



# **Cancer Electronic Health Record (caEHR)**

## **Deployment Team**

### **PROJECT MANAGEMENT PLAN**

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May 31, 2010 Version 1.2

Updated June 25, 2010 Version 1.5

## DOCUMENT CHANGE HISTORY

Version Number	Implemented By	Revision Date	Approved By	Approval Date	Description of Change
0.1	Robert Cregg	04/26/2010	Alex Miroff	04/26/10	Initial Draft
0.2	Srinivas Singaraju	04/27/2010	Mary Greene	04/27/10	Re-organized document and revised draft
0.3	Srinivas Singaraju	05/07/2010	Mary Greene	05/07/10	Draft revised based on initial comments from team
0.4	Srinivas Singaraju	05/09/2010	Mary Greene	05/09/10	Added language for on boarding team members
0.5	Srinivas Singaraju	05/10/2010	Mary Greene	05/10/10	Added roles and responsibilities table
0.6	Srinivas Singaraju	05/10/2010	Mary Greene	05/10/10	Updated WBS graphic
0.7	Robert Cregg	05/25/2010	Mary Greene	05/25/10	Updated Roster and Deliverable Table
1.0	Mary Greene	5/28/2010	Mary Greene	05/28/2010	Changed key contacts table, referenced Task Order (TO) Extension, modified schedule to align with TO Extension
1.1	Srinivas Singaraju	05/29/2010	Mary Greene	05/29/2010	Updated WBS and schedule graphics
1.2	Mary Greene	05/31/2010	Mary Greene	05/31/2010	New Baseline
1.3	Robert Cregg	06/23/2010	Mary Greene	06/23/2010	Updates based on SAIC-F COTR comments
1.4	Mary Greene	6/24/2010	Mary Greene	6/24/2010	Additional updates based on SAIC-F COTR comments
1.5	Mary Greene	6/25/2010	Mary Greene	6/25/2010	Additional updates based on SAIC-F COTR comments

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## 1 Project Summary

Project Name: caEHR Deployment Support      Start Date: March 1, 2010

Cancer Centers: Five Selected NCCCP Sites      Date Announced: April 20, 2010

Current Stage of Project: Inception

The following table provides contact information for the key points of contact on the caEHR Deployment Team:

Position	Name/Organization	Phone	E-mail
BOA Program Manager	Rip Singh / Booz Allen	(240) 314-5941	singh_rip@bah.com
Scientific and Clinical Oversight / Discipline Specific Lead	Mary Greene / Booz Allen	(301) 838-3677	greene_mary@bah.com
Cancer Clinical and Operations Lead	Kathryn Schulke / Booz Allen	(301) 838-3678	schulke_kathryn@bah.com
EHR Deployment Technology Lead	Alex Miroff / Booz Allen	(240) 314-5562	miroff_aleksey@bah.com
Contracts Administrator	Anna Marie Scott / Booz Allen	(240) 314-5574	scott_anna_marie@bah.com
Subcontracts Administrator	Chris Jones / Booz Allen	(703) 377-7305	jones_christopher_a@bah.com

## 2 Introduction

This Project Management Plan (PMP) provides an overview of the project, the roles and responsibilities of staff involved in the project, and the approach to project management that will be used by the Cancer Electronic Health Record (caEHR) Deployment Team.

This PMP incorporates Booz Allen Hamilton's (Booz Allen) adaptation of the Project Management Institute Project Management Body of Knowledge (*PMBOK*) based guidelines, procedures and industry standard best practices to meet the task management requirements outlined in the Statement of Objectives.

This PMP describes the overall approach to the caEHR Deployment Team's task management, and provides a project management framework that facilitates meeting project objectives as follows:

- Demonstrates an understanding of the basic tenets of the project mission and identifying stakeholders
- Identifies milestones where Government/Program Management Office (PMO) information or activity is required and timeline dependencies for subsequent activities by the caEHR Deployment Team
- Provides an integrated master management plan describing our overall management strategy and policies and procedures
- Provides a detailed staffing plan of the Deployment Team

This PMP establishes the approved (when final) suggested procedures for managing, tracking, and evaluating the caEHR Deployment Team's performance.

### 2.1 Assumptions

In developing this PMP, the following assumptions have been made:

- This PMP is considered a living document and will be updated as needed when tasks in the Task Order are added, deleted or modified.
- Continuous improvement is an integral part of the approach adopted by the Deployment Team. As a result, this PMP may be refined to cater to the program objectives and the overall caEHR goal.

### 2.2 References

The following documents have been referenced in developing this PMP:

- Statement of Objectives for caEHR Deployment Support included in Task Order 29XS233STO2, which was fully executed on March 31, 2010
- Task Order 29XS233STO2 Extension which has been approved, but is pending full execution
- Booz Allen's Business Engineering and Maintenance Policy

### 3 Program Understanding

The National Cancer Institute (NCI) is developing an Electronic Health Record (EHR) system for use in the ambulatory oncology environment called the Cancer Electronic Health Record (caEHR). The purpose of caEHR is to support ambulatory oncology clinical care and software vendor communities (open source and commercial) by delivering a series of business capability services that address the unique needs of the ambulatory oncology sector while meeting the *American Recovery and Reinvestment Act (ARRA)* / Health Information Technology for Economic and Clinical Health (HITECH) meaningful use requirements. These capabilities:

1. Include configurable information technology systems to address a wide range of clinical settings,
2. Position users for effective integration with other clinical, administrative and research systems,
3. Leverage existing Health Information Technology (HIT) standards and extend these standards from an oncology perspective where appropriate, and
4. Will be released with a full set of specifications for use by vendors and implementers to leverage all or portions of the caEHR deliverables.

The caEHR will be built using a “semantically-aware Services Oriented Architecture” or semantic SOA approach. The cohesive caEHR project team will define, design, develop and deploy a series of prioritized “business capability services” to selected NCI Community Cancer Centers Program (NCCCP) sites. This project will utilize an iterative/incremental development process yielding releases of services-based, modular EHR capabilities for the NCCCP sites that may be implemented directly or adapted into existing EHR products. The iterative/incremental process (1-month iterations and 3 - 4 month release cycles to stakeholders) will ultimately result in a fully functional reference implementation of an ambulatory oncology EHR. The project will be developed using the Service Aware Interoperability Framework (SAIF) and is expected to contribute to both the NCI’s and HL7’s experience with building a SAIF-compliant service specification and implementation, including the specification of traceable service contracts and development of certifiable implementation components.

The Booz Allen led caEHR Deployment Team will work with specified NCCCP sites to provide deployment support for a caEHR reference application and/or other caEHR system(s) developed using the same caEHR specifications. To realize the goal of full adoption of the caEHR by the five NCCCP sites, deployment support will be required for:

- Gathering site specific requirements
- Conducting site surveys
- Developing various plans (deployment, testing, training and post-deployment etc.)
- Supporting installations
- Promoting data sharing
- Assisting with integration activities
- Supporting testing
- Providing materials for training and ongoing maintenance and
- Establishing a test laboratory
- Supporting sites as they adjust their practice workflows to accommodate caEHR use.

These deployment activities will occur within the broader scope of iterative caEHR software development efforts being executed through other ongoing caEHR projects. Successful integration with these other

ongoing development efforts will require that the caEHR Deployment Team also serve as a bridge between the NCCCP sites and the ongoing development effort. By selecting an integrated, multidisciplinary team with direct experience in oncology clinical care and administration, oncology EHR deployments, and the design and deployment of complex software systems, we are prepared to provide these bridging activities.

Since requirements may vary extensively across the five NCCCP sites, developing a rapid understanding of the deployment site landscape is essential to inform project planning across the various caEHR activities. The caEHR Deployment Team has developed web-based survey tools, and is familiar with the NCI-CBIIT teleconferencing, and Centra online meeting, Wiki, Gforge, JIRA and subversion tools. We will leverage these tools to rapidly collect and disseminate data throughout the project. As these tools are already in place at NCI-CBIIT, this approach allows many NCCCP informatics staff to interact with caEHR deployment activities in a familiar online environment. This understanding will allow us to work with our colleagues in the software development projects to create an overall project plan that prioritizes software development and aligns deployment activities with development timelines.

Clear communications will be essential to inform the software development process and to resolve technical and operational challenges posed by deployments of evolving software products. We will establish communication between stakeholders at each NCCCP site (IT Deployment Leads, Principal Investigators, Oncologists, Nurses, etc.) and the software development activity by translating NCCCP needs obtained from interviews into use cases according to the Enterprise Conformance and Compliance Framework (ECCF) tools and artifacts provided by NCI-CBIIT. Our integrated team, which includes a physician, nurses, specialists in healthcare operations and technology, will facilitate direct contact between key users and development personnel to improve understanding of use cases and to create a shared sense of ownership for the caEHR product.

The ultimate goal of this project is to provide support to selected NCCCP sites so that the deployed caEHR systems are installed smoothly and used as part of the normal operations of those sites and to provide feedback from the deployments to help iteratively improve caEHR specifications. A list of sites selected for deployment is provided in Table 1.

**Table 1: List of NCCCP Sites Selected for Deployment**

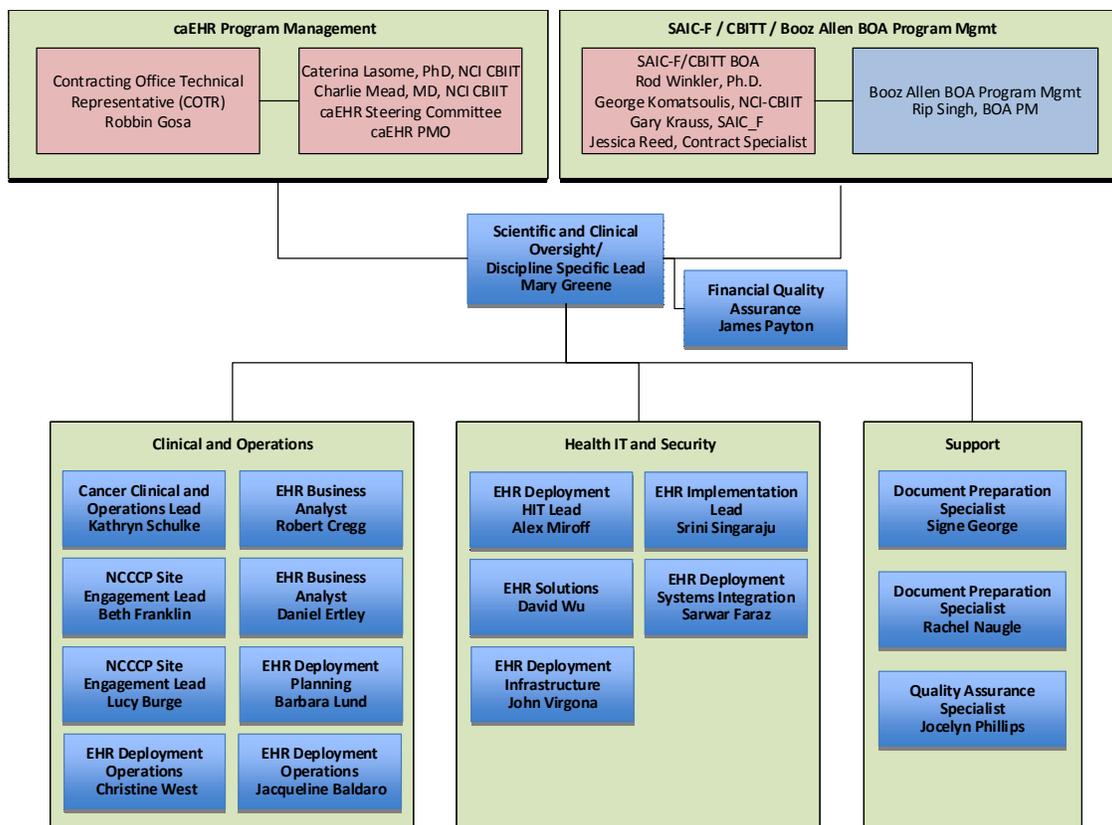
Organization	Points of Contact	Site Principal Investigator
Billings Clinic Billings, Montana	Heather Gleason, MD	Thomas Purcell, MD
Hartford Hospital Hartford, Connecticut	Pat Montanaro, RN, BSN, MBA	Andrew L. Salner, MD, FACR
St. Joseph Hospital Orange, California	Joshua T. Mann	Jay Harness, MD
Christiana Hospital Newark, Delaware	Rajiv R. Haravu	Nicholas Petrelli, M.D.
CHI - St. Joseph Medical Center Towson, Maryland	Lance E. Grove, ARRT (R), EMT-P	Mark Krasna, MD

## 4 Project Management Structure

The caEHR Deployment Team recognizes that it is essential to have a strong project organization, led by a highly skilled management team, to ensure that project requirements are supported. We also recognize that the fundamentals of good project management begin with an easily understood approach to accountability, authority, and communication. This approach includes:

- Providing clearly defined responsibilities to execute the project.
- Providing for multiple methods of communicating with caEHR Deployment Team members.
- Providing flexibility to expand contract staffing to meet the objectives of the effort.
- Identifying relevant stakeholders both internal and external to the project.
- Conducting periodic reviews of the status of the project, process and deliverables with the PMO and SAIC-F COTR.

Figure 1: caEHR Deployment Organization Structure



Booz Allen aligns a senior executive to each contract engagement who acts as the single point of accountability for the success of the work and who has the authority to commit the Firm. For the caEHR Deployment Support task order, **Robin Portman**, a Sr. Vice President who leads Booz Allen’s Global Health Services Team, has ultimate accountability for contract performance.

The Booz Allen team is also led by senior managers who are responsible for day-to-day project activity and delivery. These include

- **Mary Greene, Clinical and Scientific Oversight and Discipline Specific Lead (DSL)**, will be responsible for oversight of day-to-day operations and will proactively work with the SAIC-F COTR and the caEHR Deployment Team in setting up the project budget and monitoring the spend plan across all project tasks and plan. Dr. Greene will work with the caEHR Project and Stakeholder Managers to define specific tasks and deliverables relevant to the caEHR Deployment stream, and will participate in DSL status and planning meetings to foster collaboration and communication across discipline streams. Dr. Greene will work with team members to identify risks and mitigation strategies, and to escalate issues to the Project Manager as needed.
- **Kathryn Schulke, Cancer Clinical and Operations Lead**, will be responsible for NCCCP site engagement, assessment and deployment activity. Ms. Schulke will oversee deliverables assigned to team, provide cancer clinical and operations subject matter expertise, support site visits as needed and review all contractual deliverables. She will also serve as quality control manager.
- **Alex Miroff, EHR Deployment Technology Lead**, will be responsible for the technical delivery of the deployment activities and for integration with activities of the other caEHR discipline teams. He will work with other discipline streams to ensure the technical completion of the project. Mr. Miroff will define deliverables and ownership assignments, oversee development of contract deliverables, prepare content for weekly team meetings, prepare content for weekly SAIC-F COTR/PMO meetings, attend DSL meetings including planning sessions, attend weekly SAIC-F COTR meetings, write a summary of weekly SAIC-F COTR/PMO meetings and report to the team and write a summary of weekly DSL meetings and report to the team.

## 5 Key Project Deliverables

As part of the caEHR project, task deliverables and associated subtasks for the caEHR Deployment Team are identified in the project schedule. Some of the key deliverables are identified in Table 2.

**Table 2: Key caEHR Deployment Deliverables**

Deliverable	Due Date
<b>Project Management Deliverables</b>	
10-ST1013-D01 Project Management plan – This will detail plan for the site visit – who will visit the site, what are the tasks before, during and after the visit, what methodology will be used to generate the deliverables: D04, D05, D06, D07, D08, D09. Includes MS Project Schedule.	May 15, 2010
10-ST1013-D02 Monthly Status Report	15th of the month following the reporting period
Project Summary Report	May 31, 2010
<b>Deployment Deliverables</b>	
10-ST1013-D04 Site Requirements and Use Cases	June 30, 2010
10-ST1013-D05 Deployment Site Surveys	June 30, 2010
10-ST1013-D06 Overall Assessment and Deployment Plan Site Deployment Plan*	May 31, 2010 June 30, 2010
10-ST1013-D07 Deployment Site Installation Summary Report	Within 15 Business Days after site installation is complete <u>Approach, Process and Template</u> June 30, 2010
10-ST1013-D08 User Acceptance Test Reports	Approach, process and template: June 30, 2010 Test Report: Within 15 business days after user acceptance test is completed.
10-ST1013-D09 caEHR Training Material	After June 30, 2010
NCCCP Site Visits (2)	June 30, 2010

\*An overall deployment plan will be developed, which will be customized for individual NCCCP sites after site visits are completed and capabilities are selected for deployment.

## 6 Resource Management

### 6.1 Cost Management

In order to efficiently manage any project, the caEHR Deployment Team recognizes the importance of cost management. Booz Allen will take a proactive approach to cost management of the caEHR Deployment Team. Booz Allen employs a Defense Contract Audit Agency (DCAA)-approved Job Accounting Management Information System (JAMIS). Booz Allen will work with the SAIC-F Contract Officer (CO) to ensure that these tools meet the objectives for managing the budgeted and expended level of effort. The Program Manager (for this project, Dr. Greene) is responsible for monitoring and controlling the costs for the task. Cost reports from JAMIS provide detailed information on every aspect of assignment cost and reportable labor hours for the current reporting period, year-to-date and contract-to-date. Dr. Greene will use this information to compare actual and planned costs, analyze monthly expenditure rates and remaining cost-to-completion, update budgets as needed, and prepare cost inputs.

### 6.2 Personnel Management

Staffing projections are generated bi-weekly until the end of the delivery order by the Booz Allen Program Manager (Dr. Greene) and are provided to Booz Allen Financial Operations in McLean, corporate headquarters, via e-mail. Projections are ordered by person and charge number. Booz Allen Financial Operations generates bi-weekly Project Cost Report (PCR) actuals which include costs that have not yet been invoiced. A high-level staffing plan showing planned full-time equivalent (FTE) staff per month is located in the budget plan maintained by the Program Manager (Dr. Greene).

Booz Allen will identify the appropriate staffing profile for each deployment phase based on staffing commitments made to the project and the team structure and will determine the level and profile of staff required to meet contractual obligations to successfully accomplish project goals. Over the course of a multi-month project, it is natural for personnel to become unavailable and/or transition to other activities. When this occurs, the team will define a specific transition plan so that program knowledge is not lost and the project will not be interrupted. When internal employees with the appropriate skills are not available to staff the project, the caEHR Deployment Team will work with the recruiting and sourcing department to explore and select external staffing options to close the remaining staffing gaps.

### 6.3 Roles and Responsibilities

The caEHR Deployment Team project organizational structure supports the roles and responsibilities of the caEHR team. These roles have been identified based on the tasks specified in the Statement of Objectives (SOO) and based on the discussions with the PMO. These roles and responsibilities will be revisited periodically to align with the goals of the project. Table 3 provides a list of current roles and responsibilities.

**Table 3 - Roles and Responsibilities**

Title/Role	Responsibilities
Clinical / Scientific Oversight / Discipline Specific Lead	<ul style="list-style-type: none"> <li>• Manage program-level issues, financials, subcontracts</li> <li>• Oversee monthly charge authorizations</li> <li>• Oversee on boarding / briefing</li> <li>• Be primary point of contact for PMO and SAIC-F COTR, delegating specific activities as needed</li> <li>• Attend DSL meetings including planning sessions to foster collaboration and communication across discipline streams</li> <li>• Attend joint Deployment / Analysis meetings</li> <li>• Attend weekly SAIC-F COTR/PMO meetings</li> <li>• Facilitate weekly team meetings</li> <li>• Review all contract deliverables</li> </ul>

Title/Role	Responsibilities
	<ul style="list-style-type: none"> <li>• Support site visits</li> <li>• Work with the caEHR Project and Stakeholder Managers to define specific tasks and deliverables relevant to the caEHR Deployment stream</li> <li>• Work with team members to identify risks and mitigation strategies</li> <li>• Escalate issues to the Project Manager as needed</li> </ul>
<b>Clinical Operations Team</b>	
Cancer Clinical and Operations Lead	<ul style="list-style-type: none"> <li>• Lead clinical and operations team</li> <li>• Oversee deliverables assigned to team</li> <li>• Provides cancer clinical &amp; operations subject matter expertise</li> <li>• Support site visits as needed</li> <li>• Review all contractual deliverables</li> <li>• Serve as quality control manager</li> </ul>
NCCCP Site Engagement Lead	<ul style="list-style-type: none"> <li>• Establish and maintain working relationship with assigned NCCCP sites</li> <li>• Manage all logistics for meetings / communications to assigned NCCCP sites</li> <li>• Be team expert on templates, processes, tools and other resources to support site evaluations</li> <li>• Ensure completion of all site specific deliverables for assigned NCCCP sites</li> </ul>
Requirements/Business Capabilities Lead	<ul style="list-style-type: none"> <li>• Be primary deployment team liaison to analysis team</li> <li>• Keep team abreast of analysis team activities</li> <li>• Lead gap analysis of “as-is” and “to-be” functional capabilities</li> </ul>
EHR Deployment Planning	<ul style="list-style-type: none"> <li>• Coordinate activities of MAeHC staff members</li> <li>• Assist with deployment planning</li> <li>• Assist with development of assessment and deployment tools and templates</li> </ul>
EHR Deployment Operations	<ul style="list-style-type: none"> <li>• Support deployment planning and assessment activities</li> <li>• Assist with planning and execution of sites visits</li> <li>• Assume NCCCP engagement lead role is needed as project evolves</li> </ul>
EHR Business Analyst	<ul style="list-style-type: none"> <li>• Support NCCCP engagement leads</li> <li>• Support business analysis of NCCCP sites</li> <li>• Support literature reviews as needed</li> <li>• Support meeting and travel logistics as needed</li> </ul>
Project Management Support	<ul style="list-style-type: none"> <li>• Support management of PMP and work plan</li> <li>• Prepares weekly and monthly reports</li> <li>• Support on boarding</li> <li>• Assist with management of deployment tasks reported in JIRA or other central caEHR tools</li> <li>• Write and distribute notes from weekly team meetings</li> </ul>
<b>Health IT and Security Team</b>	

Title/Role	Responsibilities
EHR Deployment HIT Lead	<ul style="list-style-type: none"> <li>• Lead HIT and Security team</li> <li>• Define deliverables and ownership assignments</li> <li>• Oversee development of contract deliverables</li> <li>• Prepare content for weekly team meetings</li> <li>• Prepare content for weekly SAIC-F COTR/PMO meetings</li> <li>• Attend DSL meetings including planning sessions</li> <li>• Attend weekly SAIC-F COTR meetings</li> <li>• Write summary of weekly SAIC-F COTR/PMO meetings and report to team</li> <li>• Write summary of weekly DSL meetings and report to team</li> </ul>
EHR Implementation Lead	<ul style="list-style-type: none"> <li>• Develop and manage project management plan</li> <li>• Develop and manage work plan / schedule</li> <li>• Establish standard operating procedures</li> <li>• Participate in development of standard templates</li> <li>• Be primary liaison to development, QA, infrastructure, and documentation teams</li> <li>• Attend weekly meetings for those teams</li> <li>• Attend weekly DSL meetings as requested</li> <li>• Plan and lead caEHR software implementations</li> <li>• Be team resource for overall deployment plan</li> <li>• Design and implement survey and analysis tools</li> </ul>
EHR Solutions	<ul style="list-style-type: none"> <li>• Serve as team expert on practical application of SAIF</li> <li>• Be primary liaison to architecture team</li> <li>• Attend architecture and analysis team meetings</li> <li>• Be team resource for relevant caBIG activities</li> </ul>
EHR Deployment Systems Integration	<ul style="list-style-type: none"> <li>• Develop and maintain vendor engagement plan</li> <li>• Analyze site vendor solutions</li> <li>• Support gap analysis of “as-is” and “to-be” site architecture</li> <li>• Be team resource for data architecture</li> <li>• QA data capture, management and analysis</li> </ul>
EHR Deployment Infrastructure	<ul style="list-style-type: none"> <li>• Conduct caEHR and existing site EHR gap analysis</li> <li>• Assist with site deployment plans</li> <li>• Assist with caEHR installations</li> <li>• Design interfaces, data models and architectures</li> <li>• Assist with vendor engagements</li> </ul>
<b>Support Team</b>	
Quality Assurance Specialist	<ul style="list-style-type: none"> <li>• Establish standard operating procedures for quality assurance review</li> <li>• Establish standard operating procedures for document management</li> <li>• Review all contractual deliverables</li> <li>• Review interim work products as requested</li> <li>• Provide copyediting services</li> </ul>
Document Preparation Specialist	<ul style="list-style-type: none"> <li>• Assist with document preparation</li> <li>• Assist with graphical design and formatting</li> </ul>
Financial Quality Assurance	<ul style="list-style-type: none"> <li>• Develop and maintain financial dashboard / budget</li> <li>• Managing briefing process</li> <li>• Distribute monthly charge authorizations once allocation are approved</li> </ul>

Title/Role	Responsibilities
	<ul style="list-style-type: none"> <li>Assist with other on boarding activities as requested</li> </ul>
BOA Program Manager	<ul style="list-style-type: none"> <li>Manage overarching BOA contract</li> <li>Keep team abreast of changes to BOA arrangement</li> </ul>

## 6.4 Deployment Support Team Roster

The caEHR Deployment Team consists of seasoned and experienced resources, who have been selected based on their skills and aligned with the skills in the SOO.

The caEHR deployment support staff roster is provided in Table 4.

**Table 4: caEHR Deployment Support Staff Roster**

Name	Title/Role	Email	Phone
Mary Greene	Clinical / Scientific Oversight / Discipline Specific Lead	greene_mary@bah.com	Office: +1 (301) 838-3677 Mobile: +1 (410) 718-8408
Kathryn Schulke	Cancer Clinical and Operations Lead	schulke_kathryn@bah.com	Office: +1 (301) 838-3678 Mobile: +1 (410) 443-1589
Alex Miroff	EHR Deployment HIT Lead	miroff_aleksey@bah.com	Office: +1 (240) 314-5562 Mobile: +1 (703) 678-7480
Srini Singaraju	EHR Implementation Lead	singaraju_srinivas@bah.com	Office: +1 (240) 314-5780 Mobile: +1 (412) 805-4464
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Sarwar Faraz	EHR Deployment Systems Integration	faraz_sarwar@bah.com	Office: +1 (240) 453-2152 Mobile: +1 (240) 899-7254
Robert Cregg	EHR Business Analyst / Project Management Support	cregg_robert@bah.com	Office: +1 (301) 251-7152 Mobile: +1 (240) 994-1319
Beth Franklin	NCCCP Site Engagement Lead	franklin_beth@bah.com	Office: +1 (301) 838-3880 Mobile: +1 (202) 342-2417
Lucy Burge	NCCCP Site Engagement Lead / Requirements/Business Capabilities Lead	burge_lucy@bah.com	Office: +1 (301) 838-3728 Mobile: +1 (240) 997-6297
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Christine West	EHR Deployment Operations	cwest@maehc.org	Office: +1 (781) 434-7238 Mobile: +1 (339) 222-8291

Name	Title/Role	Email	Phone
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Naugle, Rachel	Document Preparation Specialist	naugle_rachel@bah.com	Office: +1 (240) 314-5724
Signe George	Document Preparation Specialist	george_signe@bah.com	Office: +1 (240) 314-5663 Mobile: +1 (301) 962-6251
James Payton	Financial Quality Assurance	payton_james@bah.com	Office: +1 (301) 838-3875 Mobile: +1 (301) 928-3022
Rip Singh	BOA Program Manager	singh_rip@bah.com	Office: +1 (240) 314-5941 Mobile: +1 (240) 593-8878

## 6.5 On-boarding Process

All members of the caEHR Deployment Team will follow the PMO's processes for on-boarding. This includes requesting access to project resources like the caEHR Wiki, GForge, JIRA and Centra IDs and a Bridge Line where necessary. In order to request access to these resources, the team members will be provided with authorization by the Program Manager (Dr. Greene) or designee. Upon approval, the new team member(s) will request access to the following resources through the Project Management Support staff person:

- caEHR Wiki (<https://wiki.nci.nih.gov/display/caEHR/caEHR+Project+Wiki+Home+Page>)
- JIRA (<http://caehrg.org/jira.com/browse/DEPLOY>)
- GForge (<https://gforge.nci.nih.gov/plugins/scmsvn/viewcvs.php/tags/caEHR/?root=ent-services>)

## **7 Project Communications**

### **7.1 Project Reviews**

Regular progress reviews will be held with project stakeholders to ensure that they are informed about the project's progress, performance and issues. The Deployment team will conduct project reviews via two primary mechanisms: weekly Team meetings, weekly to monthly Client Status meetings, and weekly DSL meetings, DSL planning sessions, Executive Steering Committee meetings and off-site conferences.

### **7.2 Deployment Team Meetings**

The Deployment team will meet on a weekly basis to review the status of assigned activities, work products and deliverables. The team will review progress against the schedule, review progress against action items, discuss project risks and issues, and review the results of collecting and analyzing measures for controlling the project. Corrective actions required as a result of measurement and risk analysis will be documented and implemented in the project plans and/or WBS/schedule.

### **7.3 Client Status Meetings**

The caEHR Deployment DSL and selected team members will meet with the SAIC-F SAIC-F COTR on a weekly basis to discuss the project progress, risk and issues and decisions required by the NCI executive sponsors in order for the caEHR Deployment Team to continue to execute against the plan. The caEHR DSL and selected team members will also participate in the weekly DSL meetings.

### **7.4 Monthly Status Reports**

Booz Allen will submit monthly status reports on the 15<sup>th</sup> of each month through the period of performance. Each report will detail the work completed for the month and project work to be done for the following month. Financial updates will be provided separately with the monthly invoice.

## 8 Project Schedule and Milestones

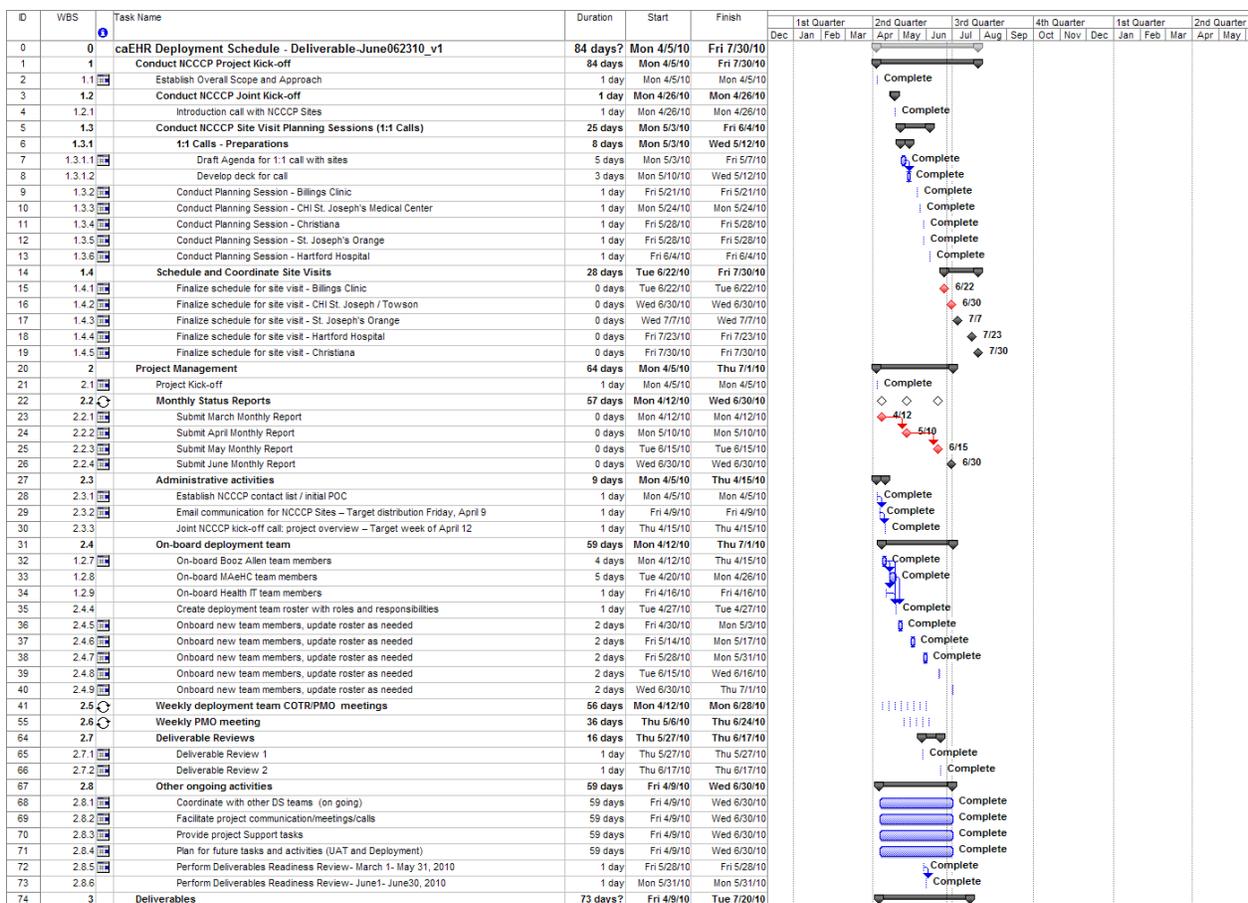
Booz Allen will coordinate with the PMO and SAIC-F COTR to create the final project schedule employed across the caEHR program. The project schedule as well as the timeline will be stored and updated as separate documents.

The project schedule will be updated every week to provide a snapshot of the project status. In case of updates to the schedule due to extraneous reasons, Booz Allen will seek guidance from the PMO and SAIC-F COTR to modify the schedule accordingly.

The project schedule is maintained on the project team’s eShare site. Access to this environment is strictly managed and is governed by the Booz Allen’s security policies. Elements of the project schedule will be provided to the PMO as needed for the overall program schedule which the PMO develops and manages.

Figure 2 provides a snapshot of the project schedule in its current form. The full project schedule is provided in a separate Microsoft Project file.

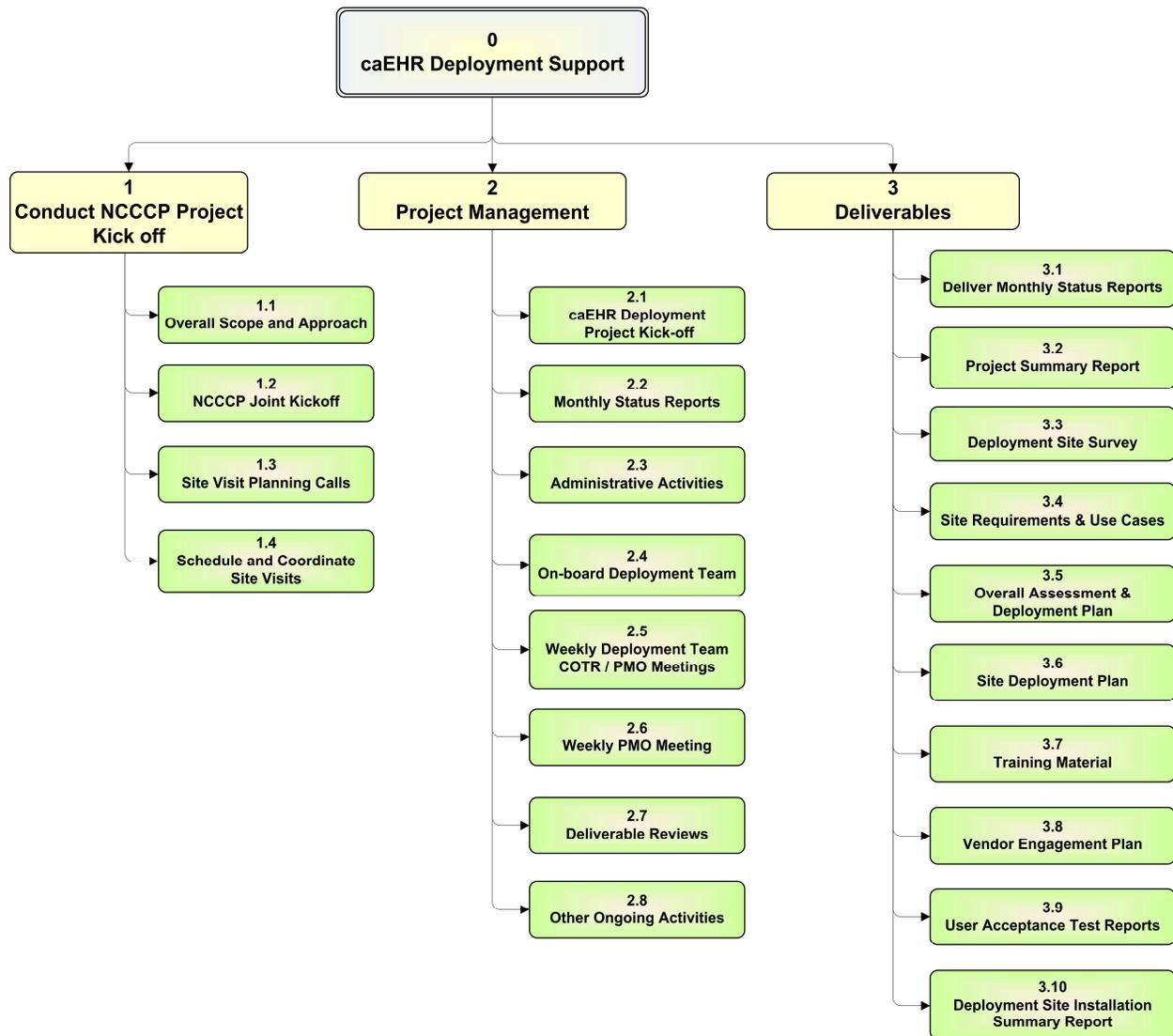
Figure 2: caEHR Project Schedule



## 8.1 Work Breakdown Structure (WBS)

The Work Breakdown Structure (WBS) for the caEHR Deployment Team includes defined elements and work products that will be developed as part of the project. The WBS is a hierarchical decomposition of the project into major elements of product-based work. It provides the foundation for defining the work as it relates to the project’s overall objectives, and establishes a structure for managing the work. Figure 3 provides an overview of the caEHR work packages.

Figure 3: caEHR Deployment Work Breakdown Structure



## 9 Site Engagement Plan

The site engagement plan will detail the caEHR Deployment Team’s interaction with the five selected NCCCP sites. The site engagement plan will be stored and updated as a separate document under version control on GForge and linked in the caEHR Wiki.

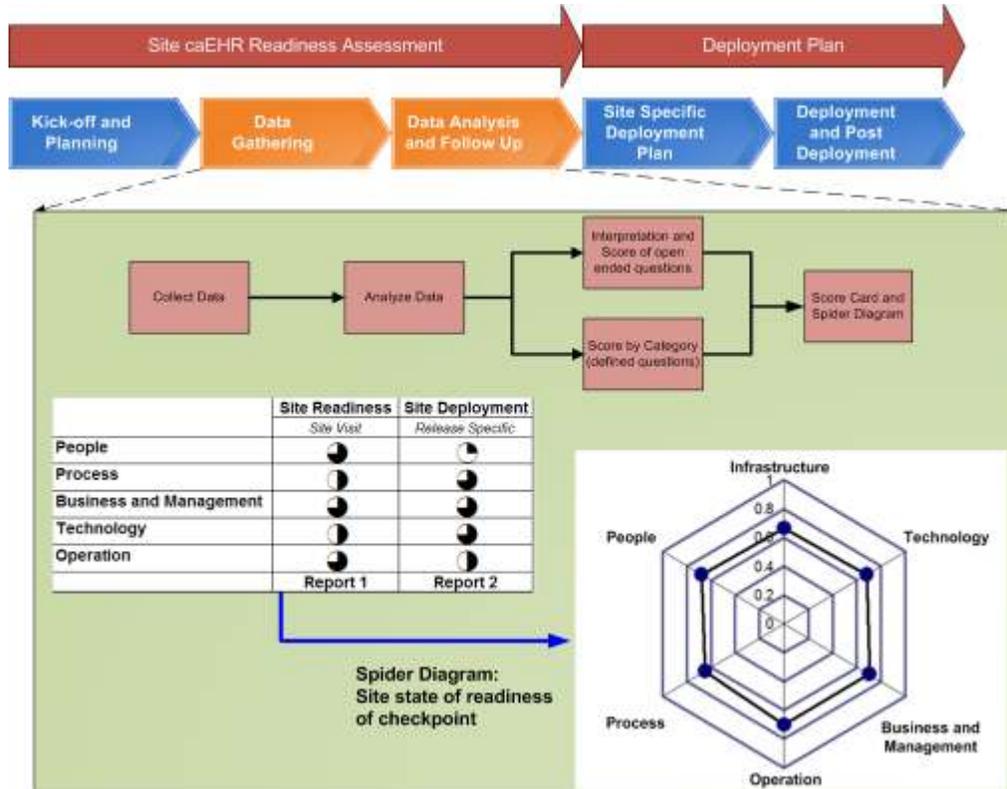
## 10 Vendor Engagement Plan

The vendor engagement plan will describe caEHR Deployment Team’s approach to managing the vendors for each site. The details will be included in the vendor engagement plan, which will be stored and updated as a separate document under version control on GForge and linked in the caEHR Wiki.

## 11 Site Readiness Assessment Plan

The Site Readiness Assessment is planned in three phases: a general readiness assessment, a high-level business capability assessment, and a more detailed business capability assessment focusing on gaps between existing business capabilities and those developed by the caEHR Team. The gap analysis will be performed using SAIF artifacts. Data will be collected through interviews during NCCCP site visits, examination of documentation provided by the NCCCP sites and their vendors, and other discussions with the sites and vendors. An extensive interview guide will be used to systematically collect the required data. Questions in the guide will be scored and presented in scorecards, spider diagrams and reports as required. Please refer to the Overall Site Assessment and Deployment Plan for details. Figure 4 shows a sample scorecard and spider diagram.

Figure 4: Sample Scorecard and Spider Diagram



The site readiness assessment plan will be incorporated into the Overall Site Assessment and Deployment Plan and will be stored and updated as a separate document under version control on GForge and linked in the caEHR Wiki.

## 12 Configuration Management Plan

All project artifacts including documents, meeting minutes and applicable code are placed under strict version control. The caEHR Deployment Team will leverage proven configuration management methodology based on industry standards and guidelines. The methodology and specifics of configuration management are described in the Configuration Management Plan (CM Plan). This plan will be stored as a separate document under version control on GForge and linked in the caEHR Wiki.

## 13 Deployment Plan

The Deployment Plan will specify the steps necessary for the successful deployment of caEHR components and will be incorporated into the Overall Assessment and Deployment Plan. In addition to the Overall Assessment and Deployment Plan, we recognize that each site may have unique deployment processes that need to be accounted for. These will be documented in the Site-Specific Deployment Plans. Site-Specific Deployment Plans will be stored and updated as a separate document under version control on the GForge and linked to caEHR Wiki.

## 14 Quality Management

The caEHR Deployment Team follows a stringent Quality Control Plan (QCP) for every assignment, beginning with understanding the client's needs, the technical requirements in the Performance Work Statement (PWS), our role, and the ultimate goal associated with the product. Throughout the project life, we will reach back to the Program Manager, DSL, Cancer Clinical and Operations Lead, and EHR Deployment Technology Lead to review outlines of papers, plans, or approaches to ensure the final product will meet NCI/SAIC-F needs. After the initial development of a first draft of a product, Booz Allen's internal quality control process includes peer and independent Subject Matter Expert (SME) review. Final drafts are usually coordinated through technical editor and functional lead reviews for major deliverables (this may or may not be done, depending on the nature of the deliverable). Booz Allen will adhere to the established firm-wide Quality Control Plan (QCP). An overview is presented in Table 5.

**Table 5: Overview of Quality Control Plan Components**

Activity	Description	Value
Drafting and updating the QCP	QCP is developed according to NCI/SAIC-F requirements.	Provides the Government insight into our quality process and planned records.
Implementing the Quality Control Program	QCP will be implemented to assure the Government of processes, products, services, and deliverables that, at a minimum, conform to the best commercial practices and that are in compliance with relevant specifications. The program will provide for detection, reporting, analysis, correction, and tracking of deficiencies. The degree of formality and control employed will be influenced by the size and complexity of the Task Order (TO), the significance of the product, and the risks involved.	Provides structure to ensure tasks are executed properly the first time, preventing security violations and providing rapid and effective remedy for any identified deficiencies.

Activity	Description	Value
Providing technical and programmatic guidance	At the contract level, the independent quality control will provide technical and programmatic guidance to ensure successful integration of quality control into processes and products, which ensures the maximum leverage of quality control across work products, intellectual capital, best practices, technical reuse, repeatability, and standardization to service.	Reduces risk in execution and delivery through accurate technical and analytical advice to the Government.
Monitoring and reviewing program tasks and activities	Quality control staff will monitor project performance, quality progress, and contractual compliance for repeatability, standardization (where applicable), and conformance to standards. Quality progress will be determined by measuring deliverables and client requirements against the required standards and project specific or unique processes and procedures.	Removes necessity for government quality assurance oversight of tasks, while providing independent contractor oversight of individual project schedules and budgets.
Management Reviews	We employ program reviews for all of our TOs to effectively monitor the technical quality as well as business performance of our TOs. With our clients, we conduct regularly scheduled formal program briefings to client management, as well as less formal, weekly status meetings for client and Booz Allen task leads. We also conduct regular review meetings as appropriate for each task, such as on a weekly or biweekly basis, to focus on task status and facilitate open communication across the project.	Provides senior-level insight into TO's performance and progress.

In addition, the caEHR Deployment Team has a deep understanding of technical quality management processes, and we will apply the industry standard best practices (e.g., PMI, Agile etc.) from our experience, and tailor solutions to meet needs, thereby reducing the risk in project delivery.

## 15 Risk Management

As a standard practice, the caEHR Deployment Team follows procedures and best practices for systems development efforts which are compliant with the industry standard processes. Included in our core processes is full lifecycle risk management. Risk management begins at task inception, and continues throughout the project lifecycle.

Proactive, sustainable, and two-way communications are essential to the success of any project. Therefore, one of the cornerstones of our risk management program—prevention and early identification—is founded on the principles of good communication. The project initial risks have been identified in Table 6. These will be updated on an ongoing basis along the course of the project. Risks are collected and tracked to closure in a Risk Matrix. The risk matrix is a "living document" and is reviewed during project team meetings, client meetings, and management meetings for any changes or additions.

**Table 6: Initial Project Risks**

Risk	Severity	Mitigation Approach	Severity Post-Mitigation
Large institution EHR deployment approaches do not match requirements of the community setting.	H	Selection of MAeHC, an organization with extensive experience with the community practice setting. Direct feedback from participating NCCCP sites.	L
Deployment activities do not effectively engage a complex software development effort.	H	Incorporation of personnel and organizations with experience with NCI-CBIIT software development processes and procedures.	L
Development timeline delays negatively impact Deployment timelines.	H	Flexibility of the caEHR Deployment Team to support multiple deployments later in the period of performance if required.	M
caEHR features result in changes to practice operations that are not accepted by all practitioners, and as a result caEHR falls out of use.	H	Review of deployment plans with change experts. Monitoring of post-deployment usage to identify root causes of adoption failures.	L
NCCCP sites lack the resources or Infrastructure needed to install tools in a timely manner.	H	Early identification of implementation resource gaps via assessments conducted in the inception phase and deployment plan reviews, allowing time for securing additional resources, use of 'Swat Teams'. Engagement of EHR vendors already working with NCCCP sites.	M
Regulatory and privacy concerns prevent data sharing.	H	Active engagement with community groups, patient advocates, and early implementation of data sharing plans.	L
Requirements for caEHR adoption significantly differ from ASCO/NCI agreed functional profiles.	M	Early identification of interoperability requirements, allowing development teams and SIAC-Frederick/NCI with sufficient time to address scope changes.	L

Although we recognize that effective communication can prevent, or at the very least ensure early identification of risk, we also conduct formal risk management. Our approach is founded on the principle

of providing experienced managers and staff who can identify risks early and implement corrective actions. The objective is to identify, sufficiently early, the risks associated with software acquisition, development, integration, and deployment so that appropriate management and mitigation strategies can be developed on a timely basis. Time is critical, and the goal is to act early before a source of risk evolves into a major crisis.

Our Risk Management approach, as summarized below, is designed to develop a shared vision based on common purpose, foster an atmosphere of collaboration and teamwork, promote a forward-looking view, weigh opportunity against risk, encourage open communication, and make risk management an integral and vital part of project management. A separate Risk Management Plan will be developed and the process for managing risks will be detailed in that plan. This plan will be stored and managed as a separate document under strict version control in the caEHR Wiki.

- **Risk Planning.** The caEHR team understands the importance of risk planning. We will plan for key technical, staffing, schedule, and other risks. We will meet with NCI/SAIC-F representatives to ascertain their perception of major task risk areas and the potential for downstream risks with regard to the caEHR Deployment Team's task management. The caEHR Deployment Team will update and present our updated risks to NCI/SAIC-F as part of our regular meeting and reporting requirements. This should prevent disconnects between our task execution and the priorities for the caEHR Deployment Team as set by the PMO and SAIC-F COTR .
- **Risk Identification.** Our Monthly Status Reports (MSRs) will identify and document risks in the areas of scope (technical), schedule, budget/cost, staffing, logistics and other areas.
- **Risk Analysis.** Along with identifying risks, we will analyze and present implications of the risks to scope, schedule, and budget. This will provide the NCI/SAIC-F with information needed to make informed, early decisions in guiding our work.
- **Risk Mitigation.** Along with our analysis of risk, we will present to NCI/SAIC-F our mitigation strategies for each risk. For example, we would develop mitigation strategies to include more frequent communication, workarounds, and updated policy.
- **Risk Monitoring.** Task Management risks will be monitored by our DSL, Cancer Clinical and Operations Lead and EHR Deployment Technology Lead on a daily basis. We will formally present updates in the MSRs.
- **Risk Control.** Risks will be prioritized (typically by the magnitude of potential impact to scope, schedule, and budget) when shared with the SAIC-F COTR. We will control such risks through early identification and warning, and continual updates (in the MSRs).

## 16 Stakeholder Communication Plan

Proactive, sustainable, and two-way communications are essential for the success of any project. The process for managing communications between various stakeholders and the caEHR Deployment Team will be detailed in the Stakeholder Communication Plan (SCP). It will be maintained as a separate document under version control in GForge and linked to caEHR Wiki.

## 17 Monitoring Timely Delivery of Work

Our technical management of individual projects will involve several key functions: monitoring daily progress, conducting interim performance reviews, and reviewing deliverables. The DSL, Cancer Clinical and Operations Lead and EHR Deployment Technology Lead will interact daily with staff to ensure that products and services are being developed to specification. In addition, they will conduct product reviews at key stages of the project life cycle. Functional/technical experts will review all deliverables before

submittal. Lastly, we will ensure that our solutions incorporate technology and management advances by providing all levels of staff access to corporate resources to enhance their technical delivery capabilities.

The Project Manager will review and approve all deliverables produced by the team prior to submission to the Government. Regular feedback from the SAIC-F COTR will be actively solicited to ensure that we consistently deliver top-quality products, services and solutions. The accepted project plan will allow enough time to ensure adequate Government review of all work products, services, and deliverables.

To monitor and track deliverables, we will:

- Interact daily with staff to ensure that products and services are being developed to the NCI/SAIC-F specifications and requirements,
- Conduct product peer and stakeholder reviews at key intervals to ensure work products and deliverables meet our quality standards, and
- Review all deliverables before submittal (Follow CMM/ISO QA process).

With regards to the delivery of hours, schedule performance will be monitored on a weekly basis by the DSL and formally reported in the required status report.

## 18 Training

caEHR Deployment Team members are expected to complete general consulting and project execution training as defined by their administrative supervisor in their Personal Development Plans. Additional training needs will be determined by the DSL, Cancer Clinical and Operations Lead and EHR Deployment Technology Lead based on team members' roles on the project and the skill sets which are required.

Internal Booz Allen training will be administered, managed and tracked through the Booz Allen Center for Performance Excellence, and employee training records maintained in the Firm's Learning Management System (LMS). Team members are responsible for updating the LMS with completion dates for all external or project-specific training. Subcontractors are used as Subject Matter Experts and advisors to the Booz Allen Deployment team.

IT Security awareness training is part of new employee orientation presented by the Booz Allen business manager.

## 19 Accreditation and Certification Requirements

**Data Use Agreements.** The Data Use Agreement (DUA) is a form filed with deployment sites which allows access to environments that contain Protected Health Information (PHI). Typically we limit test data to de-identified data so a DUA is not necessary. Booz Allen will work with de-identified data, but if access to production data or test data that contains PHI is needed, we will work with deployment sites and SAIC-F to get the proper DUA in place before accessing the data.

**Personnel Clearances.** Booz Allen will ensure all our staff are trained in their areas of expertise and also go through the government approved training and certification processes. For example, we provide our staff with training in HIPAA, time reporting and project management fundamentals. We have a staff onboarding checklist which will be updated to reflect any new certifications and training procedures.