CiSTAR









NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE



BRICS Demo:

ProFoRMS









Logistics

Audio/Video	Please keep your microphone muted
Recording	 Today's session will be recorded Will be posted on the BRICS website: https://brics.cit.nih.gov/demo
Questions & Comments	 We encourage your participation today Please use the chat for questions & comments. The chat will be monitored throughout today's demo. There will also be time <u>after each speaker</u> and at the <u>end</u> of the demo to ask live questions.



Agenda

Time	Topic	Speaker(s)
9:00 AM-9:15 AM	Introduction	Dr. Matthew McAuliffe
9:15 AM-9:50 AM	Overview on ProFoRMS	Dr. Dominic Nathan
9:50 AM-10:00 AM	Questions & Closing Remarks	Dr. Matthew McAuliffe













NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE



BRICS - Brief Introduction

Matthew J. McAuliffe, PhD (Biomedical Engineering) Chief, Scientific Applications Services (SAS), CIT

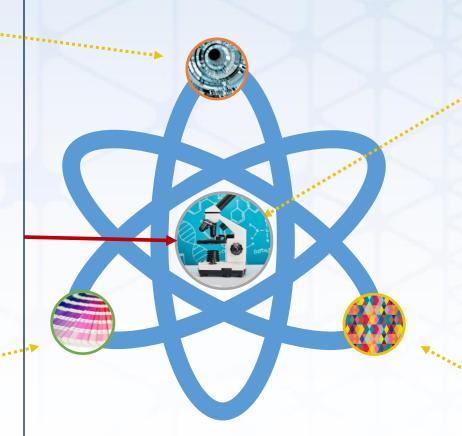
Home | BRICS (nih.gov) https://brics.cit.nih.gov

ENGINEERING

Engineering is the practice of using natural science, mathematics, and process to solve technical problems.

DESIGN

The creative art of executing aesthetic or functional designs



SCIENCE

The knowledge or pursuit of knowledge of things as they are and why they act as they do.

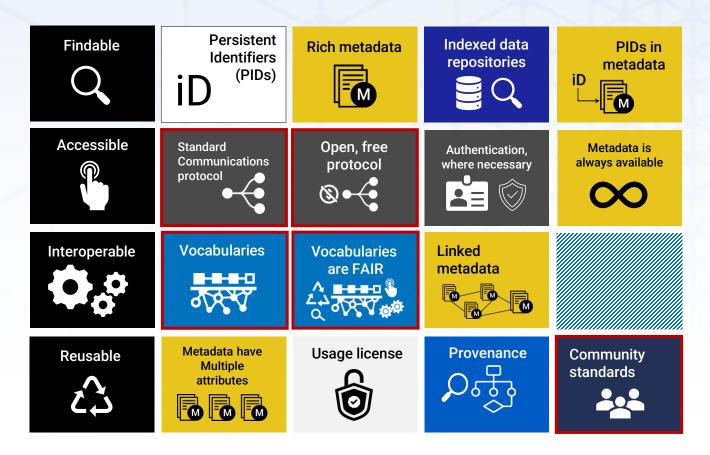
ART

The conscious use of skill and creative imagination especially in the production of aesthetic objects



Making Data FAIR

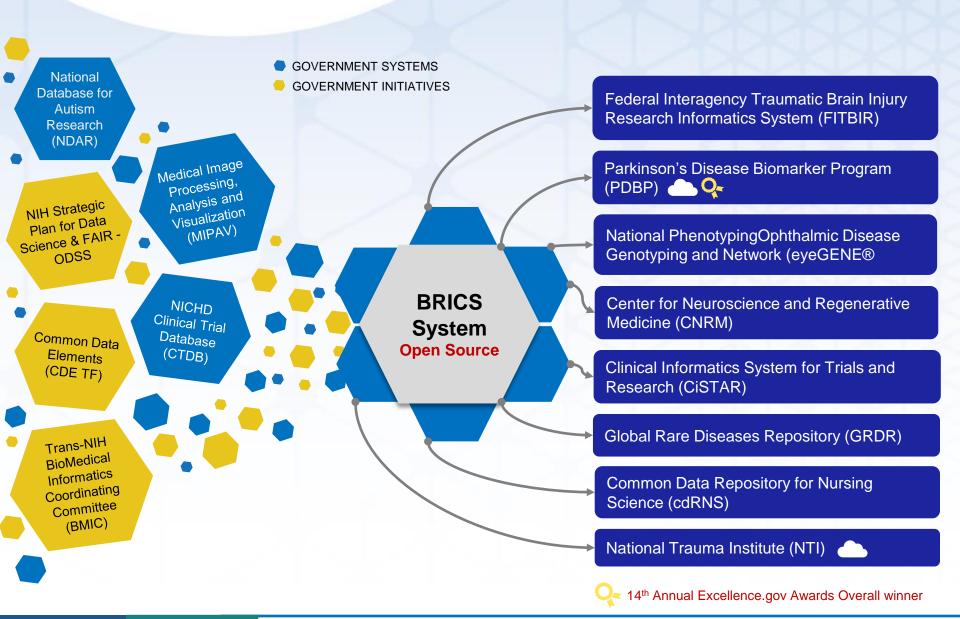
Committed to compliance with Findability, Accessibility, Interoperability, and Reusability (FAIR) principles for scientific data.







Building from existing projects

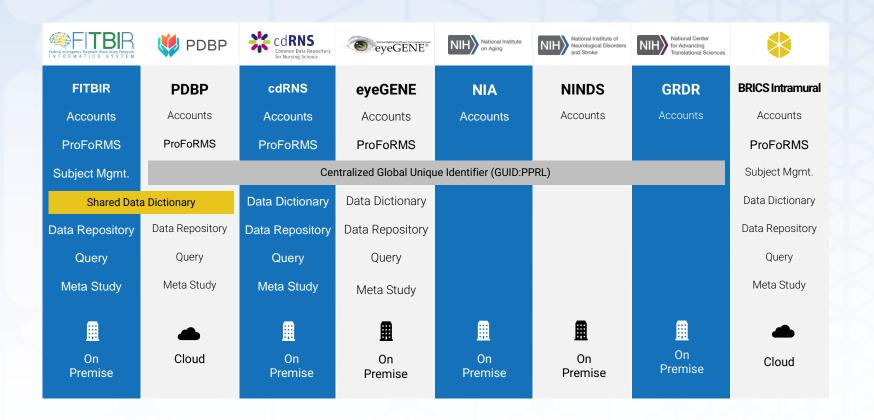








BRICS Mesh And Fabric



Datatypes: Phenotypic, Imaging, and Omics





Upcoming Releases

Raven Minor Release: (February 2024)

- CASA Merge: Harmonize the code changes from CASA and CiSTAR instances
- Add the capability to import Form Structures using the JSON format
- Optimize the Data Dictionary searches and filters
- Security Updates

Spiderman Release: (June 2024)

- Real time saving of locked ProFoRMS data to the repository (Migrating to Mongo DB from PostGres)
- Submission Tool | Globus Integration
- UI Enhancements for the Accounts and Query Tool modules
- Centralized GUID Enhancements
- Tech library updates as needed
- Various UI and feature enhancements across the BRICS modules





BRICS Tools | Plug & Play Components for the Full Research Lifecycle

BRICS offers researchers a secure platform and a suite of web-based and downloadable tools that can be shared across disease categories or deployed and branded independently, depending on the needs of your program.



Data Mapping & Transformation

Tool that translates data into CDEs used by BRICS to prepare for validation



Data Dictionary

Intelligent clinical research data dictionary that supports cross-system exchange, CDEs



Data Repository

Functionality to define and manage studies and contribute or store data



ProFoRMS

Module for electronic data capture (EDC), subject management and scheduling, etc, (21 CFR part 11 compliant)



Meta Study

Workspace that aggregates data and metadata across studies for reference



Global Unique Identifier

Cross-study Privacy Preserving Record Linkage (PPRL) system

Continues...









Query

Tool enabling filtering of submitted data using data elements and form structures



Clinical Trials Management System (CTMS)

Management of Clinical Trials by enabling insight into trial performance.



BRICS Imaging Tools

Enables quantitative analysis and viewing of medical images, such as PET, MRI, CT, or microscopy.



Forum

Discussion board for account users for posting messages, interacting with each other, and discussing various topics



Account Management

Create, approve, and manage user accounts. (RAS enabled)



InET

Application for assigning new training, tracking current training, licenses and compliance.



STAMS: Specimen Tracking And Management System

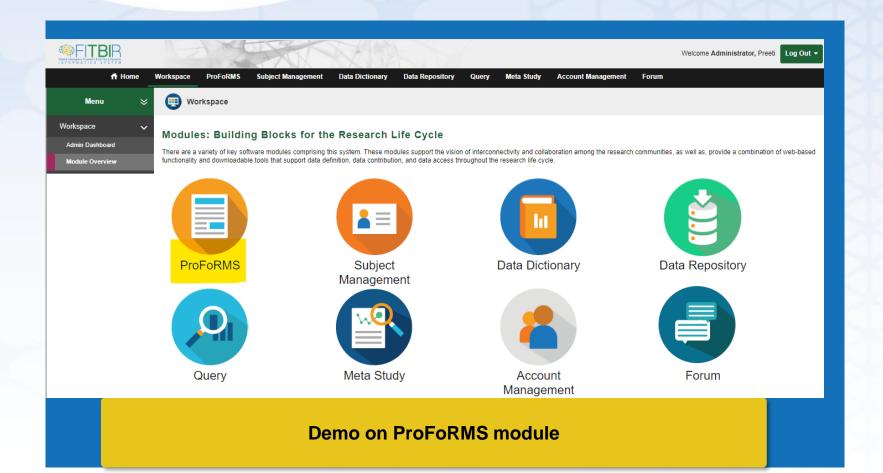
Provides the path to container storage locations (e.g. freezer) that guides the user to the specific container and sample.







BRICS Modules









ProFoRMS

Dr. Dominic Nathan











NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE





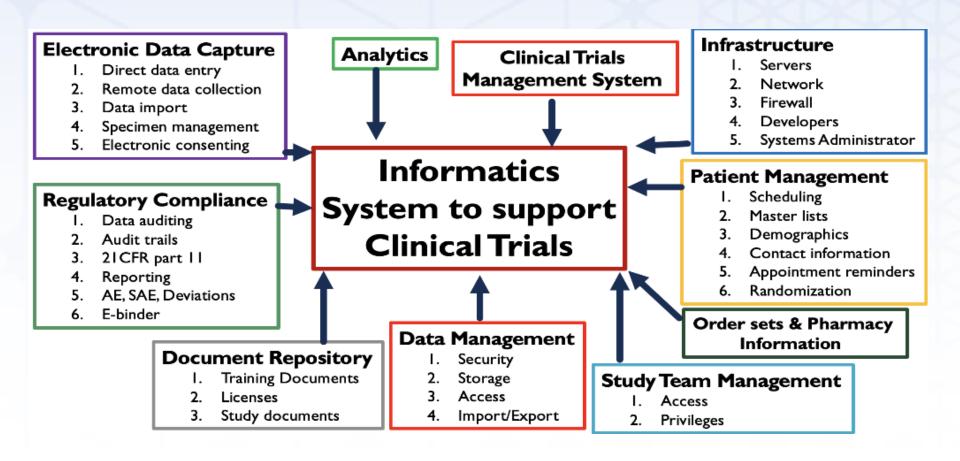
Disclaimer

The views expressed in this presentation are those of the author and do not reflect official policy of the US Government, or any US Government agency.

PROFORMS - BRICS

- 1. Integrated Platform
- 2. Ease of use, access and maintenance
- 3. Established process for data collection and curation
- 4. Fulfills regulatory compliance requirements
- 5. Government Solution
 - Reduce cost, re-use technology/resources, accelerate science

What is needed to support Clinical Trials and Research?



Patient Management – Subject Profile

Patient Management:

- 1. Subject Profile
 - 1. Demographics information
 - 2. Contact information
 - 3. Diagnosis information
- 2. Randomization
- 3. Protocol Status
- 4. Attachments
- 5. eForm Completion Status
- 6. Protocol compliance status
- 7. GUID Global Unique Identifier

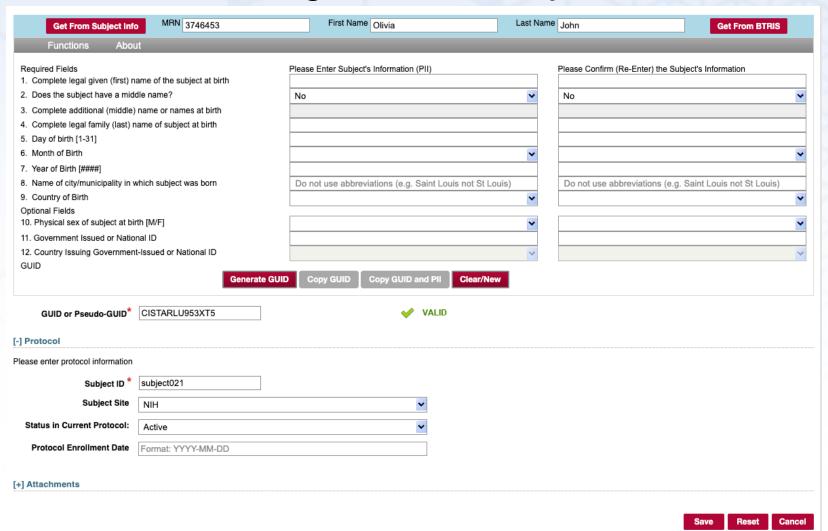


Patient Management – Subject Profile

ProFoRMS	Protocol:	001-007-0123	▼		
[-] Subject Information					
MRN*	7387283		First Name [*]	dcrione	
Date of Birth	1960-05-18		Middle Name	TEST	
	Get From BTRIS		Last Name [*]	nihcctest	
			Sex	Male	
Birth Country		~	Birth City		
			Race	Other	
Ethnicity	Not Latino or Hispanic	~	Home Address 1	777 PARL PL	
			Home Address 2	APT. 3421	
E-Mail			City	THUNDER	
Home Phone	773-892-8767		State	Alabama	
Work Phone			Country	United States of Americ	
Mobile Phone			Zip	37478	
Cell Phone Service Provider		~	Notes		
		_			



Patient Management – Subject Profile





Subject Management - Subject Status

[-] Protocol	
Please enter protocol information	
Subject ID *	subject021
Subject Site	- Select One -
Status in Current Protocol:	
Protocol Enrollment Date	Completed Withdrawn
[+] Attachments	
	Save Reset Cancel

Patient Management – Randomization

Control options:

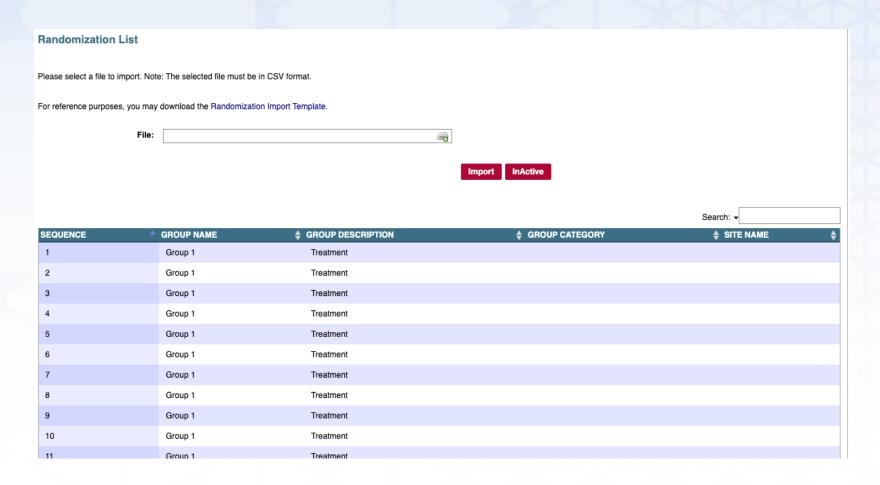
- 1. Screening eForm
- 2. Automatic assignment
- 3. Manual assignment

Randomization list options:

- 1. Simple direct sequence
- 2. Factor ex. Male/female
- 3. Location balancing Site 1, Site 2, Site 3

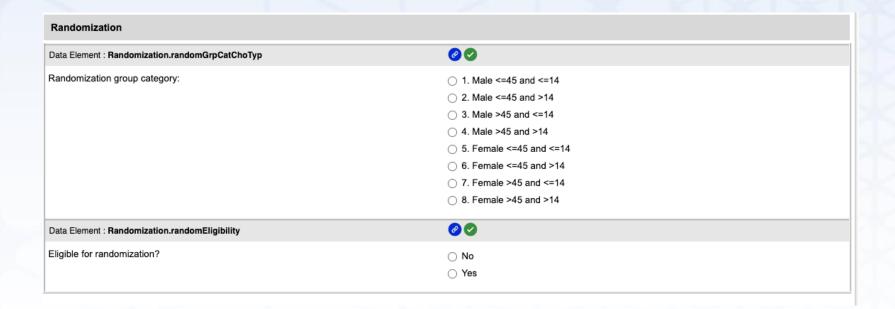


Patient Management – Randomization List Example



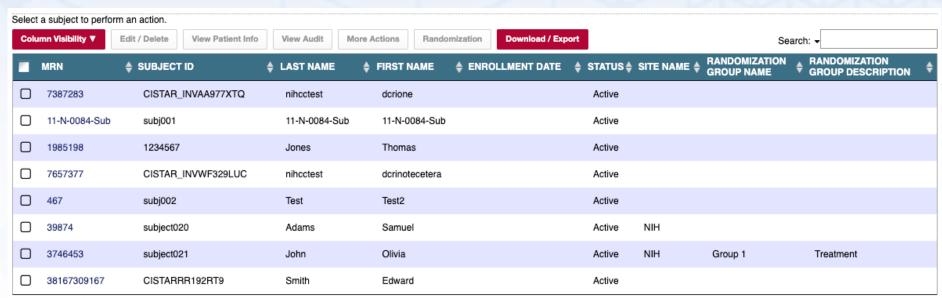


Patient Management – Randomization Eligibility





Patient Management – Randomization Assignment



Showing 1 to 8 of 8 entries (0 row selected of 8)

Data Collection in PROFORMS

Options:

- 1. Electronic Case Report Forms
 - 1. Common Data Elements
 - 2. Unique Data Elements
- 2. Adaptive Testing PROMIS
- 3. File uploads
- 4. Pull from BTRIS

Collection Methods:

- 1. Direct Data Entry
- 2. Patient Self Report via email/phone SMS
- 3. Offline Collection OSTRICH
- 4. Anonymized online survey



Electronic Case Report Form - Example

NSI	
Data Element : NSI.FeelingDizzyNum	⊘ ⊘
1. Feeling dizzy	
Data Element : NSI.LossBalanceNum	00
2. Loss of balance	
Data Element : NSI.PoorCoordClumsyNum	00
3. Poor coordination clumsy	
Data Element : NSI.HeadachNum	00
4. Headaches	
Data Element : NSI.NauseaNum	00
5. Nausea	
Data Element : NSI.VisionProblBlurSeeingNum	00
6. Vision problems blurring trouble seeing	

Form Structure- Example

▼ NSI (Appears Exactly 1 Time)

▼ NS	(Appears Exactly 1 Time)				
#	TITLE	SHORT DESCRIPTION	VARIABLE NAME	REQUIRED?	TYPE
1	Feeling dizzy number	Document Feeling dizzy number	FeelingDizzyNum	Recommended	UDE
2	Loss of balance number	Document Loss of balance number	LossBalanceNum	Recommended	UDE
3	Poor coordination clumsy number	Document Poor coordination clumsy number	PoorCoordClumsyNum	Recommended	UDE
4	Headaches number	Document Headaches number	HeadachNum	Recommended	UDE
5	Nausea number	Document Nausea number	NauseaNum	Recommended	UDE
6	Vision problems blurring trouble seeing number	Document Vision problems blurring trouble seeing number	VisionProblBlurSeeingNum	Recommended	UDE
7	Sensitivity to light number	Document Sensitivity to light number	SensitivityLightNum	Recommended	UDE
8	Hearing difficulty number	Document Hearing difficulty number	HearingDifficultyNum	Recommended	UDE
9	Sensitivity to noise number	Document Sensitivity to noise number	SensitivityNoiseNum	Recommended	UDE
10	Numbness or tingling on parts of my body number	Document Numbness or tingling on parts of my body number	NumbnessTinglingBodyNum	Recommended	UDE
11	Change in taste and/or smell number	Document Change in taste and/or smell number	ChangeTasteSmellNum	Recommended	UDE
12	Loss of appetite or increased appetite number	Document Loss of appetite or increased appetite number	Loss_Incre_AppetiteNum	Recommended	UDE
13	Poor concentration can't pay attention easily distracted number	Document Poor concentration can't pay attention easily distracted number	PoorConcentDistractNum	Recommended	UDE
14	Forgetfulness can't remember things number	Document Forgetfulness can't remember things number	ForgetfulnessNum	Recommended	UDE
15	Difficulty making desisions number	Document Difficulty making desisions number	DiffMakeDesisionNum	Recommended	UDE



Data Element - Example

Unique Data Element: Feeling dizzy number

view more in the data dictionary

Status: Published

Variable Name: FeelingDizzyNum

Definition: Document Feeling dizzy number

Guidelines & Instructions: References:

Preferred Question Text: 1. Feeling dizzy

Notes:

Population: Adult and Pediatric

Input Restrictions: Free-Form Entry

Data Type: Numeric Values

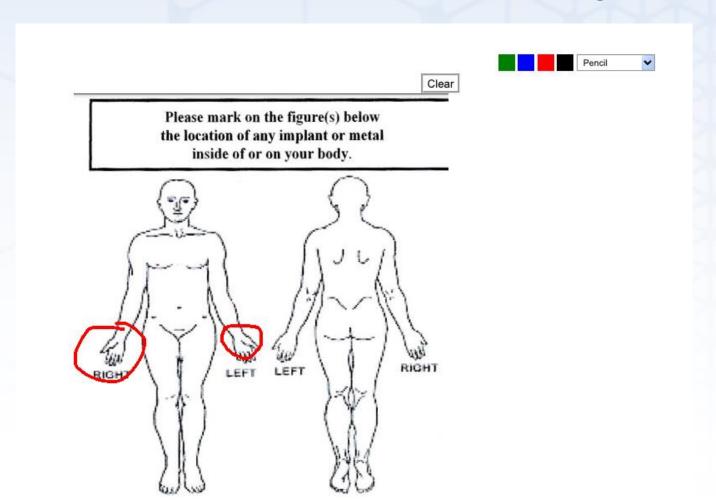
Minimum Value: 0

Maximum Value: 4

Mapping to external dictionaries



Example E-Form - Drawing



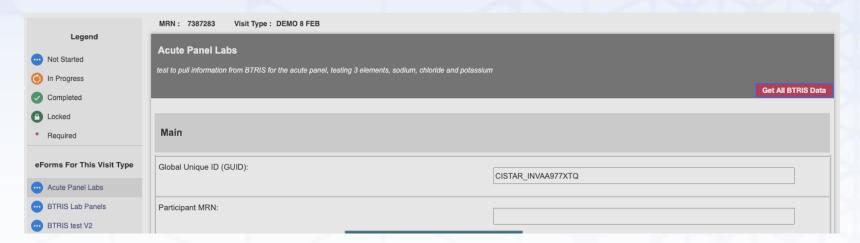


Example E-Form – Electronic Consent/Signature

SIGNATURE OF PARTICIPANT	
Data Element : SIGNATURE OF PARTICIPANT.CmpitlegalFiLaNameName	00
Complete legal first and last name:	Jane Doe
Data Element : SIGNATURE OF PARTICIPANT.eSignature	⊘ ⊘
eSignature	Oavlow
Data Element : SIGNATURE OF PARTICIPANT.GeneralDate	⊘ ⊘
Date	2024-02-08 05:41
SIGNATURE OF INDIVIDUAL ADMINISTERING CONSENT	
Data Element : SIGNATURE OF INDIVIDUAL ADMINISTERING CONSENT.CmpitlegalFiLaNameNam	ne 🥝 🚷 🥝
*Complete legal first and last name:	John Doe
Data Element : SIGNATURE OF INDIVIDUAL ADMINISTERING CONSENT.eSignature	⊘ ⊘
eSignature	Flyndel



Example E-Form – BTRIS Lab Pull





Example E-Form – BTRIS Lab Pull

1.6	ng BTRIS Data	Value		
✓	Acute Lab Panel	Value:		
Showing 1	to 5 of 5 entries (5 rows sele	cted of 5)	First Previous 1 Next L	Last
Get Latest	BTRIS data Get BTRIS Data	•		
Get BTRIS	data from specific date range			
	Start Date		End Date	
2024-02-08			2024-02-15 00:11	
2024-02-08		O A REPORT A	2024-02-15 00:11	
2024-02-0		Get BTRIS dat		

Close

Data Collection Process

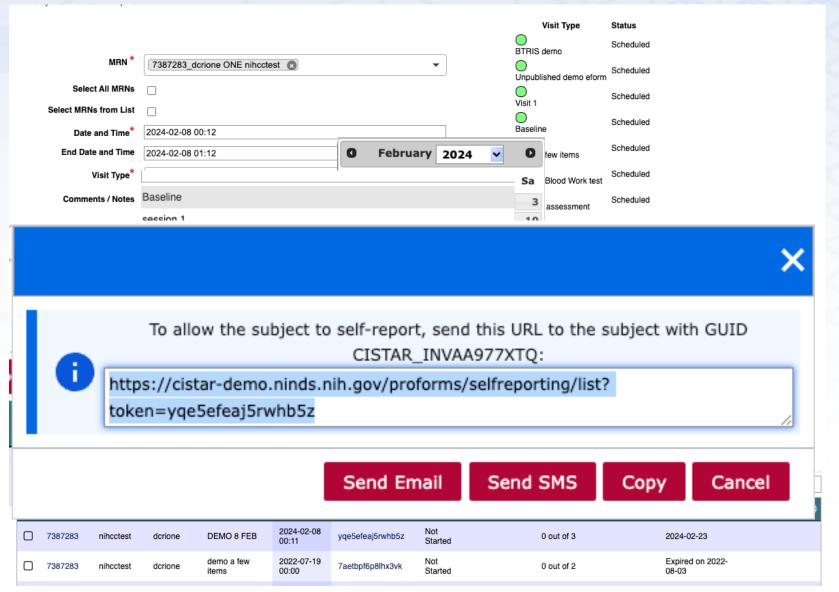
Initial Setup:

- 1. Visit
 - 1. List of eforms
 - 2. Auto-populated data elements

Collection Methods:

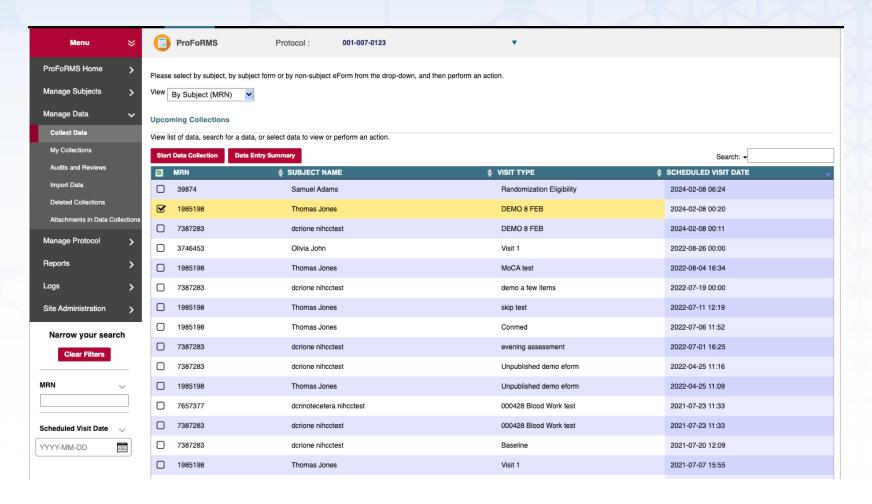
- 1. Direct Data Entry
- 2. Patient Self Report
- 3. Offline Collection OSTRICH
- 4. Survey
- 5. Multi-collect eform

Patient Management – Subject Scheduling





Electronic Data Capture – Direct Data Entry



Electronic Data Capture - Direct Data Entry

Form Administration			
Time frame related context (if any) to which the questions were answered:	○ After injury		
	At time of assessment		
	○ Before injury		
	○ Last 2 weeks		
	○ Last 6 months		
	○ Last 24 hours		
	○ Last month		
	○ Last week		
	○ Last year		
	O Prior to death		
	○ Since the last interview		
	○ Time of injury		
	Other, specify		
Other, specify			
		-	
From whom/ what were the medical history data obtained	Brother		
	☐ Chart/Medical record		
	☐ Daughter ☐ Family, specify relation		
	☐ Father		
	Friend		
	☐ Mother		
	☐ Participant/subject		
	☐ Physician		
	☐ Sister		
	☐ Son		
	☐ Spouse		
	Unknown		
	☐ Other, specify		
Other, specify			
	Sava Sava & Evit Validata Complete Sav	n R I nolk	

Electronic Data Capture - Patient Self Report



Listed below are the forms that are available to you for completion. These forms will be available from 01/24/2024 until 02/23/2024.

- · To begin, click on the form name.
- You can click Save at any time and come back to complete the survey.
- For Computer Adaptive Test (CAT) surveys, you will not be able to save your progress, and will need to complete the survey in its entirety. Further, CAT surveys cannot be edited once they are submitted. CAT surveys are identified via a notation at the top of the survey.
- At the end of the form, click the Complete button.
- Once you have completed a form, you will see the status change to "complete".
- After a form is completed, you will be unable to edit the form.
- If you are unable to complete these forms within the timeframe, please contact your study coordinator.

My Forms

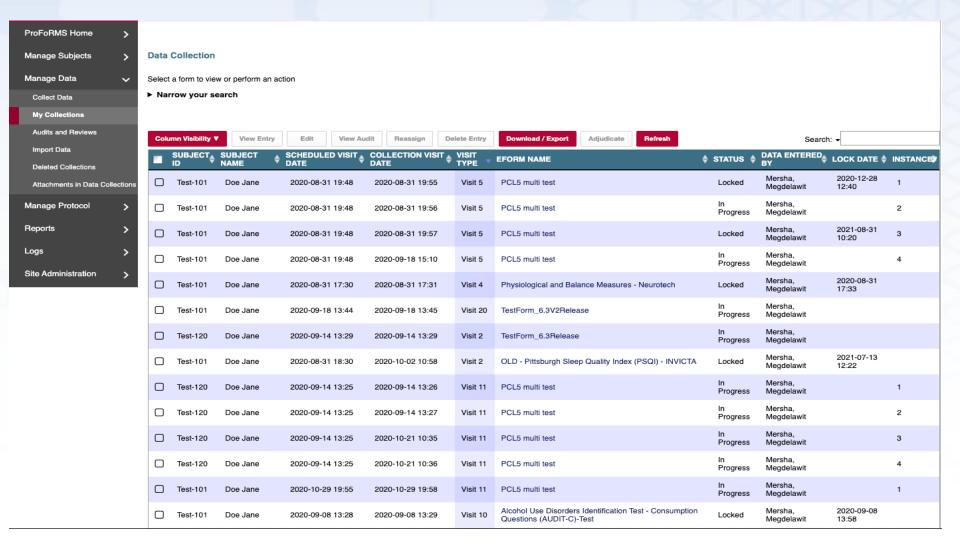
		Search: ▼	
EFORM NAME	♦ STATUS	\$ LAST UPDATED	\$
Neurobehavioral Symptom Inventory (NSI)	Not Started	Not Started	
Pittsburgh Sleep Quality Index (PSQI)	Not Started	Not Started	
PTSD Checklist for DSM-5 (PCL-5)	Not Started	Not Started	

Showing 1 to 3 of 3 entries (0 row selected of 3)

First Previous 1 Next Last

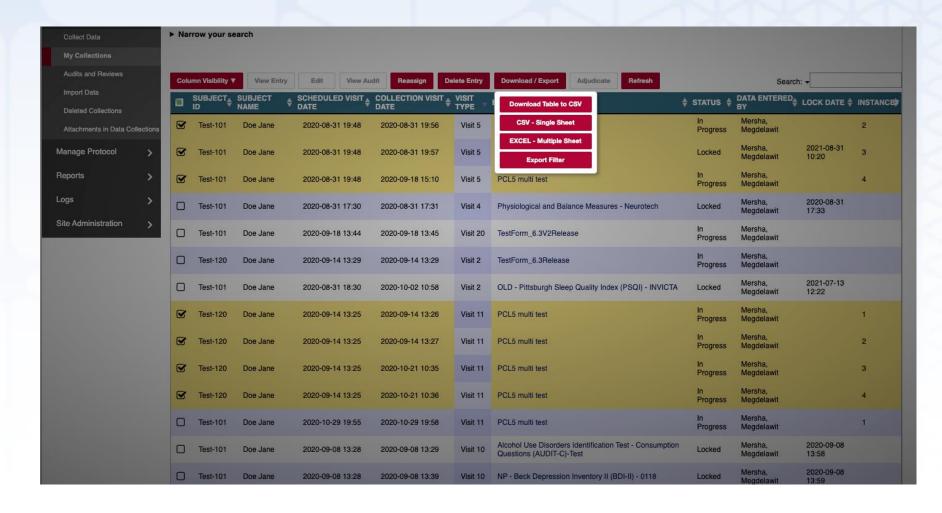


Data Management - My Collections Table





Data Management – Export Options





Data Management - Export Filter

Export Filter

	5			

Check	Main
	Q: Global Unique ID (GUID) which uniquely identifies the subject:
	Q: Subject ID number:
	Q: Subject's age (recorded in years):
	Q: Visit date:
	Q: Name of the site:
	Q: Is the subject in the case or control arm of the study?
	Q: Additional information (if any):

Спеск	PCL-S
	Q: How much were you bothered by: Repeated, disturbing, and unwanted memories of the stressful experience?
	Q: How much were you bothered by: Repeated, disturbing dreams of the stressful experience?
	Q: How much were you bothered by: Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?
	Q: How much were you bothered by: Feeling very upset when something reminded you of the stressful experience?
	Q: How much were you bothered by: Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?
	Q: How much were you bothered by: Avoiding memories, thoughts, or feelings related to the stressful experience?
	Q: How much were you bothered by: Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?
	Q: How much were you bothered by: Trouble remembering important parts of the stressful experience?
	Q: How much were you bothered by: Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?
	Q: How much were you bothered by: Blaming yourself or someone else for the stressful experience or what happened after it?
	Q: How much were you bothered by: Having strong negative feelings such as fear, horror, anger, guilt, or shame?
	Q: How much were you bothered by: Loss of interest in activities that you used to enjoy?



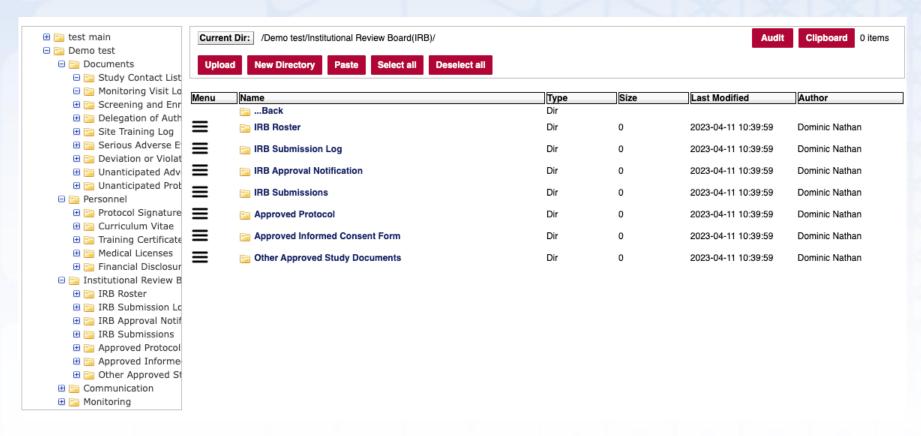
Data Management - Attachment Management



Regulatory Compliance Tools

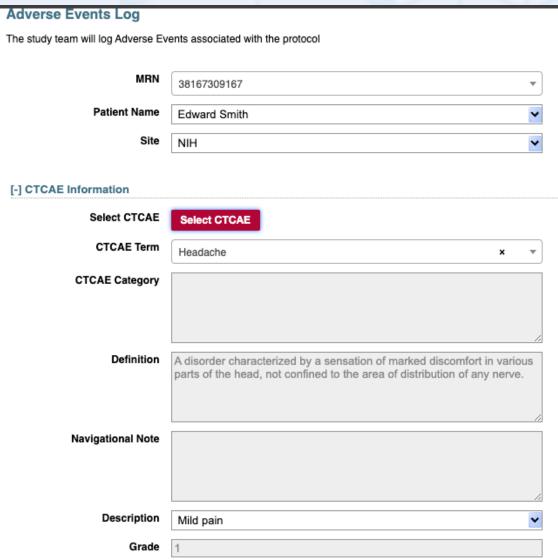
- 1. eBinder
- 2. Electronic Logs (examples)
 - 1. Adverse events
 - 2. Delegation of authority
 - 3. Non-compliance
 - 4. Enrollment
- 3. Audit Trail
- 4. Protocol Auditing

Regulatory Compliance - eBinder



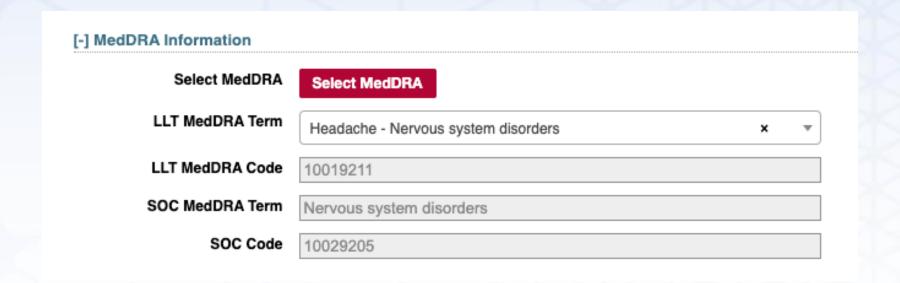


Regulatory Compliance – Logs – Adverse Event





Regulatory Compliance – Logs – Adverse Event





Regulatory Compliance - Audit Trail

Export To PDF

Export to CSV

Data Collection Audit Log

 eForm Name:
 Testing_M

 Protocol Name:
 Vivek_001

 Collection Visit Date:
 2022-04-20 17:09

 Scheduled Visit Date:
 2022-04-11 12:59

 Visit Type:
 12 months

Form Summary Status

Download				Search: ▼
NAME	♦ DATE/TIME	▲ ACTION	# OF QUESTIONS ANSWERED	♦ E-SIGNATURE ♦
Wondemagegn, Mahlet	2022-04-20 17:10	Started		
Showing 1 to 1 of 1 entries				First Previous 1 Next Last

In Progress Entries

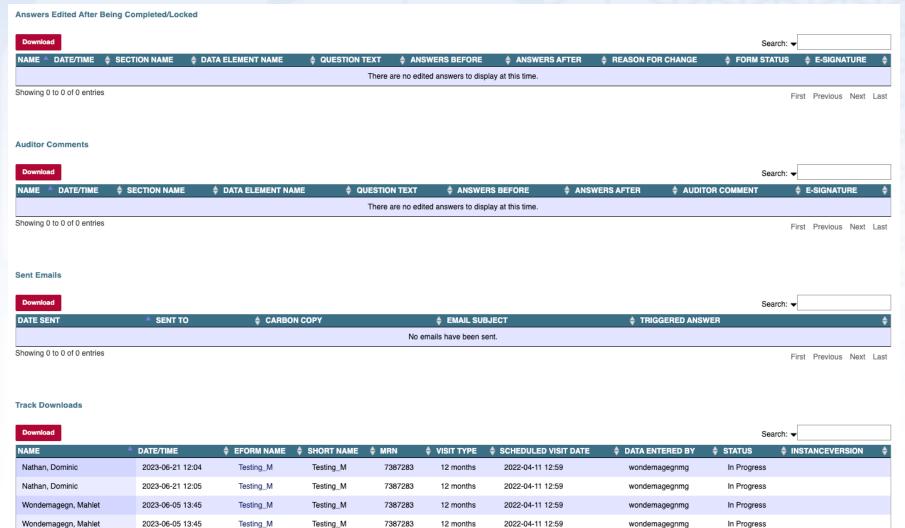
Download	Searc	Search: ▼				
NAME	♦ DATE/TIME	SECTION NAME	DATA ELEMENT NAME	♦ QUESTION TEXT	ANSWERS BEFORE	ANSWERS AFTER \$
Wondemagegn, Mahlet	2022-04-20 17:10	Main	GUID	Global Unique ID (GUID):		CISTAR_INVVD953UEW
Wondemagegn, Mahlet	2022-04-20 17:10	Main	VisitDate	Visit Date:		2022-04-20 17:09
Wondemagegn, Mahlet	2022-04-20 17:10	Main	VisitOTH	Visit Type		2
Wondemagegn, Mahlet	2022-04-20 17:10	Inclusion Criteria	AdultAgeGT18Ind	Adult age >18 years		No
Wondemagegn, Mahlet	2022-04-20 17:10	Inclusion Criteria	DefiniteProbablePMLInd	Definite or Probable PML		Yes
Wondemagegn, Mahlet	2022-04-20 17:10	Inclusion Criteria	EffectiveBirthControl_Ind	Agreement to use effective method of birth control during and up to 3 months after:		Yes
Wondemagegn, Mahlet	2022-04-20 17:10	Exclusion Criteria	HxUnderlAutoDxCNS	History of underlying autoimmune disease involving the CNS indicator		No
Nathan, Dominic	2024-02-08 06:06	Inclusion Criteria	AdultAgeGT18Ind	Adult age >18 years	No	Yes

Showing 1 to 8 of 8 entries

First Previous 1 Next Last

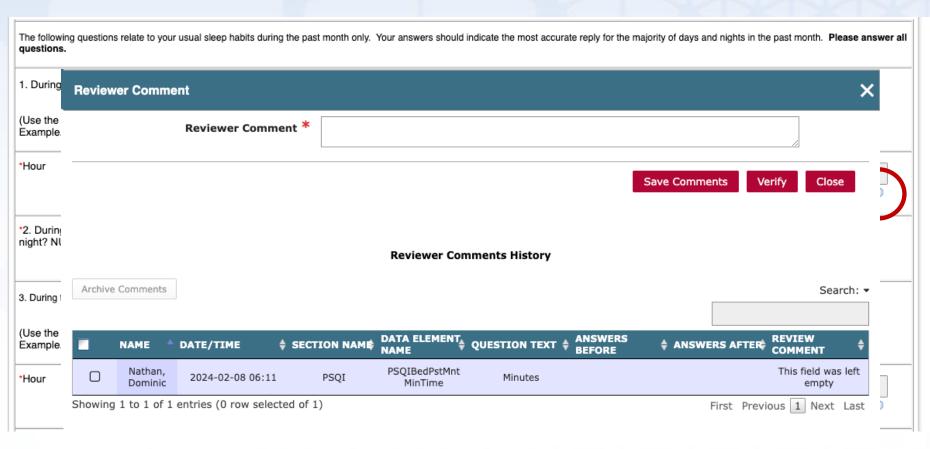


Regulatory Compliance – Audit Trail





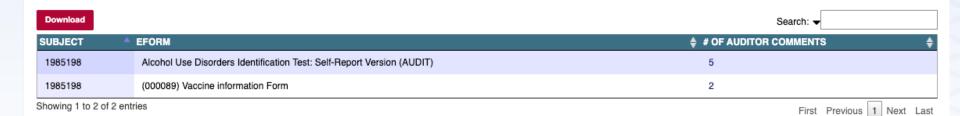
Regulatory Compliance – Protocol Auditing





Regulatory Compliance – Protocol Auditing





View Auditor Comments Details

Download			Search: ✓		
SUBJECT A	EFORM	DATE/TIME	♦ QUESTION TEXT	AUDIT STATUS	
1985198	Alcohol Use Disorders Identification Test: Self-Report Version (AUDIT)	2021-07-08 11:20	Is the subject in the case or control arm of the study?	Locked	
1985198	(000089) Vaccine information Form	2022-07-28 12:23	If other, please specify:	In Progress	
1985198	Alcohol Use Disorders Identification Test: Self-Report Version (AUDIT)	2021-07-08 11:14	How often do you have a drink containing alcohol?	In Progress	

Showing 1 to 3 of 3 entries

irst Previous 1 Next Las



Regulatory Compliance – Protocol Auditing

Audito	r Commen	t Response						×
	Audito	or Comment Respo	onse*					<i>h</i>
							Save Commen	ts Close
				Auditor Com	ments History			
Archive	Comments							Search: ▼
	NAME ^	DATE/TIME	SECTION NAME	DATA ELEMENT	QUESTION TEXT	ANSWERS BEFORE	♦ ANSWERS AFTER A	UDIT COMMENT
	Nathan, Dominic	2022-07-28 12:23	First Dose	YesNoOther1Tx t	If other, please specify:	/nnull		this was blank
Showing	1 to 1 of 1	entries (0 row selec	cted of 1)				First Previou	ıs 1 Next Last

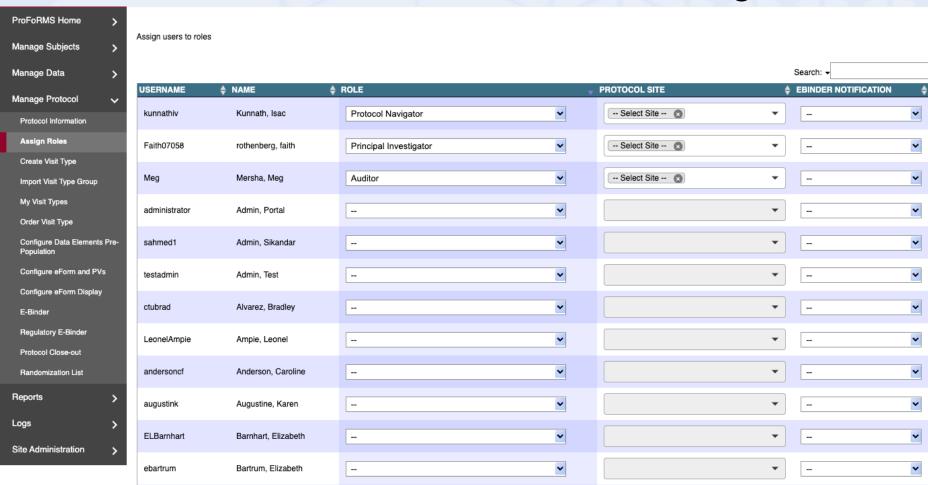


Access Control – User Roles





Access Control – User Role Assignment





Live Demo

Acknowledgements

- 1. Dr. Matthew McAuliffe
- 2. Mrs. Sandy Martin
- 3. Mrs. Melonise Battle
- 4. Mrs. Dana McCray
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- 8. Mr. Vivek Mannur
- 9. Mrs. Lan Wang
- 10. Dr. Rohith Vallabhaneni
- 11. Mrs. Sireesha Kolla
- 12. Mrs. Mahlet Wondemagagn
- 13. Mr. Lloyd Dallas
- 14. Mrs. Elizabeth Barnhart
- 15. Mrs. Nasreen Jahed
- 16. Dr. Daniel Pearl

- 17. Dr. Kareem Zaghoul
- 18. Dr. Prashant Chittiboina
- 19. Dr. Brian Wallit
- 20. Dr. PJ. Cimino
- 21. Mrs. Gretchen Scott
- 22. Mrs. Tasneem Malik
- 23. Dr. Debra Ehrlich
- 24. Mr. Mark Edwards
- 25. Mr. Amar Yvatkar
- 26. Mr. Srujan Ganta
- 27. Dr. Kory Johnson
- 28. Mrs. Gladys Wang
- 29. NINDS Intramural IT
- 30. CIT BRICS team
- 31. CiSTAR and CASA Users



A huge "Thank You"

to our users and various working groups



Questions?



Closing Remarks

