Standard Operating Procedure (SOP) BRICS System Design Document

Document Information

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- 1. The SOP author sends the SOP SharePoint link to their peers/subject matter experts (SMEs) for review.
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Name	Title	Organization	Approval Date
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Peer Reviewers

This Standard Operating Procedure was reviewed by the peers (i.e., subject matter experts) listed below. The procedure will be reviewed by the peer reviewers at least annually.

Reviewed By:

Name	Title	Organization	Date
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Distribution List

This Standard Operating Procedure impacts the individuals on this Distribution List. The SOP author should notify everyone on this list about changes to this SOP *within one week* of NINDS approval.

Distributed To:

Name / Department / Group / Team
Yang Fann
Matthew McAuliffe
Dominic Nathan
Willy Calderon

1. Introduction

1.1 Overview

System Design document describes the system requirements, operating environment, system and subsystem architecture, database design, human-machine interfaces and external interfaces. The intended audience for this procedure includes the groups/individuals listed below:

- NINDS DIR Clinical Informatics Development Team
- CIT OIR ISL BIRSS Development Team
- Business stakeholders and partners

1.2 Purpose

The purpose of this System Design Document is to provide a description for how the new BRICS will be constructed. The System Design Document was created to ensure that the design meets the requirements specificed in the System Requirements Specification (SRS). BRICS is a collaboration and extensible web-based system designed to support the collection of research studies and clinical trials. It consist of modular components including:

- Global Unique Identifier (GUID) tool
- Data Dictionary tool
- Data Repository
- Meta Study
- Protocol and Form Research Management System (ProFoRMS)
- Query Tool
- Account Management

1.3 Scope

This Standard Operating Procedure is applicable to the collection of components that comprise custom software development of the BRICS and its associated systems such as CiSTAR, CASA, and ProFoRMS at NINDS, CIT and CNRM.

1.4 Roles and Responsibilities

The following table defines the System Design roles and responsibilities and also serves as the list of points of contact for issues and concerns relating to the BRICS system design.

Name	Title	Responsibility
Clinical Trial Unit	NINDS DIR CTU	NINDS Governance committee for approvals
Steering Committee	Informatics Core	CNRM Governance committee for approvals
Yang Fann	BRICS Co-Director NINDS IT Director	Authorizing Official to operate Approve requirements
Matthew McAuliffe	BRICS Co-Director CIT BIRSS Chief	Approve requirements
Dominic Nathan	Informatics Core Director	Manage the project
Leonie Misquitta	Sr Scientific Advisor	Provide scientific consulting
Tsega Gebremichael	Sr Software Engineer	Provide technical guidance
Change Control Board	Subject Matter Experts	Manage and approve change requests and system enhancements
Business, Product owner, Instance Program Manager	Key Stakeholders	Review and validate requirements and work products
NINDS/CIT Clinical Informatics Development team	Software Engineer	Responsible for understanding and following the scrum development processes outlined in this document.

1.5 Key Words

The following key terms are used in this SOP.

- BRICS Biomedical Research Informatics Computing System
- CiSTAR Clinical Informatics System for Trials and Research
- CASA Collection Access Sharing Analytics Platform
- CNRM Center for Neuroscience and Regenerative Medicine
- SRS System Requirements Specification

1.6 Design Constraints

This section identifies any constraints in the system design, trade-off analyses, conflicts with other systems, or assumptions made by the project team in developing the system design. No design constraints have been identified.

2. System Architecture

This section describes the overall system software and hardware architecture for the BRICS project.

2.1 Software Architecture

The platform architecture comprises three layers as shown in Figure 1 below:

- a) Presentation Layer
- b) Application Layer
- c) Data Layer



Figure 1. BRICS Platform Architecture

The Presentation Layer serves as the entry point to the BRICS portal, allowing users to securely login by verifying that their credentials are valid, and displaying requested information on the portal web page. The presentation layer uses various open source technologies and libraries, including Java Server Pages (JSP), jQuery, JavaScript libraries (e.g. such as Backbone.js, Asynchronous JavaScript), and XML (AJAX), etc. to make web-pages interactive. This layer also includes WebStart applications: the Global Unique Identifier (GUID) client, Validation and Upload tools, and Download and Image Submission tools, all of which run on users' machines. Although these WebStart tools run on users' machines, they make secure calls to WebServices to obtain data for users. Once the data is returned from the WebServices, it is processed and displayed on the user interface.

The Application Layer processes information received from the Presentation Layer and communicates the requested information back to the Presentation Layer. The Application Layer is responsible for the logic that determines the fundamental capabilities of the BRICS modules and tools. There are seven service modules within the Application Layer that are integrated together to provide a collaborative, extensible web-based data capture, processing, data repository, and access environment(s). The modules (shown in Figure 1) comprise the GUID tool, Data Dictionary (DD), Data Repository, Meta Study, Protocol and Form Research Management System (ProFoRMS), Query Tool, and Account Management.

To communicate and exchange information between the modules, representational state transfer (RESTful) Webservices are used. For example, when submitting data-to-data repository, the data is validated against the Data Dictionary definition. During the process of data validation, the dictionary's Webservice is called to acquire the definition of the given form structure and CDEs, including permissible values.

The Data Layer receives data from the Application Layer. Based on the user's request, the data layer executes queries against a database and returns the results back to the Application Layer. Using the same data validation example, the data layer queries the database to obtain detailed information about the given form structure and sends that information back to the Application Layer. The Data Layer consists of open source databases such as PostgreSQL and Virtuoso databases, and file servers, and data persistence frameworks. The Virtuoso database is used to store the Query Tool and parts of the Data Dictionary data. The Repository module uses the PostgreSQL database to store and retrieve data. Also present are Object-Relational Mapping (ORM) frameworks such as Hibernate and Apache Jena, which are open-source libraries and are used to store and retrieve data from databases.

The three layers intercommunicate with each other, enabling BRICS developers to deploy reusable components for the platform. The layered architecture makes it easier to maintain and allow for scalability. Maintenance is easier because some of the components are shared by different parts of the platform and changes can be applied simultaneously. For example, the same dictionary Webservice is used by the ProFoRMS and Imaging Submission tools. A change to the dictionary Webservice logic only needs to be done once, within the Application Layer, to make it available throughout the system without the need to change code in any other layers. This allows code reuse, minimizes redundancy, and makes maintenance easier.

2.2 Hardware Architecture

BRICS design is based on existing hardware architecture at NIH. The physical infrastructure is located within the NIH Data Center in Bethesda, Maryland, supported by an alternate backup site in Sterling, Virginia. The infrastructure is supported by Storage devices (Dell EqualLogic) and switches (10GbE Cisco) that connect to host servers (Dell R630). A virtualized environment (using VMware Inc. products) is used to host the various applications and services. The operation of various BRICS instances is 24x7 with redundancies and backups done on a nightly schedule.

3. Database Design

Structured data stored in the database will be searchable and sortable in order to meet the reporting requirements. The database field names are consistent with all fields built into specific module and tool. The final design of the DBMS includes the following data dictionary information:

- Refined logical model normalized table layouts, entity relationship diagrams, and other logical design information.
- A physical description of the DBMS schemas, sub-schemas, records, sets, tables, storage page sizes, etc.
- Access methods (such as indexed, via set, sequential, random access, sorted pointer array, etc.)
- Estimate of the DBMS file size or volume of data within the file, and data pages, including overhead resulting from access methods and free space.
- Definition of the update frequency of the database tables, views, files, areas, records, sets, and data pages, estimate the number of transactions.

The BRICS database will be backed up in accordance with NINDS and CIT Security Plicies and Guidelines and provide a failover capability to revert to in the event of a database corruption or system failure.

Additional technical specifications of the database design can be found in the database management system (DBMS) addendum to the Project Plan.

4. System Security and Integrity Controls

BRICS design incorporates several security and integrity controls to ensure the system and its associated systems are continually protected. This is done through a multitiered approach to ensuring data integrity is achieved through only authorized user functions and assignments.

The first design consideration is user authorization and permissions. These users will be unable to perform any transactions outside of their assigned areas. System administrators will grant proper roles and operating boundaries for each of their assigned users.

The next design consideration is to establish control points. Firewalls will be placed to partition the functions each instance is able to perform. The purpose is to reinforce work areas, permissions, and access to prevent any duplication, unintentional changes, or malicious changes of data.

The system design also incorporates the important audit trail capability which will allow administrators to track the history of all users in order to provide history, error identification, and accountability for system users.

Security is a critical component during biomedical informatics platform development. Planning for security must carry out as initial part of design work because maintaining privacy of patient data is essential for meeting various compliance regulations (e.g. HIPPA privacy rule). The BRICS security design is compliant at the Federal Information Security Modernization Act (FISMA) Moderate level. Confidentiality of research subjects is maintained, but data and study protocols are shared to promote scientific collaboration. Appropriate controls and assurance requirements conform to the Federal Information Processing Standards (FIPS) 200 and NIST SP 800-53 Revision 3, and the Department of Health and Human Services policies for information systems.

5. Modular Process Design

Modular design emphasizes separating the functionality of a program into independent module. BRICS platform offers a suite of tools to promote standardization, communication, and collaboration across the research community and a data repository to hold genetic, phenotypic, clinical, and medical imaging data. These plug-and-play

modules can be shared across disease categories or deployed and branded independently.

The platform architecture and the associated functionalities discussed in the system software architecture (section 2.1) provided the basis for implementing a complete Biomedical Research Data Life Cycle Management (BRDLCM) methodology. The essential processes in the BRDLCM are as follows:

- data de-identification
- preparation of submission information packages for data collection
- development of archival information packages for storage within established repositories
- creation of access information packages with tools and techniques for data analysis, sharing and reuse.

5.1 De-identification of Data

BRICS uses the GUID method to support the storage of de-identifying patient/subject research data. The GUID is a Global Unique Identifier for each study participant that allows researchers to aggregate and share a participant's data without exposing personally identifiable information (PII). The GUID is made up of random alpha-numeric characters and is not generated from PII/PHI. The GUID is generated at the researcher's site by using the BRICS GUID generation tool. The PII fields used as part of the hashing process can include complete legal given (first) name of subject at birth, middle name (if available), complete legal family (last) name of subject at birth, day of birth, month of birth, year of birth, name of city/municipality in which subject was born, and country of birth. The PII data is not sent to the server but rather one-way encrypted hash codes are created and returned to the server, allowing the PII to reside only on the researcher's computer. A random number, the GUID, is generated by the server and returned to the researcher. The GUIDs have been designed to be BRICS 'instance' specific, stored within a MongoDB database (illustrated in Figure 2). The GUID is the primary subject identifier.

In addition, the GUID server can be configured to support multiple BRICS instances thereby making the GUID truly more "global". This is especially useful in multi-center clinical trials, and investigations where subjects can be enrolled across studies or repositories.



Figure 2 - Schematic representation of making data Findable (F), Accessible (A), Interoperable (I), and Reusable (R) by the deployment of BRICS modules.

Data lifecycle is indicated by 1- preparation of Submission Information Packages (SIPs), 2 - development of Archival Information Packages (AIPs), 3 - storage of AIPs, and 4 - access to Dissemination Information Packages (DIPs).

5.2 Data Submission and Processing

User support is provided for data stewardship activities that include training and assistance to authorized users, for CDE implementation, data validation and submission to the repositories. Access is controlled by a Data Access Committee (DAC) that reviews studies for relevance to a BRICS instance. In addition, access to the system is role based and specific permissions are associated with roles such as PI, data manager, and data submitter.

Researchers are responsible for most of the data submission activities, which includes study FS approval, eForms review, curation, mapping of data elements, and providing associated study documentation. Data curation is carried out by identifying the available standard forms and CDEs in the Data Dictionary. In the event no corresponding CDEs are available, then the user can define the data elements and obtain approval during the submission process.

There are two routes of data submission:

a) One approach uses the ProFoRMS tool (Figure 2, stage 1) for clinical data acquisition that supports scheduling subject visits, collecting data, adding new data, modifying previously collected data entries, and correcting discrepancies that are tracked and maintained in audit logs (in compliance with 21 CFR Part 11). b) The other data submission mode uses a generic data collection system (e.g. RedCap), where output is uploaded into the repository module (Figure 2, stage 2).

Both routes of data submission validate the submitted data using specific data dictionaries for a BRICS instance.

The Validation Tool supports the data repository and ProFoRMs modules, by using common data elements with defined range and value metrics for data quality checks, to make data reusable **(R)**. Once the data has been validated and uploaded via the submission upload tool, data is stored in its raw form within the repository module in a database that can be accessed by the Query Tool (Figure 2, stage 3).

5.3 Data Storage and Management

The data Repository module for the various BRICS instances serves as a central hub, providing functionality for defining and managing study information and storing the research data associated with each study (Figure 2, stage 3). When an investigator is authorized to submit data to a BRICS instance, they can organize one or many datasets into a single entity called a Study. In general terms, a 'Study' is a container for the data to be submitted, allowing an investigator to describe, in detail, any data collected, and the methods used to collect the data, which makes data accessible (A). In addition, the repository module provides download statistics for specific studies, enabling the investigator to obtain information on their respective data that has been downloaded for other research activities, and overall increase data sharing and collaboration for additional research goals. Depending on the research studies, BRICS based repositories can host high throughput gene expression, RNA-Seq, SNPs, and sequence variation data sets (Figure 2, stage 3).

Through the Repository user interface, researchers can generate Digital Object Identifiers (DOIs) that can be referenced in research articles. BRICS mints its DOIs through the Interagency Data ID Service (IAD), which is operated by the U.S. Department of Energy Office of Scientific and Technical Information (OSTI). The IAD service acts as a bridge to DataCite, which is one of the major registries of DOIs.

5.4 Data Sharing

There are two sharing options – private and shared. By default, the system assigns the sharing preference as 'private' where only users to that specific study can access the data. When the data is in the private state, the PI has the option to share data with specific collaborators (preferential sharing). After a certain period (defined by the data sharing policy for each BRICS instance), the data enters a new 'shared' state, which is accessible **(A)** to the approved users.

Raw data is available for querying within 24 hours of data submission. For the data to be available via the Query Tool module, the raw data is processed through the 'MIRTH' tool (integrated interface engine) and Resource Description Framework (RDF) data

interchange tool (Figure 2, stage 4). Shared data is available to all system users (approved by DAC) to search, filter, and download via the Query Tool functionality. The Query Tool offers three types of functionalities - (a) querying and filtering data, (b) data package downloads based on query, and (c) data package to the Meta Study module.

The Meta Study module is used for meta-analysis of the data as well as a collaboration tool between scientific groups. A Meta Study contains findings from studies that can be aggregated by researchers to conduct additional analysis. The Query tool can also support the statistical computing language R as well as structured visualization of data (Figure 2, stage 4).

5.5 Data Access

The Query Tool (QT) enables users to browse studies, forms and CDEs, to select clinical data, use filters, and to sort and combine records. Using the GUID and a standard vocabulary via CDEs in forms, the QT provides an efficient means to reuse data by searching through volumes of aggregated research data across studies, find the right datasets to download and perform offline analysis using additional tools (e.g. SAS, SPSS, etc.). The statistical 'R-box' tool, integrated with BRICS, has been incorporated in the QT, to support analysis without having to download data.

6. GUI Interface Design

All modules in the BRICS platform will have the similar graphical user interface to prove the users a consistent user experience across different modules of the system. Each user's name will be displayed on the top right corner of the banner after login. All the screen shots or mockups below represent one of the systems.



Data Repository is the central hub of the BRICS system, providing functionality for defining and managing study information, and for contributing, uploading, and storing the research data associated with each study.

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Researchers can define electronic case report forms, schedule and collect clinical data and then export, analyze, and report on the data using the ProFoRMS module.

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ProFoRMS – Manage Protocol – Protocol Information

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Protocol Information	0	CNRM Demo			CISTAR-STUDY0000206	Megdelawit Mersha	Admin
Assign Roles	0	CNRM Test Protocol -	ВК		CISTAR-STUDY0000209	Bahar Kost	Admin
Manage Visit Types	0	Effect of Traumatic Bra	ain Injury on Service Members (10-N-2001)		CISTAR-STUDY0000211	John Peterson	Admin
E-Binder	0	Effects of holding two	tremulous hands on the tremor in ET patients - IK1		CISTAR-STUDY0000204	Dietrich Haubenberger	Admin
Reports	0	Octanoic Acid in Patie	nts with Parkinsonian Tremor a proof-of-concept stud	ły	CISTAR-STUDY0000210	Dietrich Haubenberger	Admin
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		Protocol Number*	10-N-2001				
	Prin	ncipal Investigator(s)*	John Peterson				
		Study Type*	Natural History				
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	Use	e E Regulatory Binder	C No C Yes				
		Enable E-Signature	C No C Yes				

ProFoRMS – Manage Protocol – Assign Roles

The user roles depending on the study setup can be as follows: Principal Investigator, Associate Investigator, Clinical Research Associate, Research Associate, Data Entry, Data Manager, etc.

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	Collect Data	administrator	Admin, Portal			
	Manage Protocol	test_admin	Admin, QA		 Associate Investigator	
	Protocol Information	sahmed1	Admin, Sikandar		Clinical Research Associate	
	Assign Roles	testadmin	Admin. Test		Data Entry Data Manager	
	Create Visit Type				Principal Investigator	
0	Manage Visit Types	ahmadof	Ahmad, Omar		Research Associate	
	E-Binder	Battlem	Battle, Melonise		-	
	Reports	yang.fann	Fann, Yang		-	
	Site Administration	afontana	Fontana, Anthony			
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		tgebre_nonadmin	GM, Tsega2		-	
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ProFoRMS – Site Administration – Roles & Privileges

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entre la	CiSTAR									Welcome Administrator , Meg Log O	ut
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Admin Form Subm	it Ass	ign Users to S	Study 🗆				Add/Edit Visit Types				
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	,	Add/Edit Ques	tions 🗆				View Questions				
	Ma	inage Event F	orms 🗆				Import/Export Forms				
		Data	Entry				Edit Answer				

ProFoRMS – Manage Protocol – Manage Visit Types

Researchers can add and edit study information, schedule and create study visits, manage visit types for individual subject across multiple studies within the system, and upload subject related documents.

Home Wor	kspace Pr	roFoRMS	GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management			
roFoRMS									Dashboard	10-N-2001	
ProFoRMS Home	e My	/ Visit T	/pes								
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Joneer Data		Visi	t Type Name	* Туре 🔶	Category Description	1		🝦 eForms Included			
lanage Protocol	I. (1-1	/ear	Scheduled	1 year sind	e baseline. Self	Reporting	SWLS_1			
Protocol Informat	ion (18	0-days	Scheduled	180-days :	since baseline		PriorAndConcomitantMed	s_8 and BSI18		
Assign Roles	(30	days	Scheduled	30 days si	nce baseline vis	it	CSSRS, PriorAndConcor	nitantMeds_9, and PHQ8_	1	
Create Visit Type	(Ba	seline	Scheduled	Initial Visit			FamilyHistory_7 and PCL	C_Standard		
Manage Visit Type	es	outing 1 t	a A of A optring ()	0 row colocted of 4)							

ProFoRMS – Manage Protocol – Create Visit Type

V Ci	STAR								Welco	ome Administrator, Meg Log
🕇 Home 🛛 Workspac	• ProFoRMS	GUID	Data Diction	ary Data Rep	ository Query	Meta Study	Account Management			
ProFoRMS								Dashboard	10-N-2001	
ProFoRMS Home	Create a new vi [-] Create Visi	isit type, select i it Type	a visit type to	view or perform an a	action.					
Manage Subjects	* This symbol i	indicates a requ	ired field							
Collect Data	Vi	sit Type Name	* 180-day	/S						
Manage Protocol		Visit Typ	Scheo	duled						-
Protocol Information Assign Roles		Catego	* 180-day	vs since baseline						
Create Visit Type										
Manage Visit Types										
E-Binder	Self Rep	orting eForms	* Available	15 C days befo	ore the scheduled visit	until 15 🧘 day	after the scheduled visit.			
Reports	Associate Pul	blished eForm	s:						Search:	
Site Administration				eForm Name	eForm Short Nan	ne 🌣	Description		Required?	Self Reporting?
			Г	Adverse Events	AdverseEvents_	3	Adverse events (AEs) documen	nt medical events th	C Required C Optional	e Yes e No
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			Г	Adverse Events	AdverseEvents_	1	Adverse events (AEs) document	nt medical events th	Required Coptional	e Yes e No
				Adverse Events	AdverseEvents_	9			Required	€ Yes € No
			Г	Adverse Events	AdverseEvents_	3	Adverse events (AEs) documen	nt medical events th	C Required C Optional	e Yes e No

ProFoRMS – Manage Protocol – E-Binder



ProFoRMS - Manage Subjects - Add Subject

Home Workspace	oFoRMS GUID Data Dic	tionary Data Repository	Query Meta Study Account	Management		
roFoRMS	v				Dashboard 10-N-2001	
roFoRMS Home Ple	ase enter subject information, add pro	otocol information and other fields to	add a subject.			
anage Subjects	Subject Information					
v Subjects	MRN*			Recruited	5	
d Subject	Last Name*			Date of Birth	Format: YYYY-MM-DD	2
hedule Visit	First Name*			Birth City		
llect Data	Middle Name			Birth Country	United States of America	•
nage Protocol	Sex		•	Home Address 1		
	E-Mail			Home Address 2		
ports	Home Phone			City		
e Administration	Work Phone			State	Alabama	•
	Mobile Phone			Zip		
				Country	United States of America	•
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EULA Agreen	ton on the GUID Tool Launch GUID Tool					
EULA Agreen ata Privacy his system is a c	ton on the GUID Tool Launch GUID Tool nent ollaborative enviro	nment with privac	y rules that pertain to	o the collection	and display of	
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ProFoRMS - Manage Subjects - My Subjects

The My Subjects page lists all subjects currently enrolled into the protocol. The user can sort the list of subjects by GUID, Last/First Name, Status, etc. by clicking on the column heading. This help the researchers to add and edit subject information, schedule subject visits, upload documents, and track across multiple studies.

Cis	TA	R												Welcome Administ	trator , Meg Log Out
ff Home Workspace	ProFol	RMS	GUID I	Data Dictionary	Data Rep	ository	Query	Meta Stu	dy	Account Mana	gement				
ProFoRMS												Dashboard	10-N-2001		•
ProFoRMS Home	View su [+] Adv	ibject list, s vanced S	search for a su Gearch	ubject, or select su	bjects to perfe	orm an actior	n.								
Manage Subjects	My Su	bjects													
My Subjects	Select a	a subject to	perform an a	ction.		10				Dentert					
Add Subject	Edit	View	Attachment	All Complete	d eForms	View Audit	Schedule	3 Visit D	elete	Download			5-77-74 S	Search: •	
Schedule Visit	•	guid				Last	Name		🗣 Firs	t Name	🖨 Status	🗣 Valid	ated	Protocol	÷
Collect Date		CISTAR	CR243ENZ			Jam	nes		Ма	irtha	Active			10-N-2001	
Collect Data	8	CISTAR	EY302LUH			Bela	ay:		На	nna	Active			10-N-2001	
Manage Protocol		CISTAR	PH167YR7			Smit	ith		Eri	c	Active			10-N-2001	
Reports		CISTART	TP289EMD			Jero	ome		Kir	а	Active			10-N-2001	
Site Administration	Showin	g 1 to 4 of	4 entries (1 ro	w selected of 4)										First Previou:	s 1 Next Last

ProFoRMS – Manage Subjects – Schedule Visit

Cis	TA	R														Welcome	Administrator, Meg	ן Log Out
ft Home Workspace	ProFoR	MS GUID	Data D	ictiona	ary	Data	Repos	sitory	Q	uery Meta St	udy Account M	inagement						
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ProFoRMS Home	View sch * This sy	eduled visits, add ne mbol indicates a ree	ew visits (quired fiel	or selec Id	ct a visit	to per	form ar	n action.										
Manage Subjects	GUID	or Pseudo-GUID	* CIST	AREY	302LU	н					•							
My Subjects		Date and Time	* 2018-	12-18	09:49						2							
Add Subject		Visit Type	0	Dec	embe	er 20	018	•	0									
Schedule Visit	Add	Cancel	Su	Мо	Tu	We	Th	Fr	Sa									
Collect Data	Schedu	lad Visite	2	2	4	c	6	7	1									
Manage Protocol	Cilleda	D. Line Down	9	10	11	12	13	14	15									
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Keporta			23	24	25	26	27	28	29	First Name		⇒ Date and	ime		⊊ Seif	Reporting Token		Ŧ
Site Administration		CISTARET302LUH	Time		0	9:49				Hanna	1-tear	2018-12-2	7 00:00)	adıp	3y5bv530Zecr		
	U	CISTAREY302LUH	Hour							Hanna	30-days	2018-12-1	7 21:11					
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	Showing	1 to 3 of 3 entries (0	No	w			10	Dor	ne							First	Previous 1 Nex	t Last

ProFoRMS - Collect Data - Data Collection

Clinical data may be captured electronically at its source, or in paper form and later transcribed into the system. Researchers can manage protocols, manage subjects, collect data, view Report and Query, perform quality assurance, monitor subject safety, and view audit logs to assure the changes are tracked in the system.

Welcome Administrator, Meg | Log Out



🕇 Home	Workspace	ProFoRMS	GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management				
ProFoF	RMS								Dashboard	10-N-2001		•
ProFoRMS	8 Home	Please select	t by subject, ubject (GUII	by subject form or by nor	n-subject eForm from the	e drop-down,	and then perform	an action.				
Manage St	ubjects	[+] Advanc	ed Search									
Collect Da	ita	Upcoming	Collections	5								
Data Collect	ction	View list of d Start Data	ata, search fo	or a data, or select data to Data Entry Summary	o view or perform an act	on.					Search: 🗸	
my conect	ions	📃 Subj	ect GUID			Subject N	ame	💠 Visit Type	\$ V	isit Date		\$
Manage Pr	rotocol		TARCR243E	NZ		Martha Ja	imes	Baseline		2018-12-17 16:20		
Reports			TARCR243E	NZ		Martha Ja	imes	30-days		2019-01-14 00:00		
Site Admir	nistration	CIS	TARCR243E	NZ		Martha Ja	imes	180-days		2019-04-14 12:00		
			TARCR243E	NZ		Martha Ja	imes	1-Year		2019-12-10 13:00		
			TAREY302LU	JH		Hanna Be	lay	Baseline		2018-12-15 14:03		
			TAREY302LU	JH		Hanna Be	elay	30-days		2018-12-17 21:11		
			TAREY302LU	JH		Hanna Be	Hay	180-days		2018-12-18 09:49		
			TAREY302LU	JH		Hanna Be	lay	1-Year		2018-12-27 00:00		
			TARPH167Y	R7		Eric Smit	h	Baseline		2018-12-15 13:59		
		CIS	TARPH167Y	R7		Eric Smit	h	30-days		2018-12-16 16:01		

Cisr Cisr	TAR n for Trieb and Revent							Welcome Admini	strator , Meg Log C
📅 Home Workspace	ProFoRMS GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management			
ProFoRMS	•						Dashboard	10-N-2001	•
Please enter information to start d *This symbol indicates a required	lata collection. I field								
Subject GUID	CISTARTP289EMD								
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		- 10							
eForm Name*	- Please Select								
► eForm Name* Visit Date/Time*	- Please Select 2018-12-17 16:20								•

ProFoRMS – Collect Data – My Collections

My Collections view will be displayed after entering data in the form and click the Save button.

Welcome Administrator, Meg | Log Out

CISTAR

Advanced S Advanced S ta Collection ect a form to V Tew Entry Subject (CISTAR	tt form or by non-subje Search n view odperform an acti Edit View Audit GUID	ect form to begi ion Reassign	n collecting data				Dashboard	10-N-2001	
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Subject	guid 🔺			Export				Se	arch: •
CISTAR		Visit Date		Visit Type	💠 eForm Name	🖨 Short Name	🔷 Status	🔷 User	🖨 Lock Date
	CR243ENZ	2018-12-10	12:00	Baseline	Demographics_10	Demographics_10	Locked	Mersha, MegM	2018-12-10 10:39
CISTAR	CR243ENZ	2018-12-10	12:00	Baseline	FamilyHistory_7	FamilyHistory_7	Locked	Mersha, MegM	2018-12-10 10:37
CISTAR	CR243ENZ	2018-12-10	12:00	Baseline	PCLC_Standard	PCLC_Standard	Locked	Mersha, MegM	2018-12-10 10:54
CISTAR	CR243ENZ	2018-12-16	16:04	30-days	CSSRS	CSSRS	In Progress	Mersha, Meg	
CISTAR	CR243ENZ	2018-12-16	16:04	30-days	PHQ8_1	PHQ8_1	Locked	Mersha, Meg	2018-12-16 16:08
CISTAR	EY302LUH	2018-12-15	14:03	Baseline	FamilyHistory_7	FamilyHistory_7	In Progress	Mersha, Meg	
CISTAR	EY302LUH	2018-12-15	14:03	Baseline	PCLC_Standard	PCLC_Standard	Locked	Mersha, Meg	2018-12-15 14:09
CISTAR	PH167YR7	2018-12-14	15:43	Baseline	PCLC_Standard	PCLC_Standard	In Progress	Mersha, Meg	
CISTAR	TP289EMD	2018-12-17	16.23	Baseline	FamilyHistory_7	FamilyHistory_7	In Progress	Mersha, Meg	
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ProFoRMS	•				Dashboar	rd 10-N-2001	•
[+] Data Collection							
eForms For This Visit Typ	e Posttraumatic Stress The Postraumatic Stress I Respondents rate on a five information refer to the Attr	Disorder Checklist (PCL) Disorder Checklist (PCL) Civilian point Scale how much they were way they an outprofassional/ass	Civilian Version /ersion is a 17-item bothered by each s	1 self-reported measure compo ymptom "in the past month." 7 r-cherkfit es	sed of the DSM-IV sym, he PCL-C (Civilian) is r	Locked In Progress Completed Letter R inside circle means required form uptoms of Posttraumatic Stress Disorder[(I not focused on any one traumatic event. For	Not Started* for that visit type PTSD). or more
PCLC_Standard	Main "Global Unique ID (GUID) v identifies the subject:	which uniquely CISTARPH1	67YR7	Subject ID nur	nber:		
	Subject's age (recorded in	/ears):					
	Visit date:			2018-12-14 15	:43 👮		
	The number of days since l	paseline:					
	Is the subject in the case of	control arm of the study?					
	Additional information (if an	y):					
	Questions Repeated, disturbing memo	pries, thoughts, or images of the s	stressful experience	? C 1-Not at all			

Forms will continue to show as "In Progress" until they are locked. Data should not be locked until reviewed and ready for final submission.

	G 3-Moderately		
	4-Quite a bit		
	C 5-Extremely		
Trouble falling or staving asleep?	C 1 Not at all		
	C 2 A little bit		
	C 2 Mederately		
	C 4 Quite a hit		
	4-Quite a bit		
	5-Extremely	 	
reeling irritable or naving angry outpursts?	1-Not at all		
	C 2-A little bit		
	G 3-Moderately		
	4-Quite a bit		
	5-Extremely		
Being Enter your password to complete the form. Password: ••••••••••••••••••••••••••••••••••••	plete to the best of my knowledge		
	C 3-Moderately		
	C 4-Quite a bit		
	C 5-Extremely		
A total score (range 17-85) can be obtained by summing the scores from each of the 17 iter	ns. 16		

Once all of the required questions have been completed, and "Mark as Completed and Enable Locking for Submission" checkbox is checked, a pop-up will be display and asking for the user's electronic signature if the e-signature is enabled in the protocol information section.

	Collect Data Lo	ck Confirmation				
Mark As Completed and Enable Locking for Subme	Protocol Name: eForm Name: Subject GUID: Visit Date: Visit Type: Data Entered By:	TBI and Service Members Postraumatic Stress Disorder Checklist (PCL) Civilian Version CISTARPH167VR7 2018-12-14 15:43 Baseline Mersham	ve	Save & Exit	Savel [®] Lock	Cancel
Clinical Informatics System for Trials and R (CISTAR) System	□ I hereby confirm	that all data entry for this form is accurate and complete to the best of my knowledge.			Accessibility ຝ	9 Foia (9
National Institutes of Health	View Completed Form	Lock & Exit Cancel		NIH National Profile Network Profile Area Stream		
			NIH	Ú <u>SA.g</u>	2	

A "Collection Data Lock Confirmation" pop-up window will appear once the form is locked. User will need to select the validation checkbox and click on "Lock & Exit" button.

Welcome Administrator, Meg | Log Out

my	CiSTAR
	7

	workspace PFORMS FORMS Home age Subjects ect Data a Collection Collections age Protocol Administration													
Home	Workspace	ProFe	RMS	GUID	Data Di	ctionary	Data Reposito	y Query	Meta Study	Account Management				
ProFoF	RMS										Dashboard	10-N-2001		•
ProFoRMS	we Workspace Workspace Workspace FoRMS FoRMS Home age Subjects ect Data a Collection Collection Collections Age Protocol orts Administration	The	administe	ered for	m Posttraumat	tic Stress D	isorder Checklist	(PCL) Civilia	n Version has been L	ocked successfully				
		Search	n by Subje	ect form	or by non-subje	ect form to be	egin collecting data							
Manage S	ubjects	[+] Ac	lvanced	Search	1									
Collect Da	ita	Data	[+] Advanced Search Data Collection Select a form to view or perform View Entry Edit View Entry Edit Subject GUID CISTARCR243ENZ											
Data Colle	ect Data a Collection Collections	Select a form to view or perform an ac				on								_
Duta Colle		Viev	Entry	Edit	View Audit	Reassign	Delete Entry	Export				Sea	arch: -	
My Collect	tions		Subject	GUID		Visit Date	ŧ	Visit Type	🜲 eForm Name	💠 Short Name	🖨 Status	🔷 User	🝦 Lock Date	¢
Manage Pi	rotocol		CISTAF	RCR243	ENZ	2018-12-	10 12:00	Baseline	Demographics_	10 Demographics_10	Locked	Mersha, MegM	2018-12-10 10:39	
Reports			CISTAF	RCR243	ENZ	2018-12-	10 12:00	Baseline	FamilyHistory_7	FamilyHistory_7	Locked	Mersha, MegM	2018-12-10 10:37	
Site Admir	nistration		CISTAF	RCR243	ENZ	2018-12-	10 12:00	Baseline	PCLC_Standard	PCLC_Standard	Locked	Mersha, MegM	2018-12-10 10:54	
one Aurin	insulation		CISTAF	RCR243	ENZ	2018-12-	16 16:04	30-days	CSSRS	CSSRS	In Progress	Mersha, Meg		
			CISTAF	RCR243	ENZ	2018-12-	16 16:04	30-days	PHQ8_1	PHQ8_1	Locked	Mersha, Meg	2018-12-16 16:08	
			CISTAF	REY302L	.UH	2018-12-	15 14:03	Baseline	FamilyHistory_7	FamilyHistory_7	In Progress	Mersha, Meg		
			CISTAF	REY302L	.UH	2018-12-	15 14:03	Baseline	PCLC_Standard	PCLC_Standard	Locked	Mersha, Meg	2018-12-15 14:09	
			CISTAF	RPH167	rR7	2018-12-	14 15:43	Baseline	PCLC_Standard	PCLC_Standard	Locked	Mersha, Meg	2018-12-18 09:58	
			CISTAF	RTP289E	EMD	2018-12-	17 16:23	Baseline	FamilyHistory_7	FamilyHistory_7	In Progress	Mersha, Meg		
			CISTAR	270200	-MD	2018 12	17 16:23	Baceline	PCLC Standar	PCLC Standard	Locked	Marcha Mag	2018 12 17 18:30	

				Completed In Progress Completed Not Started*
				Letter R inside circle means required form for that visit type
eForms For This Vi	Reason for Change			
FamilyHistory_7	Question Text	Repeated, disturbing dreams of the stru		Disorder[(PTSD). tic event. For more
PCLC_Standard	Original Entry 1	4-Quite a bit		
	Final Answer	1-Not at all		
	Reason for Change*			
				ОК
			l l	
	Is the subject in t	he case or control arm of the study?	×	
	Additional inform	ation (if any):		

Data Collection Audit eForm Name: Protocol Name: Subject GUID:	Log Posttraumatic Stress Disorder Checklist (PCL) Civilian Versie TBI and Service Members CISTARTP289EMD	in		
Visit Date: Visit Type: Data Entered By:	2018-12-17 16:23 Baseline Mersham			
Original Entry 1				Search: 💌
Username	Start Date/Time	🜲 Action	# of Questions Completed	¢
Mersham	2018-12-17 16:24	Started	-	
Mersham	2018-12-17 16:29	Complete	5	
Mersham	2018-12-17 16:30	Locked	5	
Showing 1 to 3 of 3 entrie	is			First Previous 1 Next Last
Locked				Search: 👻
Username		Date/Time		_
Mersham		2018-12-17 16:30		
Showing 1 to 1 of 1 entrie	rs			First Previous 1 Next Last

							Search	•
Jsername	Start Date/Time	🔷 Section Name 🌲	Data Element Name	Question Text		🖨 Answers After	🛊 Data Element Name	🔷 Reason for Change
Mersham	2018-12-17 16:31	Questions	PCLSMemoriesInd	Repeated, disturbing	memories, thoughts, or images of the stressful experience?	null	3-Moderately	Making updates
Mersham	2018-12-18 09:59	Questions	PCLSDreams	Repeated, disturbing	dreams of the stressful experience?	4-Quite a bit	1-Not at all	correction
howing 1 to	2 of 2 entries						F	irst Previous 1 Next L
howing 1 to	2 of 2 entries						F	irst Previous 1 Next L
howing 1 to ent Emails late Sent	2 of 2 entries	Sent To	¢ Car	bon Copy	¢ Email Subject	🛊 riggered Ansv	F Search	irst Previous 1 Next L

ProFoRMS – Reports – Protocol Report

hung	CISTAR tel Informatics System for Tricle and Research									Welcome	Administrator, Meg Lo
ff Home Works	space ProFoRMS	GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Man	agement			
ProFoRMS									Dashboard	10-N-2001	
ProFoRMS Home	This report will s	how the proto	ocol by Name, Princip	al Investigator, protoco	l type, status	, number of subject	s enrolled, and nur	nber of administered for	orms of each protocol.		
Managan Buchingto	Download									Search: -	
wanage Subjects	Protocol Name) 		Principal Investi	igator	🔶 Prot	tocol Type	🌲 # of Subje	cts Enrolled	🝦 # of Administered For	rms
Collect Data	TBI and Servic	e Members		John Peterson		Na	tural History	4		10	
Manage Protocol	Showing 1 to 1 o	of 1 entries								First	Previous 1 Next L
Reports											
Protocol Report											
Without Collections	B.										
Forms Requiring											
Completion & Lock											
Submission Summa											
Form Status	.,										
Site Administration	n										

ProFoRMS – Reports – Form Status

				0.000					to control table to a long
Home Workspace	ProFoRMS GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management			
roFoRMS							Das	hboard 10-N-	-2001
ProFoRMS Home	This report shows the com	pletion status of forms t	by Subject Label for each	n visit type. To u	use this report ple	ase select a value from drop	down or start typing to a	utocomplete result	cked 🦲 In Progress 🦳 Completed 🦳 Not St.
	0010 01 1 2200-0010	CISTARPHI0/TR/	Subinit					- = Not	Administered(or form not in visit type)
Aanage Subjects								* Letter	r R inside circle means required form for that v
Collect Data	Download								Search: 💌
Annana Destanal	FormName/VisitType				et h	180-days	🜲 1-Year	🜲 30-days	🖨 Baseline
vanage Protocol	BSI18					0	-		*
teports 📠	CSSRS						ē	0	5
						-	-	-	0
Protocol Report	FamilyHistory_7								
Protocol Report Without Collections	FamilyHistory_7 PCLC_Standard					-	-	3	0
Protocol Report Without Collections Forms Requiring	FamilyHistory_7 PCLC_Standard PHQ8_1					-	-	-	•
Protocol Report Vithout Collections Forms Requiring Completion & Lock ocked Forms	FamilyHistory_7 PCLC_Standard PHQ8_1 PriorAndConcomitantMe	rts 8				-	- 2	0	0
Protocol Report Without Collections Forms Requiring Completion & Lock Locked Forms Submission Summary	FamilyHistory_7 PCLC_Standard PHQ8_1 PriorAndConcomitantMe	ds_8				- - 0	- - -	- 0 -	• - -

Data Collections Export

And Const	<u>iST</u>	AR	and										Welcome Administrator , Meg
Home Worksp	ace Pr	oFoRMS	GUID	Data Dic	tionary	Data Repositon	Query	Meta Study	Account Manage	ement			
roFoRMS											Dashboard	10-N-2001	
roFoRMS Home	Sea [+]	arch by S Advanc	ubject form or b ed Search	y non-subje	ct form to beg	jin collecting data							
lanage Subjects	Da	ta Colle	ction										
Collect Data	Sel	lect a forn /lew Entry	to view or per	form an actio	Reassign	Delete Entry	*		×			s	earch: 🕶
Data Collection		Subj	ect GUID	*	Visit Date		You can i	not export colle	tions for	Name	🖨 Status	💠 User	🔷 Lock Date
My Collections		CIS	TARTP289EM)	2018-12-1	7 16:23		different forms	annen anne	lyHistory_7	In Progress	Mersha, Meg	
Ianage Protocol	6	CIS	TARTP289EM)	2018-12-1	7 16:23			OK	C_Standard	Locked	Mersha, Meg	2018-12-17 16:30
leports	6	CIS	TARPH167YR7		2018-12-1	4 15:43				C_Standard	Locked	Mersha, Meg	2018-12-18 09:58
ite Administration	C	CIS	TAREY302LUH		2018-12-1	5 14:03	Baseline	FamilyHistory_7	Fam	nilyHistory_7	In Progress	Mersha, Meg	
Administration	C	CIS	TAREY302LUH		2018-12-1	5 14:03	Baseline	PCLC_Standard	PCL	.C_Standard	Locked	Mersha, Meg	2018-12-15 14:09
	C	Cis	TARCR243EN	2	2018-12-1	0 12:00	Baseline	Demographics_10	Den	nographics_10	Locked	Mersha, MegM	2018-12-10 10:39
	C	Cis	TARCR243EN	2	2018-12-1	0 12:00	Baseline	FamilyHistory_7	Fam	nilyHistory_7	Locked	Mersha, MegM	2018-12-10 10:37
	C	CIS	TARCR243EN	2	2018-12-1	0 12:00	Baseline	PCLC_Standard	PCL	.C_Standard	Locked	Mersha, MegM	2018-12-10 10:54
	C	CIS	TARCR243EN	2	2018-12-1	6 16:04	30-days	CSSRS	CSS	RS	In Progress	Mersha, Meg	
		CIS	TARCR243EN	,	2018-12-1	3 16:04	30-days	PHO8 1	PHO	18.1	Locked	Mersha Meo	2018-12-16 16:08

Welcome Administrator, Meg | Log Out

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	Cilaical Informatics System for Trials and Research
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Home	Workspace	ProFo	RMS GUID	Data Dictiona	ry Da	ta Repository	Query	Meta Study	Account Mar	nagement			
roFoR	MS								Opening exportCo	llections_Posttraumat	icStressDisorderChecklist(F	×	
roFoRMS	Home	Search [+] Ad	by Subject form or b	v non-subject forr	n to begin c	ollecting data			You have chosen to erCheckli which is: Ch	to open: ist(PCL)CivilianVersion rome HTML Document	_2018-12-18_10.03.26.cs	v	
lanage Su	ubjects	Data C	Collection						from: https:	://cistar-demo.ninds.nih.g	lov	-	
		Select	a form to view or per	orm an action					What should Fire	fox do with this file?			
collect Dat	ta	View	Entry Edit V	iew Audit Rea	issign (Delete Entry	Export		C Save File	Google Chrome (delau	u 🗾	Se	earch: -
Data Collec	ction		Subject GUID	🚽 Visit	Date	\$ 1	/isit Type	🔷 eForm Name	Do this aut	tomatically for files like thi	s from now on.		🜲 Lock Date
My Collecti	ions		CISTARTP289EME	201	18-12-17 16	:23	Baseline	FamilyHisto			₽3	sha, Meg	
Manage Pr	otocol		CISTARTP289EME	201	18-12-17 16	23	Baseline	PCLC_Star			OK Cancel	sha, Meg	2018-12-17 16:30
Reports			CISTARPH167YR7	201	18-12-14 15	43	Baseline	PCLC_Stan	dard	PCLC_Standard	Locked	Mersha, Meg	2018-12-18 09:58
Site Admin	istration		CISTAREY302LUH	201	18-12-15 14	:03	Baseline	FamilyHistor	y_7	FamilyHistory_7	In Progress	Mersha, Meg	
			CISTAREY302LUH	201	18-12-15 14	:03	Baseline	PCLC_Stan	dard	PCLC_Standard	Locked	Mersha, Meg	2018-12-15 14:09
			CISTARCR243EN	201	18-12-10 12	::00	Baseline	Demographi	cs_10	Demographics_10	Locked	Mersha, MegM	2018-12-10 10:39
			CISTARCR243EN	201	18-12-10 12	::00	Baseline	FamilyHistor	y_7	FamilyHistory_7	Locked	Mersha, MegM	2018-12-10 10:37
			CISTARCR243EN	201	18-12-10 12	::00	Baseline	PCLC_Stan	dard	PCLC_Standard	Locked	Mersha, MegM	2018-12-10 10:54
			CISTARCR243EN	201	18-12-16 16	:04	30-days	CSSRS		CSSRS	In Progress	Mersha, Meg	
			CISTARCR243EN	201	18-12-16 16	04	30-days	PHQ8_1		PHQ8_1	Locked	Mersha, Meg	2018-12-16 16:08

The Data Dictionary provides functionality for creating, managing, and searching data dictionary components (data elements and form structures), as well as services for validating research data against the standardized common data elements (CDEs).

CISTAR									Welcome Administrator, Meg Log Out
Home Workspace	ProFoRMS	GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management		
Menu Search F	Form Strue	ctures	rm fields: Short Name,	Title, Description, and	Created By.	Whole Word or Pt	rase		
Narrow your searc	h	Show 25	• entries						Showing 1 to 25 of 332 entries
CLEAR EILTERS REST	ORE DEFAULT	Title					Short Name	🖨 Status	🔷 Modified Date 🔶
		12-item	Short Form Health Su	rvey Version 2 (SF-12)	(2)		SF12	Published	2016-11-22
Ownership		36-Item	Short Form Health Su	rvey (SF-36) version 1			SF_36_FITBIR_V1	Published	2017-01-11
C Mine		36-Item	Short Form Health Su	rvey (SF-36) version 2			SF36v2	Published	2017-08-18
CISTAR		Activitie	s Specific Balance Co	nfidence Scale (ABC-S	Scale)		ABCScale_FITBIR	Published	2017-06-26
All Program Specific		Alcohol	Use Disorders Identifi	cation Test - Consump	tion Questions	s (AUDIT-C)	AUDITC	Published	2016-06-01
i rogram opcome		Alcohol	Use Disorders Identifi	cation Test: Self-Repor	t Version (AUI	(TIC	AUDIT_FITBIR	Published	2016-06-22
Clinical Assessment		Alcohol	Smoking, and Substa	ince Use Involvement	Screening Test	t (ASSIST)	ASSIST_FITBIR	Published	2015-07-22
C Omics		ANAM C	Code Substitution Dela	ved			ANAMCodeSubDelayed	Published	2015-03-27
F Preclinical		ANAM C	Code Substitution Lean	ning			ANAMCodeSubLearning	Published	2015-03-27
Standardization			Matching to Sample				ANAMMatchToSample	Published	2015-03-31
Standard NINDS CD	θE	ANAM	Mathematical Processi	ng			ANAMMathProcessing	Published	2015-03-31
Standard Modified		ANAM F	Procedural Reaction Ti	me			ANAMProcReactTime	Published	2015-03-31
Unique		ANAM S	Simple Reaction Time				ANAMSimpleReactTime	Published	2015-03-31
Status		ANAM S	Simple Reaction Time :	2nd Administration			ANAMSimpleReactTime2nd	d Published	2015-03-31
C Draft		Auditory	y Consonant Trigrams				ACT	Published	2015-12-23

- And Cis	STAR								Welcome Administrator, Meg Log Out
f Home	Workspace	ProFoRMS	GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management	
Search Form	<u>1.Structures</u> > 12-iter Data Dicti	n Short Form Healt	th Survey Ve	ersion 2 (SF-12v2)					
F Dat	a Dictionary Tool	cem Sh	ort For	For a form that has not	vey Version 2	(SF-12	v2)		Status: Published
eF Dat	Search Create ta Elements Search Create Import orms Search Create a Dictionary	2-item Shor F12 2-item Shor references: raumatic Br IH o	rt Form Hea rt Form Hea Eduardo La rain Injury	ith Survey Version 2 (S Ith Survey Version 2 (S Iccson, Jr. correspondin	F-12v2) F-12v2) . Uses SF-36 C g author Jianglin Xu. Sh	DEs. Can be u-Fang <u></u>	e found in public do	main. The FS does not contain scoring information, because scoring is vary.	Catala Data Conv Data Element Recort Cata Element Recort Eccola Element Recort Eccola Element Recort Eccola Element Eccol Administrative Structure Structure Structure Data
Adi	ministration Publication D Vers Date Crea Created Ow mber of Data Eleme	tandard NIN linical Asse late: 2016-03-31 lion: 1.3 ted: 2016-03-29 IBy: Vovk, Olga ner: ints: 25	IDS CDE						
	eFo	rms: N							

Account Management

The Account Management module is for creating, approving, and managing user accounts, including management of access controls, roles, permissions groups, and authorization to other BRICS modules.

FIT	BIR									Welcome Administrator, Portal	Log
Home	Workspace	ProFoRMS	GUID	Data Dictionary	Data Repository	Query	Meta Study	Account Management	Reporting		
Acco	unt Mana	gement									
Accour	nt Management	User I	og								1
Accour	nt Admin	USERN	AME	ste 😿 jen	E 🔶 E-I	MAIL	SESSION STAT	rus 👙	TIME LOG IN	Search: -	
Accourt	nt List										
Accour	nt Group List	1									
Create	og User										
Create	Account Group										
Create/	Edit Account										
Guidan	ce Emails										
Accour	nt Reviewer										
Biosan	nple Orders										

7. Records Management

All data and/or records generated during this procedure are stored in the NINDS SharePoint-based Document Library.

8. Review/Revision History

Date	Author	Description of Change				
03/09/2019	Gladys Wang	Document Creation				

Appendix A. RTM

The table below depicts traceability from the requirements and design of the major components for each of the modules within the system. Please refer to the Requirements Traceability Matrix (RTM) in the System Requirements Specification (SRS) to identify the allocation of the functional requirements into this design document.

Key	Requirement		Design	Reference				
<u>PS-4420</u>	Remove/hide the 'Biorepository Subject ID' field and user inputs in ProFoRMS	<u>PS-4422</u>						
<u>PS-4378</u>	"See also" - need to increase the size of the field in the database and the text box that displayed in DD	<u>PS-4403</u>						
<u>PS-4331</u>	Add to GUID tool Country of Birth	<u>PS-4383</u>						
<u>PS-4268</u>	As user, system should let me refresh my session in Data Dictionary	<u>PS-4282</u>	<u>PS-4312</u>					
<u>PS-4267</u>	As an Operation User, data error report email should be get updated with no of request for archived, deleted data set and requested study.	<u>PS-4275</u>	<u>PS-4276</u>	<u>PS-4309</u>				
<u>PS-4266</u>	As a user, system should allow me to change subject label GUID to Subject ID or vice versa in Manage Protocol Section of ProForms	<u>PS-4273</u>	<u>PS-4311</u>	<u>PS-4424</u>	<u>PS-4425</u>			
<u>PS-4135</u>	As a admin user, I need my previous admin noted migrated into the new admin note functionality box.	<u>PS-4147</u>						
<u>PS-4031</u>	As cdRNS user, I should able to see cdNRS specific Form Structures	<u>PS-4067</u>						
<u>PS-4028</u>	As FITBIR Public site data dictionary - default DE view to Awaiting Publication and Published DEs	<u>PS-4162</u>	<u>PS-4163</u>					
<u>PS-4027</u>	As a user, I should know which environment my email came from	<u>PS-4171</u>	<u>PS-4207</u>					
<u>PS-3830</u>	Data Repository - Research Management Table Sort Recommendation	<u>PS-4146</u>						
<u>PS-3827</u>	As a Account Admin/Reviewer, I should able to identify user, whose privileges been expired.	<u>PS-3891</u>	<u>PS-4264</u>	<u>PS-4310</u>				
<u>PS-3821</u>	As a user, I should see consistent in data set statuses across table	<u>PS-4183</u>	<u>PS-4206</u>	<u>PS-4221</u>				

NINDS	DIR ITBP		
BRICS	System De	esign D	ocument

<u>PS-3659</u>	Supporting Documentation The "File" field information appears under the Column Name.	<u>PS-4176</u>	<u>PS-4177</u>	<u>PS-4181</u>						
<u>PS-3441</u>	As a user, I want files I'm attempting to upload to be maintained when there is a validation error in related fields when trying to upload the file (PF, Act, DD))	<u>PS-3444</u>	<u>PS-3445</u>	<u>PS-3446</u>	<u>PS-4160</u>	<u>PS-4161</u>				
<u>PS-3309</u>	As a user, I should have the Ability to make an optional/recommended question required on the eform level	<u>PS-3996</u>								
<u>PS-3226</u>	As an admin or end user, I want the data dictionary search to support special characters *, and "in order to increase the likelihood of returning a result the user is searching for.	<u>PS-4164</u>	<u>PS-4165</u>	<u>PS-4166</u>	<u>PS-4167</u>					
<u>PS-3214</u>	Implementation of converting byte array to hex is flawed	<u>PS-4218</u>								
<u>CRIT-</u> 9581	As a developer, I should be able to migrate GUID information from one MongoDB instance to another	<u>CRIT-9582</u>								
<u>CRIT-</u> 9549	As a user, I should be able to generate GUIDs in a batch process	<u>CRIT-9737</u>	<u>CRIT-9738</u>	<u>CRIT-9739</u>	<u>CRIT-9740</u>	<u>CRIT-9741</u>				
<u>CRIT-</u> 9535	As a user, my PII should be sent to the server as a Hashcode	<u>CRIT-9536</u>								
<u>CRIT-</u> 9534	As a user, I should be able to interface with the GUID server	<u>CRIT-9546</u>	<u>CRIT-9547</u>							
<u>CRIT-</u> 9533	As a user, I should be able to see the interface of the GUID client	<u>CRIT-9539</u>	<u>CRIT-9540</u>	<u>CRIT-9580</u>						
<u>CRIT-</u> 9532	As a user, I should not be able to enter invalid PII	<u>CRIT-9673</u>	<u>CRIT-9674</u>	<u>CRIT-9675</u>	<u>CRIT-9677</u>					
<u>CRIT-</u> 9531	As a user, I should be able to validate that a GUID exists	<u>CRIT-9564</u>	<u>CRIT-9565</u>							
<u>CRIT-</u> 9530	As a user, I should be able to convert a pseudoGUID to a GUID	<u>CRIT-9560</u>	<u>CRIT-9561</u>	<u>CRIT-9562</u>	<u>CRIT-9563</u>					
<u>CRIT-</u> 9520	For large result sets in QT, adding to download queue crashes the server	<u>CRIT-9521</u>	<u>CRIT-9522</u>	<u>CRIT-9595</u>	<u>CRIT-9623</u>					
<u>CRIT-</u> 9356	NINDS/NIA/GRDR Code Merge	<u>CRIT-9357</u>	<u>CRIT-9358</u>	<u>CRIT-9359</u>	CRIT-9383	<u>CRIT-9394</u>	<u>CRIT-9396</u>	<u>CRIT-9397</u>	<u>CRIT-9508</u>	<u>CRIT-9509</u>
<u>CRIT-</u> 9223	GUID Javascript Client Design	<u>CRIT-9224</u>	<u>CRIT-9225</u>							
<u>CRIT-</u> <u>8571</u>	Design Basic GUID JS Framework	<u>CRIT-8572</u>								
<u>CRIT-</u> 7779	As a user, I should be able to access the GUID user guide	<u>CRIT-9272</u>	<u>CRIT-9273</u>							
<u>CRIT-</u> 7655	As a user, I should be able to generate a GUID through the new JS Client	<u>CRIT-7657</u>	<u>CRIT-9543</u>	<u>CRIT-9544</u>	<u>CRIT-9545</u>	<u>CRIT-9548</u>	<u>CRIT-9879</u>			
<u>CRIT-</u> 7613	As a NINDS user, I should be able to access legacy NINDS GUIDs	<u>CRIT-7622</u>	<u>CRIT-7623</u>	<u>CRIT-7624</u>	<u>CRIT-7625</u>	<u>CRIT-7626</u>	<u>CRIT-7627</u>			
<u>CRIT-</u> 7612	As an NIA user, I should be able to access legacy NIA GUIDs	<u>CRIT-7616</u>	<u>CRIT-7617</u>	<u>CRIT-7618</u>	CRIT-7619	<u>CRIT-7620</u>	<u>CRIT-7621</u>			