mentioned in the use case is a connection with a third-party alerting service, CMT. BSCC had entered into discussions with CMT in mid to late 2019, but discussions were placed on hold at that time.

CMT offers a robust platform for care collaboration. This platform serves across all points of care to include hospitals, payors, physical ambulatory, and post-acute settings. CMT offers a compliment specifically designed for the ED setting supporting care for the complex patient who frequent different points of care and have a high ED utilization rate. Through CMT, these high utilizers of the healthcare system and particularly the ED are identified, and alert notifications are created. These notifications are specifically designed around the ED clinician providing clear and accurate information. ED clinicians receive notifications for these types of patients only reducing alert fatigue. An alert notification of the ED encounter is also sent to the patient's care team.

The CMT platform is customized to the needs of various healthcare members to include post-acute care, outpatient services, behavioral health, healthcare plans, and ED services. Custom criteria for those patients who are at high risk for hospital readmissions including patients with multiple chronic illnesses can be established. Alerts can be received for these patients at the time care is being received. In addition, CMT compiles only the necessary data elements performing correct risk algorithms delivering the data that is needed to the right care team member when it is needed. CMT assists in the collaboration and unification of the patient's care team.

BSCC can take advantage of the alerting platform that CMT has developed by partnering with them and offering this service to Montana stakeholders as part of the services offered by BSCC HIE. For example, BSCC could build the ADT interfaces and pass those on to CMT who, in turn, will analyze the data along with their own data and processes; then send out alerts to the proper stakeholders through an EHR integration that is built with EHR vendors. Additionally, to expedite capacity, both entities may work with Montana stakeholders to build ADT interfaces and share the alert notification messages between the two parties as appropriate.

These services can be utilized in parallel with the BSCC HIE system build. The alerting capability within the BSCC HIE system will be analyzed and developed and utilized as the core BSCC system alerting functionality. The alerting capabilities through CMT can continue as a value-added service once the BSCC HIE system alert notifications functionality is live, or it can continue as a base BSCC service as part of the basic stakeholder cost structure.

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.