

Frederick National Laboratory for Cancer Research

sponsored by the National Cancer Institute

INTEGRATED CANINE DATA COMMONS (ICDC)

PROJECT MANAGEMENT PLAN

**FNLCR
9605 MEDICAL CENTER DR.
ROCKVILLE, MD 20874**

**OCTOBER 15, 2019
v1.2**

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INTRODUCTION

NCI's Division of Cancer Treatment and Diagnosis (DCTD), the Center for Cancer Research (CCR) Comparative Oncology Program (COP) and the Center for Biomedical Informatics and Information Technology (CBIIT) are sponsoring the Integrated Canine Data Commons (ICDC). For purposes of this plan, the sponsor is Dr. Toby Hecht of DCTD (also known as COR or Contracting Officer's Representative) and Dr. Erika Kim of CBIIT will serve as the CBIIT liaison and will be included on major decisions and updates. Canines are studied because naturally occurring canine cancer has similar underlying pathobiology to that of human cancer and may allow the NCI to prioritize experimental agents and advance only the most efficacious ones into human clinical trials. The FNLCR will develop the ICDC to house canine cancer data in the cloud and enable that data to be analyzed in the cloud. ICDC will be required to house multiple data types including: medical images, clinical outcomes and diagnosis, correlative science such as pharmacokinetics and pharmacodynamics, genomic, and immunofluorescence biomarker microscopy images. The ICDC will be part of CBIIT's Cancer Research Data Commons (CRDC) and will leverage the CRDC's Cloud Resources to perform analysis in the cloud.

The cloud based system will be required to house multiple data types including: medical images, clinical outcomes and diagnosis, correlative science such as pharmacokinetics and pharmacodynamics, genomic, and immunofluorescence biomarker microscopy images.

PROJECT MANAGEMENT APPROACH

The Technical Project Manager, Matthew Beyers, is granted overall authority and responsibility for managing and executing this project according to this Project Plan and its Subsidiary Management Plans. The project will be co-staffed by the FNLCR Biomedical Informatics and Data Sciences (BIDS) Directorate and Applied and Developmental Research Directorate (ADRD). Drs. John Otridge (BIDS) and Ralph Parchment (ADRD) will serve as Co-Program Managers.

Four project areas have been identified and the responsible leaders are as follows:

- System Architect: Amit Mukherjee
 - Front-End Development Lead: Dimitri Darras
 - Back-End Development Lead: Ye Wu (ESI subcontractor)
- Steering Committee Leads: Matthew Beyers (BIDS), Ralph Parchment (ADRD)
- Data Management Lead: Philip Musk
- Quality Assurance Lead: Afag Ibrahimova

Additional staff will be sourced as necessary in coordination with their supervisors/contracts. Mr. Beyers will be responsible for the arrangements. The project manager will work with all resources to perform project planning. All project and subsidiary management plans will be

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reviewed and approved by the project sponsor. All funding decisions will also be made by the project sponsor. Any delegation of approval authority to the project manager should be done in writing and be signed by both the project sponsor and project manager.

Subsequent to the awarding of this project, and the analysis of the initial software, a second project was added to the FNL portfolio to develop a Clinical Trials Node (CTN) based on the same principles and software defined in the initial phases of ICDC. As the technical needs of scope of the two projects are nearly identical, and the schedule of the CTN project is similar to ICDC's, it was decided to develop both projects simultaneously sharing as many resources as possible. This revision to the Project Plan reflects that change. Mr. Sivakumar Boraiyan is the Technical Project Manager for the CTN and will be working closely with Mr. Beyers to assure the success of both projects.

The project team will be a matrix in that team members from each organization continue to report to their organizational management throughout the duration of the project. The project manager is responsible for communicating with organizational managers on the progress and performance of each project resource. Project software development will be conducted by a subcontractor – Essential Software Inc. (ESI) – headed by Ye Wu, and will work closely under the guidance and direction of the System/Software Development leader and the Project Manager.

PROJECT SCOPE

The scope of the ICDC includes the planning, design, development, testing and deployment of a prototype environment (Minimum Viable Product or MVP) using Amazon Web Services (in the Cloud). The system will be developed using an iterative (Agile) approach. The system must be able to accept and store multiple data types, based on a model, and have that data be searchable and re-present that data to the user. Further, the system must integrate with the NCI Cloud Resources for analysis. Also within Scope is a Steering Committee of involved stakeholders who, during regular meetings, will provide input on the function and use cases of the ICDC. This feedback will influence the development of the production environment. Included in the scope is the storage or links to multiple types of data (e.g., genomics, imaging, proteomics, etc.), harmonization of that data and associated metadata to database standards, and loading of that data to the designed software system. Documentation and help-desk activities for users are also included in the scope.

Post-MVP development (in Option 1), scope will be expanded to include the system accepting new data from users through an easy-to-use interface and deployment to a production environment.

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High Level Scope:

To create a new, dynamic data commons for canine cancer data, including not only clinical outcomes and genomics findings from canine clinical trials being conducted by the Comparative Oncology Program (COP) in collaboration with DCTD, but also the trials' molecular, pharmacological, microenvironment, medical imaging and other study data.

Build a cloud-based prototype Integrated Canine Data Commons using Data Commons Framework components (Fence and Index D). Follow CBIIT EPLC process. Link to the Cancer Research Data Commons suite of projects (e.g., Cloud Resources). A low number of concurrent users is expected for the prototype. Staffing will be internal FNL supplemented with sub-contracts for SMEs. Stand-up and run a Steering Committee and incorporate their feedback into system design. Import existing data into developed system and provide mechanism for future data incorporation.

Success Criteria:

Technical Success:

e.g., stand up of system, ability to search, ability to load data, ability to login, etc.

Collaborative Success:

e.g., number and results of steering committee meetings, use cases defined, relationships developed with public, hits on the website.

Scientific Success:

e.g., papers developed based on data contained in the system, new ideas sparked by data or system collaboration, mentions at scientific meetings, new studies proposed/developed as a result of this system being publicly available.

The MVP should meet the following requirements:

1. Implement a graph database to house the data
2. Develop a mechanism to transform incoming data for ingestion by the database (e.g., Pentaho).
3. Develop a data model and validator to verify incoming data into the database
4. Display, in a dashboard format, several overall characteristics, with statistics, of the data in the system. For example, display a list of breeds found in the system with corresponding percentages of each of those breeds.
5. Display a list of programs (e.g., COP, NCATS, PRECINCT).
6. Display a list of studies associated to the programs list above.
7. Display a list of cases associated with: 1) all studies in the system; 2) studies in a particular program.

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8. User interface should provide a means of filtering cases to produce a user-defined cohort of data to be analyzed in the Cloud Resources.
9. User interface should provide a mechanism of packaging data file identifiers for analysis on the Cloud Resources (“manifest”).
10. The system will be present on at least 4 environments: Dev, QA, Stage and Production.
11. The system will be housed on CBIIT’s Amazon instance, CloudOne.
12. The system should be evaluated for 508 compliance.
13. The system should obtain an Authority to Operate (ATO) from NCI.
14. The system should integrate with Centralized Fence and Centralized IndexD from NCI Data Commons Framework Services.
15. The system should be web accessible and incorporate appropriate security standards.

MILESTONE LIST

The project has one official milestone and a milestone for each of the two options. The official milestones are:

Base contract (9/24/18-9/23/20): Deliver prototype ICDC.

Option 1 (9/24/20-9/23/21): Deliver production ICDC.

Option 2 (9/24/21-9/23/23): Deliver support and incremental updates to ICDC.

For project management purposes, the base contract milestone will be broken down into the following milestones:

Overall Project Plan Table

Milestone	Description	Due Date
1. MVP	Minimum Viable Product	12/31/19
Requirements Gathering	Initial requirements for MVP deployment	6/1/19
Front-end (User Interface)	Initial requirements for user website interface/Graphical User Interface (GUI)	6/1/19
Query API	Initial requirements for querying the system and displaying the results.	7/1/19
Design	Initial design for GUI/Front-End, Query API, Submission API.	7/15/19
Front-end	Design of user interface.	7/15/19
Query API	For querying and retrieving data from the system.	7/15/19

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Prototype Submission Mechanism	For data submission to system.	7/15/19
Coding	Coding modifications to GUI, Query and Submission.	10/1/19
Code Freeze	Point at which new features are no longer added to MVP.	9/1/19
Front-end	Software development for user interface.	9/1/19
Query API	Query interface between front-end and database.	9/1/19
Testing and Debugging	All functionality tested and all identified errors corrected.	11/1/19
Front-end		11/1/19
Query API		10/1/19
Initial Data Set Analysis	Analysis of the initial data set for data types and model description.	3/30/19
Initial Data Set Harmonization	Manipulation of the data required for harmonization within or across the system.	6/30/19
Load Initial Data Set	Insert of the data set into the designed data system.	8/15/19
MVP Deployment	Prototype first release.	12/31/19
2. Post-MVP		
Additional Requirements Gathering	After seeking feedback from users and NCI, gather additional requirements.	3/1/20
Design Additional Functionality	While waiting for additional requirements, begin designing desired functionality that was left out of MVP (not including Submission System defined below)	2/1/20
Continuous Integration/Continuous Deployment	Continue to add new functionality based on gathered requirements to the system.	9/23/20
Continuous Data Set Harmonization	As data sets come in to ICDC, continually modify the model and integrate them into the system.	9/23/20
Continuous Data Set Loading	Load data sets to system as they are available post-harmonization.	9/23/20
Integrate ICDC with Cloud Resources	Set the connections for transferring data to the Cloud Resources for analysis.	3/1/20

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Integrate with other data commons nodes	Work with Cancer Data Aggregator staff to ensure ICDC is integrated with CDA.	9/23/20
Production Submission System API	Software for data submission to database.	9/23/20
Requirements Gathering	Initial requirements for submitting data to the system.	TBD
Front-End Design	Graphical User Interface	TBD
API Design	Machine User Interface	TBD
Back-End Design	Processor/Validator of submitted data	TBD
Testing and Debugging		TBD

Please note that Steering Committee meetings are not included in these milestones as their input will be continuous and ongoing.

This chart is comprised only of major project milestones such as completion of a project phase. There may be smaller milestones which are not included on this chart but are included in the project schedule and WBS. If there are any scheduling delays which may impact a milestone or delivery date, the project manager must be notified immediately so proactive measures may be taken to mitigate slips in dates. Any approved changes to these milestones or dates will be communicated to the project team by the project manager. Additional Milestones will be added as options are exercised on the project.

STAKEHOLDER MANAGEMENT PLAN

A list of stakeholders shall be maintained in the project wiki (<https://wiki.nci.nih.gov/display/ICDC>) and shall be updated regularly. The list shall include power and interest rankings and stakeholders shall be regularly engaged to identify additional stakeholders.

SCHEDULE MANAGEMENT PLAN

The project is initially scheduled for 2 years with a one year option and a two year second option for a total of 5 years. Major project areas are: Data Management, System Development, Administrative Support, Governance, and Overall Project Management.

The goals for the initial 6 months of schedule are the following:

- 1) Data Management: initial discovery and development of procedures.
- 2) System Development: initial deployment.

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- 3) Administrative Support: initial documentation and Voice of Community.
- 4) Governance: quarterly meetings of the Steering Committee which will provide feedback to the previous three points on design and desires.

Following that period, the next goal will be to produce a minimum viable product by end of December 31, 2019, followed by continuous integration and improvements over the remainder of the base period until September 23, 2020.

Project Work Breakdown Structure (WBS) is maintained in the MS Project file: Integrated Canine Data Commons_PIP.mpp. Timelines will be adjusted as needed within this file, keeping within the overall timeframe of 2 years for the base period of performance.

CHANGE MANAGEMENT PLAN

Changes to the project's Scope/Schedule/Cost will be handled through the FNLCR Impact Assessment Review (IAR) process. This will include a document detailing the changes required which will be sent to contracts/finance for review and additions. Before proceeding with a formal IAR, suggested changes should be communicated to the Contracting Officer's Representative (COR). All change requests will be logged in the change control register (in the Project Wiki) by the Project Manager and tracked through to completion whether approved or not.

Changes that do not affect the Scope/Schedule/Cost (i.e., development Sprints) will be tracked through the use of JIRA and a standard ticketing process.

COMMUNICATIONS MANAGEMENT PLAN

This Communications Management Plan sets the communications framework for this project. It will serve as a guide for communications throughout the life of the project and will be updated as communication requirements change. This plan identifies and defines the roles of Integrated Canine Data Commons project team members as they pertain to communications. It also includes a communications matrix which maps the communication requirements of this project, and communication conduct for meetings and other forms of communication. A project team directory is also included to provide contact information for all stakeholders directly involved in the project.

The Project Manager will take the lead role in ensuring effective communications on this project, however, this is a very collaborative project with NCI and FNL will work closely with relevant NCI staff to ensure the success of the project, thus NCI will be involved in most

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communications. The communications requirements are documented in the Communications Matrix below. The Communications Matrix will be used as the guide for what information to communicate, who is to do the communicating, when to communicate it, and to whom to communicate.

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Communication Type	Description	Frequency	Format	Participants/ Distribution	Deliverable	Owner
Project Team StandUp Meetings	Discuss development progress	Twice weekly	In Person	Project Team	Ticket updates in JIRA	Project Manager
Sprint Retrospectives	Discuss process of completed sprint	At end of each sprint	In Person	Project Team	Documentation in Wiki	Project Manager
Sprint Review	Discuss tickets of completed sprint, including demo to team of work completed during the sprint	At end of each sprint	In Person	Project Team	Sprint Release	Project Manager
Sprint Demo	Demonstration of system	As necessary	Electronic	Project Team, Sponsor and Stakeholders	System Presentation	Project Manager
Formal Status Report	Progress Update for COR	Monthly	PowerPoint/Verbal	Project Manager, Sponsor, Contracting	Status and Metric Presentation	Project Manager
Informal Status Update	Discussion of Progress and Direction	Monthly	In Person	Project Manager, Sponsor, Stakeholders	Verbal/Written feedback to team	Project Manager
Cost, Schedule, Performance Report	In Process Review (IPR)	Quarterly	Electronic	Project Manager, Sponsor, Contracting	IPR presentation	Project Manager
Steering Committee Minutes	Outcomes of SC meetings	As SC meetings occur	PDF/Electronic Document	ADRDC SC Team	Minutes posted on Wiki/Box	ADRDC Program Manager
Final Report	Details of Work Completed	At end of base period	PDF/Electronic Document	Project Manager, Sponsor, Contracting	Final Report	Project Manager
Summary of Salient Results	Summary of Final Report	At end of base period	Word/PowerPoint	Project Manager/Sponsor/Contracting	Summary of Salient Results	Project Manager

Project stakeholder directory for all communications is here:

<https://wiki.nci.nih.gov/display/ICDC/Stakeholder+Register>

Communications Conduct:

It is expected that all team members will discuss issues in a free and open manner within FNL. Each member of the team is valued, brings their experience and knowledge to the table, and is to be treated with respect. It is expected that all team members will participate in discussions and will contribute their ideas to develop the best product possible. Once team decisions have been made, the Project Manager will present those ideas in clear and unified manner to the

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sponsor and others. If issues need to be escalated, the Project Manager will be responsible for doing so.

It is expected that FNL staff will work in a collaborative and complementary manner to NCI and that appropriate NCI staff will be involved in many of the team meetings.

COST MANAGEMENT PLAN

The Project Manager will be responsible for managing and reporting on the project's cost throughout the duration of the project. The Project Manager will present and review the project's cost performance during the quarterly in process review (IPR) meeting. Using earned value calculations, the Project Manager is responsible for accounting for cost deviations and presenting the Project Sponsor with options for getting the project back on budget. All budget authority and decisions, to include budget changes, reside with the Project Sponsor.

For the ICDC Project, control accounts will be created at the second level of the WBS which is where all costs and performance will be managed and tracked (i.e., Steering Committee or Technical Project). Financial performance of the ICDC Project will be measured through earned value calculations pertaining to the project's cost accounts. Any corrective actions will require a project change request and be must approved by the CCB before it can be implemented.

Earned value calculations will be compiled by the Project Manager and reported at the monthly project status meeting. If there are indications that these values will approach or reach the critical stage before a subsequent meeting, the Project Manager will communicate this to the Project Sponsor immediately.

PROCUREMENT MANAGEMENT PLAN

The Project Manager will provide oversight and management for all procurement activities under this project. The Project Manager, in cooperation with FNL contracting, is authorized to approve all procurement actions for Subcontracts and Consultants up to \$1,044,995 for the base period, \$389,938 for Option Task 1, and \$517,417 for Option Task 2. Any procurement actions exceeding this amount must be approved by the Project Sponsor via the use of the Impact Assessment Report (IAR) mechanism. No funds are permitted to be spent on capitalized equipment at this time. A travel ceiling of \$10,300 is available for FY20 for attendance at conferences for FNLCR staff to inform the public about the ICDC. A consultant ceiling of \$40,000 is available for a Steering Committee Chair. This information is current as of the IAR dated 5/10/2019.

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While this project requires minimal or no procurement, in the event procurement is required, the Project Manager will work with the project team to identify all items or services to be procured for the successful completion of the project. The Project Manager will then ensure these procurements are reviewed by the Program Management Office (PMO) and presented to the contracts and purchasing groups. The contracts and purchasing groups will review the procurement actions, determine whether it is advantageous to make or buy the items or resource required services internally, and begin the vendor selection, purchasing and the contracting process.

In the event a procurement becomes necessary, the Project Manager will be responsible for management any selected vendor or external resource. The Project Manager will also measure performance as it relates to the vendor providing necessary goods and/or services and communicate this to the purchasing and contracts groups.

PROJECT SCOPE MANAGEMENT PLAN

Scope management for the ICDC Project will be the sole responsibility of the Project Manager. The scope for this project is defined by the Scope Statement, Work Breakdown Structure (WBS) and WBS Dictionary. The Project Manager, Sponsor, and Stakeholders will establish and approve documentation for measuring project scope which includes deliverable quality checklists and work performance measurements.

Proposed scope changes may be initiated by the Project Manager, Stakeholders or any member of the project team. All change requests will be submitted to the Project Manager who will then evaluate the requested scope change. Upon acceptance of the scope change request the Project Manager will submit the scope change request to the Change Control Board and Project Sponsor for acceptance. Upon approval of scope changes by the Change Control Board and Project Sponsor the Project Manager will update all project documents and communicate the scope change to all stakeholders. Based on feedback and input from the Project Manager and Stakeholders, the Project Sponsor is responsible for the acceptance of the final project deliverables and project scope.

The Project Sponsor is responsible for formally accepting the project's final deliverable. This acceptance will be based on a review of all project documentation, testing results, beta trial results, and completion of all tasks/work packages and product functionality.

SCHEDULE MANAGEMENT PLAN

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Project schedules for the ICDC Project will be created using MS Project 2010 starting with the deliverables identified in the project's Work Breakdown Structure (WBS). Activity definition will identify the specific work packages which must be performed to complete each deliverable. Activity sequencing will be used to determine the order of work packages and assign relationships between project activities. Activity duration estimating will be used to calculate the number of work periods required to complete work packages. Resource estimating will be used to assign resources to work packages in order to complete schedule development.

Once a preliminary schedule has been developed, it will be reviewed by the project team and any resources tentatively assigned to project tasks. The project team and resources must agree to the proposed work package assignments, durations, and schedule. Once this is achieved the project sponsor will review and approve the schedule and it will then be base lined.

Roles and responsibilities for schedule development are as follows:

The project manager will be responsible for facilitating work package definition, sequencing, and estimating duration and resources with the project team. The project manager will also create the project schedule using MS Project 2010 and validate the schedule with the project team, stakeholders, and the project sponsor. The project manager will obtain schedule approval from the project sponsor and baseline the schedule.

The project team is responsible for participating in work package definition, sequencing, duration, and resource estimating. The project team will also review and validate the proposed schedule and perform assigned activities once the schedule is approved.

The project sponsor will participate in reviews of the proposed schedule and approve the final schedule before it is base lined.

The project stakeholders will participate in reviews of the proposed schedule and assist in its validation.

QUALITY MANAGEMENT PLAN

All members of the ICDC project team will play a role in quality management. It is imperative that the team ensures that work is completed at an adequate level of quality from individual work packages to the final project deliverable. The following are the quality roles and responsibilities for the ICDC Project:

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The Project Manager is responsible for approving all quality standards for the ICDC Project. The Project Manager will review all project tasks and deliverables with the Project Sponsor to ensure compliance with established and approved quality standards and to ensure that the Project Sponsor is in alignment with the direction of the project. Testing and quality standards will be established by the Quality Assurance Lead and will include manual and automated testing methods.

The CTOS Director of Project Management will sign off on the final acceptance of the project deliverable and is responsible for overall approval of the quality of the project.

RISK MANAGEMENT PLAN

The approach for managing risks for the ICDC Project includes a methodical process by which the project team identifies, scores, and ranks the various risks. Every effort will be made to proactively identify risks ahead of time in order to implement a mitigation strategy from the project's onset. The most likely and highest impact risks were added to the project schedule to ensure that the assigned risk managers take the necessary steps to implement the mitigation response at the appropriate time during the schedule.

Upon the completion of the project, during the closing process, the project manager will analyze each risk as well as the risk management process. Based on this analysis, the project manager will identify any improvements that can be made to the risk management process for future projects. These improvements will be captured as part of the lessons learned knowledge base.

RISK REGISTER

The Risk Register for this project is provided on the project website and will be updated as needed:

<https://wiki.nci.nih.gov/display/ICDC/Risk+Register>

STAFFING MANAGEMENT PLAN

The ICDC Project will consist of a matrix structure with support from various internal organizations and contracts as necessary. This project draws heavily on staffing from the Expand Data Commons Onboarding Team (funded by CBIIT) which is tasked with helping deploy

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data commons as part of the Cancer Research Data Commons (CRDC) overall plan. Staffing requirements for the ICDC Project include the following:

Program Manager (2 positions) – responsible for overall guidance for the ICDC Project with respect to Development and Steering Committee (1 each). The Steering Committee Program Manager shall serve as the Chair of the Steering Committee. Both will be responsible for ensuring smooth interaction with the COR and overall strategic management of the project.

Project Manager (1 position) – responsible for all management for the ICDC Project. The Project Manager is responsible for planning, creating, and/or managing all work activities, variances, tracking, reporting, communication, performance evaluations, staffing, and internal coordination with functional managers.

Senior Programmer (1 position) – responsible for oversight of all coding and programming tasks for the ICDC Project as well as ensuring functionality is compliant with quality standards. Responsible for working with the Project Manager to create work packages, manage risk, manage schedule, identify requirements, and create reports. The Senior Programmer will be managed by the Project Manager who will provide performance feedback to the functional manager, if requested.

Senior Systems Architect (1 position) – responsible for designing the overall structure of the system, security and inter-operability with other systems for the ICDC Project. Will work in concert with the Senior Programmer to determine all coding and programming tasks prior to implementation. Responsibilities also include risk identification, determining impacts of change requests, Gen3 analysis/integration, Data Commons Framework integration and status reporting. The Architect will be managed by the Project Manager and feedback will be provided to the functional manager for performance evaluations by the Project Manager, if requested.

Senior Business Analyst (1 position) – responsible for elucidating requirements from user stories and engaging users in the project development. Assists the Project Manager in creating quality control and assurance standards. The Senior Business Analyst is also responsible for maintaining quality control and assurance logs throughout the project, until such time as the project requires a full-time quality specialist. The Senior Business Analyst will be managed by the Project Manager who will also provide feedback to the functional manager for performance evaluations, if requested.

Senior Data Manager (1 position) – responsible for devising a data model in which to represent the collected data in the system and for revising that data model as additional sources and types of data are encountered. Responsible for the Extraction, Transform and Load

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procedures/software necessary to import the data into the system according to the data model. The Senior Data Manager will be managed by the Project Manager who will provide feedback, to the functional manager for performance evaluations, if requested.

Quality Specialist (1 position) – responsible for assisting the Project Manager and Senior Business Analyst in creating and tracking quality control and assurance standards. The Quality Specialist will have primary responsibility for compiling quality reporting and metrics for the Project Manager to communicate. The Quality Specialist will be managed by the Project Manager who will provide feedback, along with the Senior Quality Specialist to the functional manager for performance evaluations.

Technical Writer (1 position- as needed in the future) – responsible for compiling all project documentation and reporting into organizational formats. Responsible for assisting the Project Manager in Configuration Management and revision control for all project documentation. Responsible for scribing duties during all project meetings and maintaining all project communication distribution lists. The Technical Writer will be managed by the Project Manager who will also provide feedback to the functional manager for performance evaluations.

Testing Specialist (1 position) – responsible for helping establish testing specifications for the ICDC Project with the assistance of the Project Manager and Programmers. Responsible for ensuring all testing is complete and documented in accordance with FNL standards. Responsible for ensuring all testing resources are coordinated. The Testing Specialist will be managed by the Project Manager who will also provide feedback to the functional manager for performance evaluations.

The Project Manager will negotiate with all necessary FNL functional managers in order to identify and assign resources for the ICDC Project. All resources must be approved by the appropriate functional manager before the resource may begin any project work. The project team will be co-located for this project and all resources will remain in their current workspace.

RESOURCE CALENDAR

The ICDC Project will require all project team members for the entire duration of the project although levels of effort will vary as the project progresses. The Project is scheduled to last two years with standard 40 hour work weeks. If a project team member is not required for a full 40 hour work week at any point during the project, their efforts outside of the ICDC Project will be at the discretion of their Functional Manager.

The following are the team members for the project on which to draw for resources:

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Matthew Beyers, Technical Project Manager
 Amit Mukherjee, Senior Systems Architect
 Philip Musk, Senior Business Analyst
 Mark Jensen, Senior Data Manager
 John Otridge, Program Manager – BIDS
 Ralph Parchment, Program Manager – ADRD
 Afag Ibrahimova, Quality Assurance Lead
 Kevin Burns, Data Specialist
 Claire Wolfe, Data Specialist
 Dimitri Darras, Web Development Lead

ESI SubContractors

Ye Wu, Senior Programmer
 Yizhen Chen, Programmer
 Ming Ying, Programmer
 Ajay Doddapaneni, Web Developer
 Sri Kiran Chaparala, Web Developer
 Vincent Donkor, Cloud Specialist
 Wei Lu, Cloud Specialist
 Laxmi Lolla, Testing Specialist

COST BASELINE

The cost baseline for the ICDC project includes all budgeted costs for the successful completion of the project.

Project Phase	Budgeted Total	Comments
Baseline	\$1,991,470	Includes work hours for all project team members and sub-contracts for the baseline.
Option Task 1	\$1,486,358	Includes work hours for all project team members and sub-contracts for the Option Task 1, if exercised.
Option Task 2	\$1,916,810	Includes work hours for all project team members and sub-contracts for the Option Task 2, if exercised.

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QUALITY BASELINE

The ICDC Project must meet the quality standards established in the quality baseline. The quality baseline is the baseline which provides the acceptable quality levels of the ICDC Project. The software/service must meet or exceed the quality baseline values in order to achieve success.

Item	Acceptable Level	Comments
Uptime	The system should be available 95% of the time.	
Respond and document requests for change	The team should respond to the request for change and document that request in the JIRA system within 24 business hours. A 95% rate of response is considered success.	Documentation will also include a priority rating and a suggestion for resolution (fix, no fix, can't fix, etc.). If to be fixed, then a suggested sprint should be defined.
Incorporation of user changes	Once a user change has been assigned a sprint by the team, it should be incorporated within one sprint period. A 95% rate of response is considered success.	Changes should be completed within the period of the sprint. If unable to complete, documentation as to why should be provided in the JIRA ticket.

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SPONSOR ACCEPTANCE

Approved by the CTOS Director of Project Management:

Date: 10/15/2019

John Otridge, PhD

Director, CTOS Project Management, Frederick National Laboratory for Cancer Research