

TabCAT

- TabCAT is a software platform for the administration of clinical tools and secure data storage. It is composed of a tablet application and an administrative website.
- Clinical tools and measures can be conducted on standard (9.7 inch) Apple iPads. TabCAT is compatible with the following iPad models: iPad Air, iPad Air 2, Pro (9.7in), iPad 2017, iPad 2018.
- The TabCAT application currently includes:
 - Tasks that measure episodic memory (1), executive function (6, 3 of which are from NIH EXAMINER), visuospatial function (3), socioemotional function (7), language (1).
 - Questionnaires that are patient facing, informant facing, and examiner facing (11).
 - The UCSF Brain Health Assessment (BHA), a battery comprised of 4 tasks and 1 questionnaire.
 - Translations for 10 languages: Cantonese, Dutch, English, French, Greek, Italian, Mandarin, Spanish (Argentina, Uruguay), Spanish (Cuba), Spanish (Mexico, Central America, Spain), & Swedish.

The TabCAT System

- The administrative website or "Admin Panel" is a hub for managing use of the TabCAT application.
- The TabCAT system is organized into Realms and Studies.
 - A **Realm** refers to a grouping of Users and Studies that may have their own database structure. For example, a medical research institution like UCSF could be made into a Realm.
 - A **Study** refers to a grouping of tasks that have their own data repository in the Realm's database. A Study may collect data at multiple sites. For example, there may be multiple research studies that use TabCAT within the Realm UCSF, each with their own testing batteries, set of Users, and hypotheses. The Realm UCSF will store the data from each Study in the same database or server.
- Users are assigned to Realms, and to Studies within the Realm, allowing them to collect data on the application. Each user is assigned a Role: System Admin, Realm Admin, Study Admin, Clinician, or Examiner. The permissions appointed to each of these roles are defined on the next page.

User Role Permissions

User Role	Permissions
Examiner	 Create encounters on the app Sync data on the app View the users and tasks assigned to their study on the Admin Panel Change their own name, email, or password on the Admin Panel
Clinician	 All above, plus: View encounter data, normative data, and reports on the app View and download study data on the admin panel
Study Admin	 All above, plus: Sync data for an entire study on the app Create a new study and edit study details on the Admin Panel Create and edit users on the Admin Panel Edit encounter data on the Admin Panel
Realm Admin	 All above, plus: Enable and disable users on the Admin Panel View Debug tab on the Admin Panel
System Admin	 All above, plus: Add and edit normative data Create and edit realms

The TabCAT Team

Investigators

- Kate Possin, PhD
- Joel Kramer, PsyD
- Kate Rankin, PhD

Technology and Development

- Michael Schaffer, BSE
- Joe Hesse
- Vynyl

Research Coordinators

- Sabrina Erlhoff
- Kirsten Rogers

Alumni

- David Marin
- Erica Johnson
- Tacie Moskowitz
- Natasha Steele, MPH

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Changes to expect in TabCAT 2.6.0



Preparing to Update



Using HockeyApp





Changes to Expect in TabCAT 2.6.0

- 2.3.0
 - Translation adjustments & additions: Cantonese, Spanish, French, Italian, Portuguese
 - Several edits to new Social Function tasks
 - Stricter permissions criteria for "Examiner" and "Study Admin" Roles
 - Fixed Line Orientation, Line Length, and Perpendicular Line Length trial time data.
 - Fixed Language data on all .csv files
 - New Patient Demographics page integration
- 2.4.0
 - New Task Selection Screen layouts
 - Stricter permissions criteria for "Examiner" and "Study Admin" Roles
 - New tasks and questionnaires: Animal Fluency, ECog-12, GAD-7, PHQ-9
 - New Informant Demographics tab
 - New Encounter Scores page: View encounter scores by tapping on "View Scores".

Changes to Expect in TabCAT 2.6.0

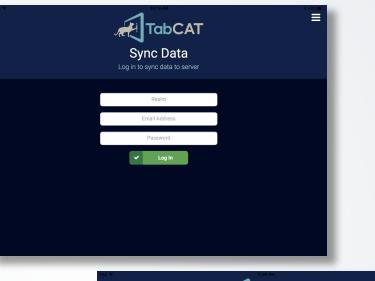
- 2.5.0
 - Admin Panel
 - View Normative Data on the "Tasks and Norms" tab
 - View Informant Demographics on informant questionnaire .csv files
 - Search for Users and view User Role on the "Users" and "Studies" tabs
 - Tablet
 - View Normative Data on the "Normative Data" tab
 - View Normative Data on the "Encounter Scores" page: After completing patient demographics and completing a task, tap "View Scores" to view the patient's score, the mean and standard deviation score for the patient's normative group (if available), and the patient's percentile ranking as compared to their normative group (if available).
 - Stricter permissions criteria for "Examiner" role
 - Edits to the Informant Demographics tab

Changes to Expect in TabCAT 2.6.0

- 2.5.1
 - Edits to the Admin Panel Data Dictionary
 - Application Changes:
 - Language selection menu now translated into each language
 - Refinements to login error messages
 - Language addition: Arabic
 - Edits to Running Dots task
 - Edits to Brain Health Survey
 - Addition of Lock-Out functionality after failed login attempts
- 2.6.0
 - Refined Data Syncing process on Tablet/API
 - Sync Data and Log Out button restrictions
 - New User Role added: Clinician
- Features coming soon to TabCAT:
 - Summary Reports
 - Additional translations and tasks
 - Stricter security measures

- Before anything else, log into your existing TabCAT app, close any open encounters, and sync all data. You must be connected to the Internet to sync data.
- A study admin may sync all data from their study on a tablet, even if the data was collected by another study admin or an examiner. Examiners may only sync data that they collected, regardless of the credentials used at login.

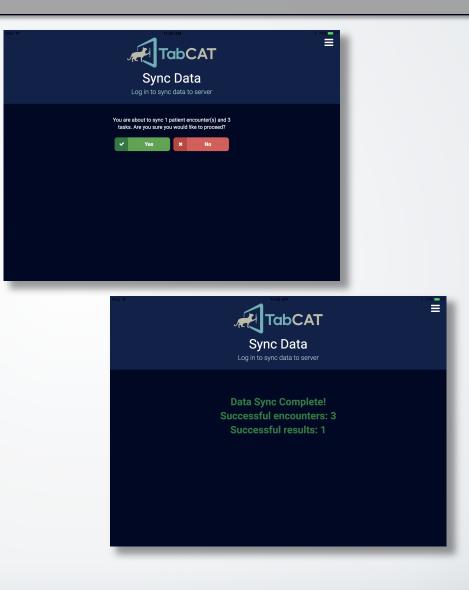
Preparing to Update





- To sync the data to the TabCAT server, open the sidebar menu and select "Sync Data". You will be prompted for your credentials.
- After entering your credentials you will receive a message that data was successfully uploaded to the server.
- Ensure that the expected number of tasks and results synced successfully.

Preparing to Update



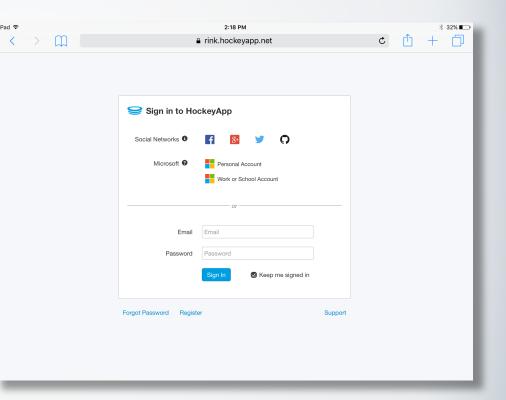
Preparing to Update

- After syncing all data, delete the old TabCAT app from your iPad.
- Installing may not work unless the old app is deleted.
- If data does not sync before deleting the old app, this data will be lost. Please ensure all data syncs before deleting.



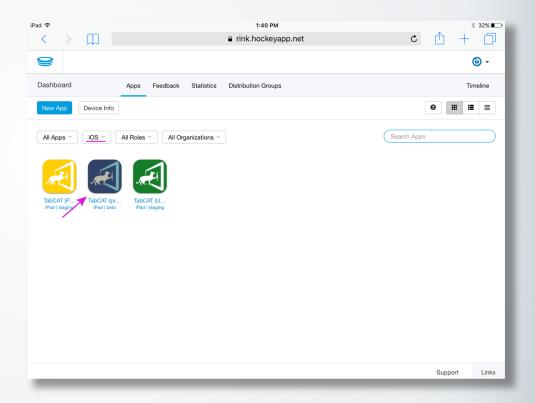
Using HockeyApp

- To install the new version of TabCAT, visit
 https://hockeyapp.net from an Internet browser on your tablet or open the HockeyApp application on your tablet.
- If you have an account with HockeyApp, sign in using your credentials. If not, please contact your local study admin or tabcat@ucsf.edu to request an invitation to use HockeyApp. Once you receive an email inviting you to use HockeyApp, click the link, sign up, and log in to the app.

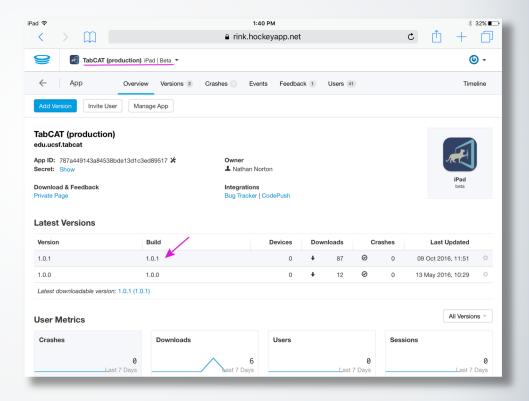


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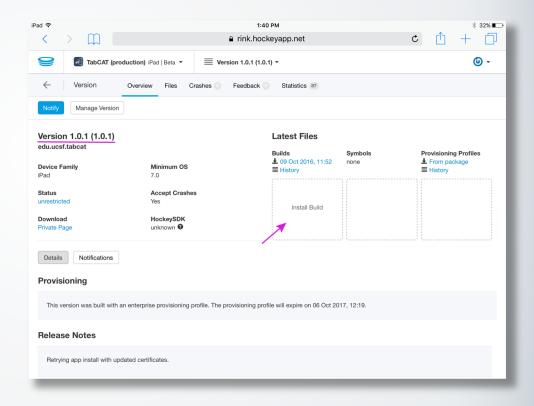
- You will now see a blue icon for TabCAT.
- Select the TabCAT icon that reads: TabCAT (production) iPad | beta



- Select the most recent version of the app, currently version 2.6.0.
- Please note that this version number does not match the sample picture to the right.



- Select "Install Build".
- TabCAT should now start installing on your tablet's Home screen.



- Before opening the TabCAT app, you may need to go to your tablet's Settings page.
- Tap the "General" tab, then tap "Profiles and Device Management".
- Select "University of California, San Francisco".

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		Auto-Lock	2 Minutes >
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ᅙ Wi-Fi	UCSFwpa	Restrictions	Off >
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- Select "Trust 'University of California, San Francisco'".
- Select "Trust" on the dialogue box.
- You should now be able to open TabCAT and login using your realm ID, username, and password.

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Inviting Users to HockeyApp



Using HockeyApp



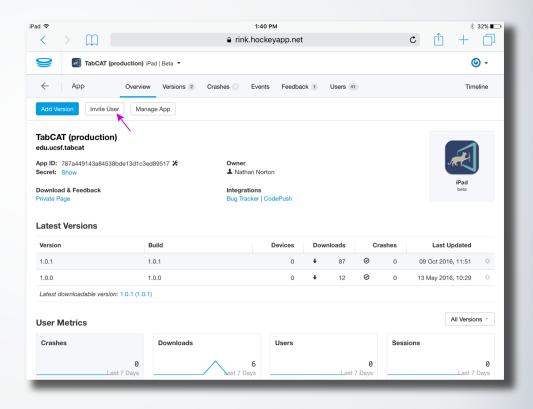


Inviting Users to HockeyApp

- HockeyApp is the platform through which TabCAT is downloaded, similar to an "App Store". It is accessible via **https://hockeyapp.net**.
- Before a new user can access HockeyApp, someone with a HockeyApp "Developer" role must invite them. Please contact your local study administrator or **tabcat@ucsf.edu** to request an invitation to use HockeyApp.

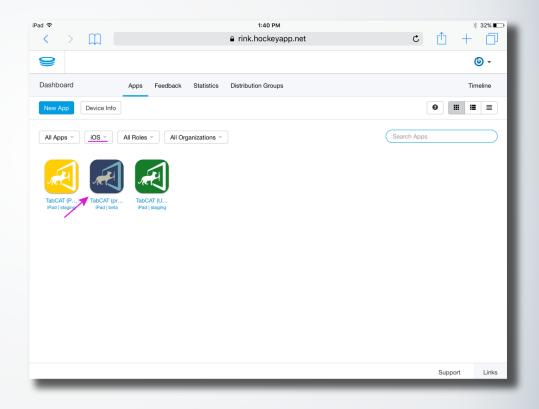
Inviting Users to HockeyApp

- A Developer can invite new users by opening HockeyApp, tapping on the TabCAT icon and selecting "Invite User".
 Enter the new user's email address and specify their role: Tester, Member, or Developer.
 Tap "Save" to send the invitation to the new user.
- If a user will just be downloading and running TabCAT, they will be a Tester. If a user will need to give access to other users they will need to be a Developer.

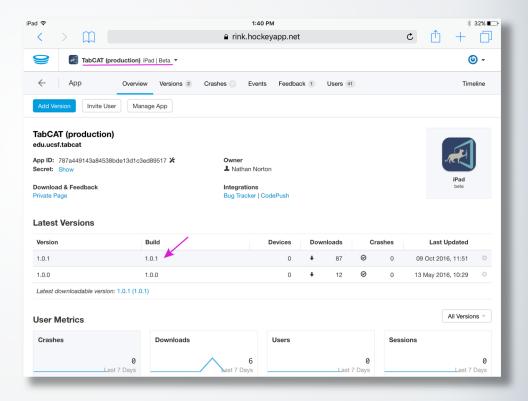


- Once you receive an email inviting you to use HockeyApp, follow the link, sign up for HockeyApp using any credentials you prefer, and log in.
- If you already have access to HockeyApp, visit **https://hockeyapp.net** from an Internet browser on your tablet or open the HockeyApp application on your tablet and log in.
- Note: Registering your device is optional.

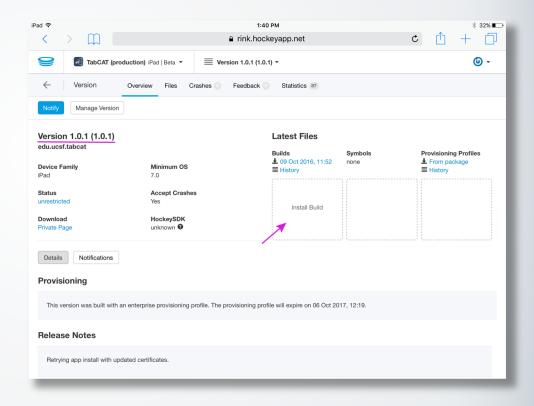
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- Select "University of California, San Francisco".

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â	Passcode				
	Battery				
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- Select "Trust" on the dialogue box.
- You should now be able to open TabCAT and login using your realm ID, username, and password.

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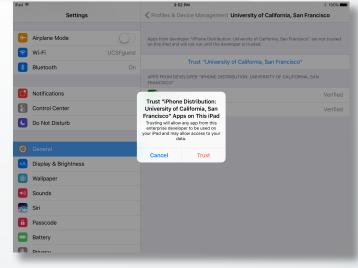


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Logging into the Admin Panel



Data Dictionaries



Changing Your Password



Adding New Users



Creating Studies

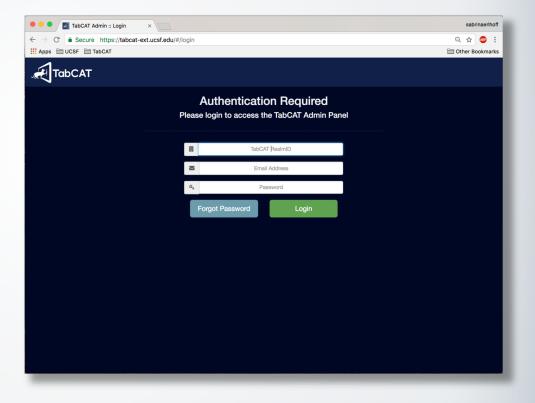


Downloading Data



Logging in to the Admin Panel

- If you are connected to the UCSF Mission Bay WPA visit: https://tabcat-ext.ucsf.edu
- If you not connected to the UCSF Mission Bay WPA visit: mac.ucsf.edu/tabcat
- Log in using the realm ID, username, and password that you use to log into the TabCAT app. If you do not have login credentials, contact your local study administrator or tabcat@ucsf.edu to request access.



Changing your Password

 Once you have logged in, click on your name and "My Profile" in the top right hand corner of the screen.

	St	udies Users	Tasks Patient
E Select Stud	ły	Ne	nw Study O
Study ID	Study Name	Created Date	Expiration Date
study_a	Study A	02/17/2016	04/14/2016
56d0deae04ed6a7430018263	Brain Health Assessment	02/26/2016	04/19/2018
571fd19da525ad13008ce840	EPAD LCS	04/26/2016	12/31/2019
572905392160365006b428b8	Dyslexia	05/03/2016	04/09/2017
5756e95bf8880910006e8599	Quest Diagnostics	06/07/2016	02/15/2017
576b015be2302e1700ffad4e	Hillblom - EXAMINER	06/22/2016	12/31/2019
576c22f5e2302e1700ffad5f	Gazzaley Neuropsych	06/23/2016	05/01/2018
578e7cc2e76499112e54e9cc	Clinic	07/19/2016	09/16/2019
58054d80a4aedc0017977587	НКО	10/17/2016	09/19/2018
5812811f0a7ff300154d3497	Social Function	10/27/2016	12/31/2019
58225b580a7ff300154d34a0	DigCog Number Picture	11/08/2016	11/08/2017
585038d60910e9001383eeaf	Rocky Mountain Alzheimer's Disease Center	12/13/2016	12/13/2017
58585bd70910e9001383eec3	Office Neuropsych Batter	12/19/2016	12/04/2017
58893012185a51001335643a	PUMCH dementia patients	01/25/2017	05/16/2018
5891097f185a510013356455	UTHSA	01/31/2017	01/30/2018
589a4a7af51a02003cad3d9b	CubaTabCat	02/07/2017	03/01/2018
58c87099f51a02003cad3dc1	TabCAT Brazilian Portuguese	03/14/2017	03/13/2018
58ebbb927112611f20ae32e9	New Approaches to RPD	04/10/2017	04/10/2018
58f7e61e440be92ed35d2384	PCS_PFC	04/19/2017	03/24/2020
5900d5ff440be92ed35d23bf	Test	04/26/2017	05/03/2017
59010b94440be92ed35d23cc	Korea ASD study	04/26/2017	04/29/2020

Changing your Password

- Change your username or password.
- Passwords must have a minimum of 7 characters, and must include as least one of each of the following kinds of characters: upper case, lower case, numbers, and symbols.
- Save changes.

CAT					Studies	Users	Tasks	Patients	Cat Stevens -
🛓 User Profi	le: Cat Steve	ns					< All Users		
			User Details						
	Full Name			Email Address		Role			
	Cat Stevens		sam	ple@email.com		Study Admi	n		
	ී Reset Change	3		© S	lave Changes				
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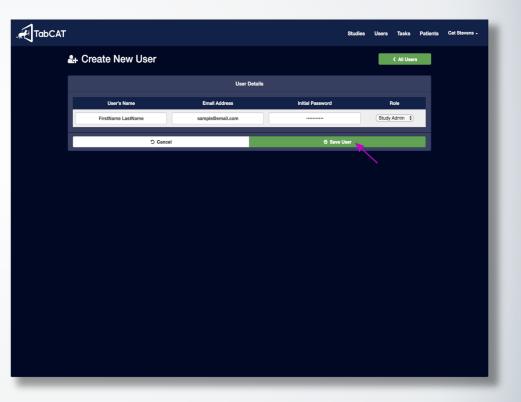
Adding New Users

- To add a new user to TabCAT, select the "Users" tab on the top right hand corner of the window.
- You will now see a list of all users in your realm.

ſabCAT				Studies Users	Tasks Patients Cat Stevens -
놀 /	All User	S			- Add User
Enabled	Created	Roles	Name	Email	Actions
*	02/17/2016	Study Admin	Nathan Norton	nate@pixelandline.com	
8	02/17/2016	Realm Admin	Tacie Moskowitz	tacie.moskowitz@ucsf.edu	1 D
~	03/07/2016	Study Admin	Joe Sunderland	joe@pixelandline.com	
۲	03/08/2016	Study Admin	Joel Kramer	joel.kramer@ucsf.edu	i o
2	03/08/2016	Study Admin	Kate Possin	kate.possin@ucsf.edu	
2	03/08/2016	Study Admin	Suzie Shdo	suzanne.shdo@ucsf.edu	i 0
2	03/08/2016	Study Admin	Jordan Stiver	jordan.stiver@ucsf.edu	
	03/08/2016	Study Admin	Rowan Saloner	rowan.saloner@ucsf.edu	i 0
~	03/08/2016	Study Admin	Kate Rankin	kate.rankin@ucsf.edu	
2	04/15/2016	Study Admin	Marita Meyer	marita.meyer@ucsf.edu	i O
<u>×</u>	04/15/2016	Study Admin	Karen Dorsman	karen.dorsman@ucsf.edu	
2	04/15/2016	Study Admin	Mule Test	mule@tabcat.ucsf.edu	i 0
2	04/28/2016	Study Admin	Emily Fox	emily.fox2@ucsf.edu	
2	04/29/2016	System Admin	Michael Schaffer 2	michael.schaffer@ucsf.edu	i D
2	05/19/2016	Study Admin	Karen Ritchie	karen.ritchie@inserm.fr	
	05 00 00 00		÷		

Adding New Users

- Select "Add User".
- Enter the new user's first and last name and email address, which will act as their username.
- Under "Initial Password", give the new user a generic, yet complex, password. They can change their password to something personal when they log on to the Admin Panel.



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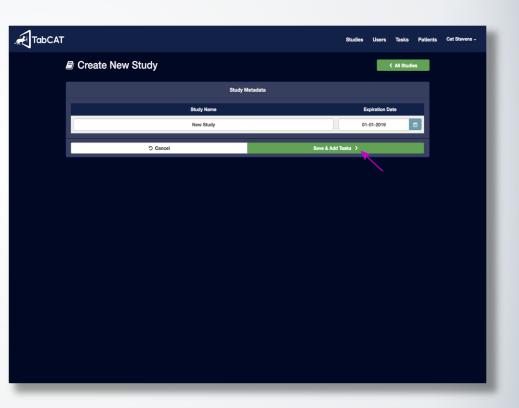
Adding New Users

- Specify the new user's role.
- To view permissions level details for each role, please see "Introduction: User Role Permissions"
- Select "Save User" to save.

TabCAT			:	Studies Users Tasks Patie	ents Cat Stevens -
	+ Create New User			< All Users	
		User De	etails		
	User's Name	Email Address	Initial Password	Role	
	FirstName LastName	sample@email.com		Study Admin	
i	ට Cance	4	🗢 Save Use	r 	

Creating Studies

- To create a new study, select the "Studies" tab in the top right hand corner of the window.
- Enter your study name and expiration date. The expiration date is added for your convenience and can be changed if needed. The date inputted will not affect your data.
- Select "Save & Add Tasks" to save.



Creating Studies

- Once you have created your study, you can find it in the list under the "Studies" tab. Click on your study.
- To add tasks to your study, select "Add Tasks" at the bottom of the "Task Management" list. Choose which tasks you would like to incorporate into the study by clicking on the green plus sign icon. You can also delete tasks by clicking on the red trash bin icon next to the task name.

TabCAT					Studies	Users	Tasks	Patients	Cat Stevens -
	Study Details	\$				<	All Studies		
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Creating Studies

- When you scroll down on the same page, you will see a list of users that have access to your study.
- Select "Add User" at the bottom of the "User Access" list and add Users to your study by clicking on the green plus sign icon. You may disable user access to your study by clicking on the red trash bin icon next to the user name.

				Studies	Users	Tasks	Patients	Cat Stevens -			
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		Study Name	Creation Date		Expiration D	ate					
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			Included Tasks								
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	8	visuospatial	Parallel Line Length		2	a					
			Add Tasks								
			쯀 User Access								
			Included Users								
	Created	Name	Email Addr	ress		Ad	tion				
	04/27/2017	Cat Stevens	sample@ema	il.com							
			Add Users								
			O Delete Study								

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Creating Studies

- If you add a user on the Admin Panel but do not add them to your study, they will not have access to the tests when they login to TabCAT.
- Scroll up to the top of the page and click the green "Save Metadata" button to save the changes you made to your study.

TabCAT					Studies	Users	Tasks	Patients		
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		Study Name		Creation Date		Expiration Date				
		New Study		04-27-2017		01-01-2018				
		D Reset Metadata O Sava Metadata								
			🛢 Task Manager	nent						
			Included Tasks							
	lcon	DomainID		Name			Actions			
	1	visuospatial		Line Orientation		2 🔟 🗖				
		visuospatial	Parallel Line Length							
			Add Tasks							
			蒈 User Acces	is		_	_	_		
	Created	Name	Included Users	Email Address			•	ction		
	04/27/2017	Cat Stevens		sample@email.co	n	Action				
			Add Users		_	_				
			O Delete Stud	y						

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Downloading Data

- Once Study Admins and Examiners sync their data from the TabCAT app, it will be available in CSV reports that can be downloaded from the Admin Panel.
- To download a report, click on the "Studies" tab at the top of the Admin Panel. Select your study.

Image: Study Details Sury Matadata Study Manne Creation Date Exploration Date Merror Study 04-27-2017 01-01-2018 01-01-2018 The Study Manne Creation Date Create Matadata Create Matadata The Study Manne Create Matadata Create Matadata Create Matadata The Study Manne Create Matadata Create Matadata Create Matadata Constrainto Create Matadata Create Matadata Create Matadata Create Matadata Manne Manne Adatasa Create Matadata Create Matada	TabCA	г				Studies	Users	Tasks	Patients	ľ
Study Name Creation Date Expiration Date New Study 04-27-2017 01-01-2018 Created Imagement Included Tasks Visuospatial Line Orientation Visuospatial Parallel Line Length Visuospatial Add Tasks Visuospatial Visuospatial Imagement Imagement Visuospatial Line Orientation Visuospatial Parallel Line Length Visuospatial Parallel Line Length Visuospatial Parallel Line Length Visuospatial Created Korn Created Korn Created Name Created Korn		Study I	Details					< All Studi	les	
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Downloading Data

- Scroll down to the "Included Tasks" list.
- Select the graph icon next to each test. This will start an automatic download of the CSV report of data to your computer.
- Open your computer's Downloads folder to find the data.

TabCAT				Studies	Users	Tasks I	Patients	Cat Stevens -
	🛢 Study	Details			<	All Studies		
			Study Metadata					
		Study Name	Creation Date		Expiration Da	ite		
		New Study	04-27-2017	Ö 0	1-01-2018			
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Data Dictionaries

- There are some Data Dictionaries available on the Admin Panel that correspond to the CSV reports that are downloadable for each study's data.
- Select the "Dictionaries" tab in the upper right hand corner of the window to view the dictionaries.

TabCAT	Studies Users Tasks	Patients Di	ctionary Sabrina Erlhoff
🛢 Data D	ctionary		
Table of Cor Favorites Match	tents:		
Line Tasks			
Favorites			Back to Top
Variable	Meaning	Format	Example
PIDN	Patient Identification Number	Numeric	0
LinkDate	Date data was entered	Date	1/1/1900
Linkld	ID code for encounter	Alphanumeric	5b3f5ec70e4f35cfbc2
Version	Version of TabCAT app build	Numeric	1.0.0
VersionDate	Version release date	Date	1/1/1900
TaskName	Name of Task	Alphabetic	Favorites
RealmID	Realm Name	Alphabetic	UCSF
StudyName	Study Name	Alphabetic	Study A
StudyID	Study ID code	Alphabetic	study_a
ExaminerName	Name of Examiner	Alphabetic	Jane Doe
ExaminerID	Examiner ID code	Alphanumeric	5b3f5ec70e4f35cfbc2
Site	Site Name	Alphabetic	UCSF
machine	Tablet type and name	Alphabetic	

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Click on an Icon to View Contents



Logging onto TabCAT



Closing a Test Before it is Complete



The Task Selection Screen & Sidebar Menu



Closing the Encounter



Switching Languages



Viewing Scores After Testing





Viewing Normative Data

Logging on to TabCAT

- Open the TabCAT app.
- Log in to the app using the same credentials that you created on the TabCAT Administration Panel website.
- Please note that you must be connected to the Internet when you log in and when you sync data.

TabCAT	\$ 56% ≖⊃
Logged out	
Realm	
Email Address	
Password	
✓ Log In	

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Logging on to TabCAT

- Please note that you must be connected to the Internet when you log in and when you sync data.
- Once you advance to the "Select an Examiner" screen, TabCAT does not require a connection to the Internet.
- You may open and close multiple encounters and switch examiners without logging out or connecting to the Internet.

iPad 🗢		≵ 56% = ⊃
	Logged out	
	Realm Email Address	
	Password	
	✓ Log In	

Logging on to TabCAT

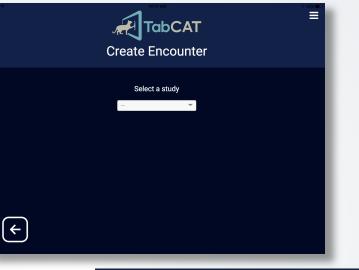
- Select your name from the Examiner menu by typing it in the search bar and selecting it from the list.
- If you will not have an internet connection, stay logged in for longer periods of time. Instead of logging out when the examiner changes, simply choose a new examiner name and start testing. Later, whichever examiner's name was selected will need to enter their own credentials to sync the data they collected.



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- Select the study through which you will be collecting your data.
- You will only see names of studies you have been given access to on the Administration Panel website.

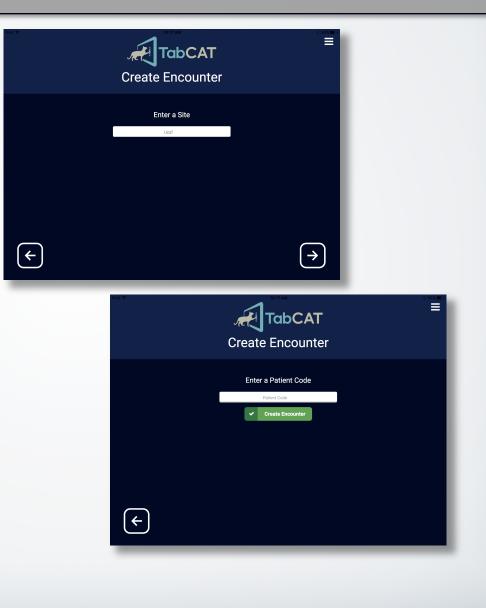
Logging on to TabCAT





- Enter the name of the site where you are testing.
- Enter a unique ID for your patient.
- Start testing by selecting "Create Encounter".

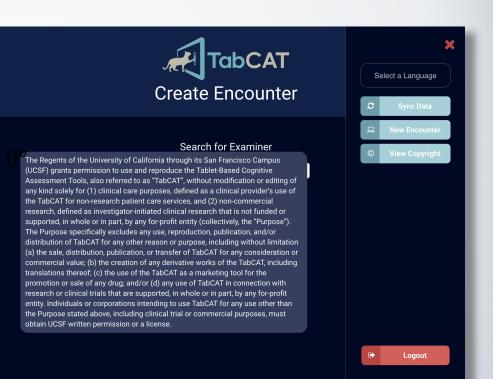
Logging on to TabCAT



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Logging on to TabCAT

- On the first time that TabCAT is accessed after being installed, you will view an important copyright statement.
- Please read this copyright statement carefully and agree before continuing to use the app.



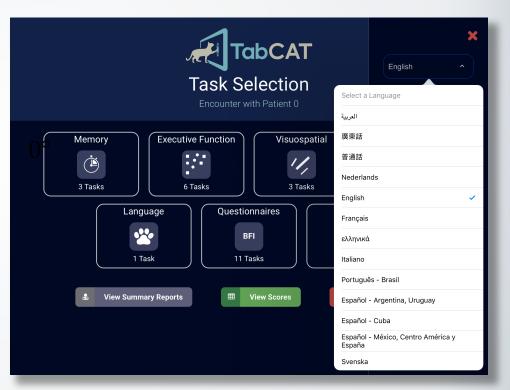
The Task Selection Screen & Sidebar Menu

- The Task Selection Screen is the "home page" for your open encounter and contains all tasks in your study.
- Tap on the menu icon in the top right corner of the screen to:
 - Change the language settings
 - View/Add patient or informant demographics
 - View Normative Data
 - View Copyright
 - View the Task Screen
 - Close the Encounter
 - Sync Data
 - Log Out



Switching Languages

- To change the language of the tasks, from the sidebar menu, tap on the language bar at the very top of the menu, then tap your chosen language.
- Please note that the Task Selection Screen will always appear in English. All tasks that have translations available will appear in your chosen language when opened. If a task does not have a translation it will appear in English when opened



*Note: All task translations are checked for quality in a rigorous process. For more information please contact tabcat@ucsf.edu.

Viewing Scores After Testing

- Once a task is complete, a green check will display on the task icon.
- Tap the "View Scores" button to view scores from the encounter at any time.



Viewing Scores After Testing

- After tapping on "View Scores", the Encounter Scores page is shown.
- Encounter metadata, patient demographic data, and informant demographic data is shown.
- Slide up and down on the screen to scroll and view test scores.

Æ	Encounter Scores												≡	
	Metadata													
	D Encounter													
	PIDN		Started Date	•				Study	Site	Site Exan			iner	
	0		4-12-2018			Bra	ain Hea	alth Assessment		Sabrina			Erlhoff	
								Patient						
	First Nan	ne	Last N	ame	DC	ов	A	ge Language	Educati	on	Sex	н	andedness	
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								nformant						
	First Name	La	ast Name	Relati	onship	Sex	Age	Living with Patient	Yea	s Knov	vn Patie	ent	Comments	
	Catsy		Cline	Ot	her	F	81+	no		41	1			
							S	Scores						

Viewing Scores After Testing

- If a patient's demographic information is completed and can be compared to normative data available for a particular task, there will be multiple scores visible on the Encounter Scores page.
- The first score listed is the patient's score. The second scores are the mean and standard deviation for the norm group that the participant fits into. The last score is the patient's percentile ranking as compared to that norm group.

1			
TabCAT			
	Enco	unter Scores	
	Enco	unter with Patient 0	
Memory			
Favo	rites Learning	Favo	orites Delay
Recall 1 Correct	Recall 2 Correct	Delayed Recall Correct	Total Recall Correct
4	6	6	16
3.8 (1.8)	6.9 (1.4)	6.6 (1.6)	17.3 (4.2)
54.4%ile	26.0%ile	35.3%ile	37.8%ile
	Fa	vorites Recognition	
Recognition To	otal Correct Rec	ognition Total SME	Recognition Total Intrusions
7		1	0
Executive Function	in		
		Match	
	Total Correct		Total Errors
	48		0
	51.6 (6)		.5 (.8)
	27.4%ile		73.4%ile
Visuosnatial			

4

- Questionnaire responses can be viewed by tapping on the small icon next to the task name.
- Slide up and down on the pop-up to view additional questionnaire answers.

TabCAT **Encounter Scores** Visuospatial Line Length Line Orientation Raw Score Catch Trial Score Raw Score Catch Trial Score 5.3 (2.6) Language Animal Fluency Total Correct 21.4 (4.9) Questionnaires **Brain Health Survey** BHS Sum ECog Mean 1.16666666666666666

100.0%ile

	Encounter	ടപ	res		
	Daily Living			DON'T KNOW	
	Have there been any changes in the patient's memory or thinking skills?		*		-
Visuospatial	Does the patient have difficulty doing something that they used to do easily (e.g. cooking, hobbies, operating electronics/TV)?				
Raw Score	We're looking for ways the patient may have changed. Compared to 5 years ago, does the patient:			DON'T KNOW	 Score
	Trip or fall more often?		×		-
Language	Seem unembarrassed after doing something others think is rude?				
	Seem to see or hear things that are not there?		×		-
	Speak slower because it's hard for them to get words out?		×		-
	Have trouble moving their eyes or a wide-eyed stare?		×		-
	Seem strangely unconcerned during a major life event (e.g., job change or illness in family)?				-
Questionnaii	Fail to understand words they used to know (e.g., "Spatula? I don't know what that is.")?		×		
	× Close				
	sH s sum		ECOGI	wean	/

Viewing Scores After Testing

- View all available normative data for a task by tapping "Normative Data" on the sidebar menu.
- Tap on a task to view normative data.

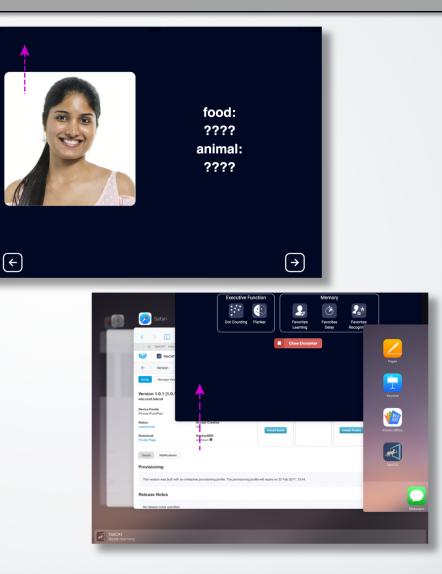
Viewing Normative Data

	Tak Normativ	DCAT e Data
Icon	Domain	Task Name
	language	Animal Fluency
внз	questionnaires	Brain Health Survey
Ċ	memory	Favorites Delay
	memory	Favorites Learning
2.*	memory	Favorites Recognition
8	visuospatial	Line Length
	visuospatial	Line Orientation
	executiveFunction	Match

				Norm	Tab(native	C AT Data	:			
🗐 Ta	sk Details						< All Tasks			
				Task Metadata						
	lcon		Task Name		Task Creation	on Date	Norms Updated Date			
			Animal Fluency	1/12/2018		18	4/12/2018			
🗐 No	rmative D	Data								
Englis	h									
Sex	Age Min	Age Max	Education Min	Education Max	Total Correct					
All	0	16	50	64	22.7 (4.7)					
Ali	0	16	65	74	21.4 (4.9)					
All	0	16	75	100	19.8 (4.8)					
All	17	20	50	64	24.7 (4.5)					

Closing a Test Before it is Complete

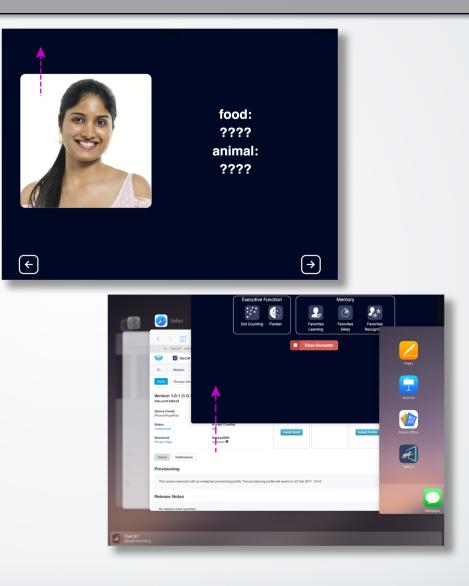
- You may wish to close a test before it is complete if you accidentally open the wrong test or form, or if a participant is unable to complete a test for various reasons.
- If you choose to close a test before it is complete, any data collected within that test will not be saved.
- Two methods for forceclosing a task are on the next page.



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Closing a Test Before it is Complete

- Method 1: Use your index finger to swipe upward in the top left corner of the screen. Doing so will take you back to the Task Selection screen.
- Method 2: Double click on your tablet's home button so all open applications appear. Touch and hold the TabCAT window, and then swipe it up. This will close the task and lead you back to your tablet's home screen. From the home screen, reopen TabCAT.



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Closing the Encounter

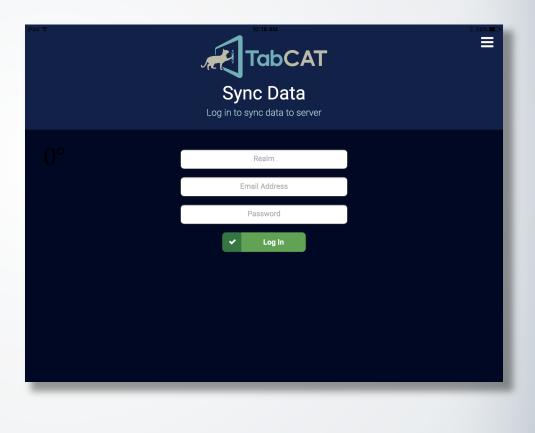
- After you have completed testing, make sure to close the encounter so the data is saved. Select "Close Encounter".
- You will be prompted to enter patient demographic information. This is optional. If you would like to proceed without entering information continue to close encounter. You will then be asked if the encounter was useful for research and you will have space to add comments.

	TabCAT Fask Selection Encounter with Patient 0	=
Executive Function	Favorites Favorites Favorites Favorites Close Encounter	

	Close Encour		
Wa	as this encounter useful for	research?	
	YES NO		
	Check data quality issues	(if any)	
Behavioral Disturbances	ESL	Hearing Impairment	
Lack of Effort	Minimal Education	Motor Difficulties	
Speech Difficulties	Unreliable Informant	Visual Impairment	
	Other (describe below)		
	Other Comments		
	× Close Encounter		

Syncing the Data

- Once the encounter is closed, the examiner can sync the data so it will move to the server to be viewed on the Admin Panel website. Once data is synced it will be erased from local iPad storage.
- It is good practice to sync data often. Data that is not synced by the examiner will not appear in the .CSV files downloaded from the Admin Panel, and could be prone to problems with local tablet storage.



- To sync the data to the TabCAT server, ensure strong wifi connection.
 Open the sidebar menu and select "Sync Data".
 You will be prompted for your credentials once more.
- After entering your credentials you will receive a message that your data was successfully uploaded to the server.

Syncing the Data





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Task and Testing Battery Descriptions

Click on a Domain to View Tasks





Task and Testing Battery Descriptions

Click on a Task to View Description



Favorites Learning

Memory: Favorites Learning

- **Summary:** This task measures associative verbal and visual memory in an immediate recall.
- Description:
 - Patients are asked to remember people and their favorite food and animal. There are two learning trials; in each, patients are shown four different faces twice, each paired once with a favorite food and once with a favorite animal (total of 8 face-word pairs). Each pair is displayed for 5 seconds and they appear in a pseudorandom order.
 - After each learning trial, the faces reappear one at a time, and the patient is asked to recall the food and the animal associated with that face, and recite them orally to the examiner. The examiner copies down the responses on a separate sheet of paper, and enters them into the tablet for scoring at the end of the second learning trial.

Favorites Learning (continued)

- Description (continued)
 - The faces are two female and 2 male adults, diverse in terms of ethnicity and age. The words selected are common but not prototypical from the categories animal and fruit/vegetable. The words may be different in each language available to be culturally pertinent.
- Test Time Duration: 3 minutes
- Alternate Forms: 4



Favorites Delay

Memory: Favorites Delay

- **Summary:** This task measures associative verbal and visual memory in a delayed recall.
- Description:
 - The Delayed Recall trial is administered after a 10 minute delay following the Favorites Learning trials.
 - The faces shown in Learning are shown again and the patient is asked to recall the food and the animal associated with that face, and recite them orally to the examiner. The examiner copies down the responses on a separate sheet of paper, and enters them into the tablet for scoring at the end of the delay trial.
- Test Time Duration: 3 minutes
- Alternate Forms: 4

Favorites Recognition

Memory: Favorites Recognition

- **Summary:** This task measures associative verbal and visual memory via a cued recognition assessment after a delay.
- Description:
 - Favorites Recognition is administered after the Favorites Delay task has been completed.
 - The patient is shown a face from the previous learning trials, paired with a food or animal word. The patient is asked to tap "yes" if the word matches the correct food or animal that belongs to the face shown, and "no" if it does not.
 - There is a total of 24 trials: 8 with the correct face and food or animal pairing, 8 with incorrect pairings where the foods or animals belong to a different face (Source Memory Errors), and 8 with incorrect pairings where the foods or animals were never shown during the learning trials (Intrusions). Intrusion words are taken from alternate forms.

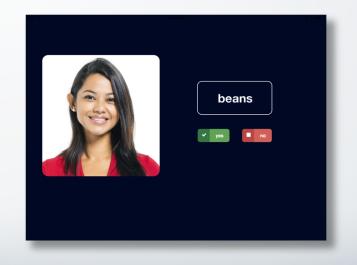
Favorites Recognition (continued)

- Test Time Duration: 2 minutes
- Alternate Forms: 4

Notes on the Favorites tests

- All food and animal stimuli are chosen to be culturally relevant and sensitive for each translation.
- Stimuli words are common, but not prototypical words of each category, and are phonetically simple.
- Face pictures are diverse for each Form and are the same across languages.



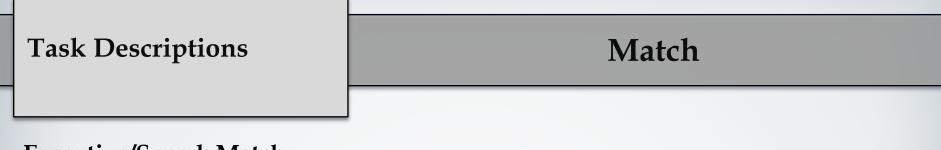




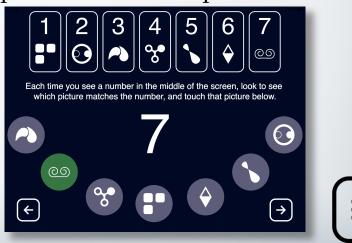
Task and Testing Battery Descriptions

Click on a Task to View Description





- Executive/Speed: Match
- **Summary**: This task measures processing speed and associative memory and is modeled after the WAIS-III Digit Symbol Coding paradigm.
- Description: The patient is shown a fixed legend of numbers 1 through 7 with corresponding simple, abstract pictures that appear just below each number, as well as in a different order along the bottom of the screen. The patient is instructed that each time a number appears in the middle of the screen, they should tap the corresponding picture at the bottom of the screen as quickly as possible. After each response, a new number appears. Accurate responses in 2 minutes were totaled.
- Test Time Duration: 2 minutes
- Alternate Forms: 4



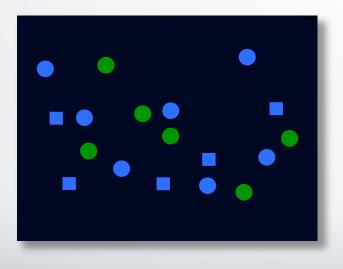
Dot Counting

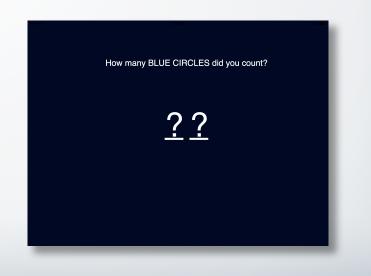
Executive/Speed: Dot Counting

- **Summary:** This task measures working memory skills and is modeled after NIH EXAMINER Dot Counting.
- Description:
 - The patient is asked to look at a screen with a mixed array of green circles,
 blue circles and blue squares. The patient is asked to count all of the blue circles on the screen one at a time, out loud and remember the final total.
 Once the patient finishes counting the blue circles on one screen, the examiner switches the display to a different mixed array of green circles, blue circles and blue squares. The patient is instructed to count the blue circles in the new display.

Dot Counting (continued)

- Description (continued)
 - The number of different displays presented to the examinee in each trial increases from two to seven over six experimental trials. After counting the blue circles on all of the displays presented within a trial, the patient is asked to recall the total number of blue circles that were counted in each of the different displays in the order in which they were presented. Partial credit is given based on how many totals the patient can recall correctly from each trial.
- Test Time Duration: 3 minutes

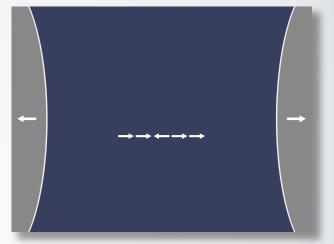




Flanker

Executive/Speed: Flanker

• **Summary:** This task measures inhibition skills and is modeled after NIH EXAMINER Flanker.

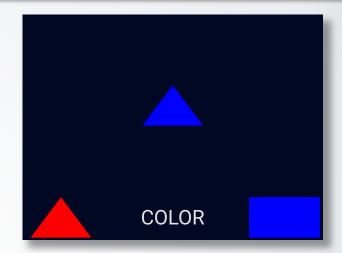


- Description:
 - A row of five arrows is presented in the center of the screen. The patient is required to indicate whether the centrally presented arrow is pointing either to the left or right by pressing the left or right arrow key.
 - The patient is presented with two different conditions during the task, incongruent and congruent. In the congruent trials, the non-target arrows point in the same direction as the target arrow and in the incongruent trials they point in the opposite direction.
 - Patients should respond as quickly and accurately as possible.
- Test Time Duration: 6 8 minutes

Set Shifting

Executive/Speed: Set Shifting

• **Summary:** This task measures set shifting skills and is modeled after NIH EXAMINER Set Shifting.



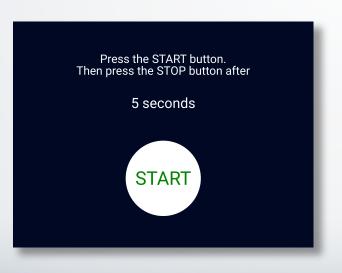
• Description:

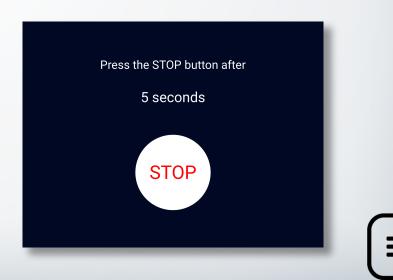
- Patients are required to match a stimulus on the top of the screen to one of two stimuli in the lower corners of the screen.
- In task-homogeneous blocks, patients perform either Task A (e.g., classifying shapes) or Task B (e.g., classifying colors). In task-heterogeneous blocks, patients alternate between the two tasks pseudo-randomly.
- The combination of task-homogeneous and task-heterogeneous blocks allows measurement of general switch costs (latency differences between heterogeneous and homogeneous blocks) and specific switch costs (differences between switch and non-switch trials within the heterogeneous block).
- Test Time Duration (min): 6-8



Executive/Speed: Timing

- Summary: This task measures subjective time estimation.
- **Description:** Patients are asked to estimate short time intervals, stopping a timer after they believe a specified amount of time has passed.
- Testing Time Duration: 2 minutes





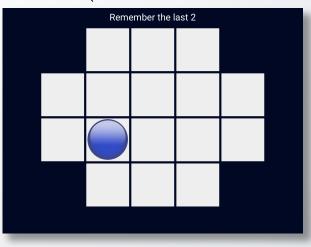
Running Dots

Executive/Speed: Running Dots

- Summary: This task measures spatial working memory. Patients watch a series of dots appear and disappear from a screen one by one, then recall the last 2 – 5 locations where a dot appeared, depending on the condition.
- **Description:** In each trial of this tasks, dots are displayed to the patient (one by one) in various locations on a 16-square grid. 1-6 leading dots precede each set of "target dots" that the patient is instructed to remember (ex. "remember the

location of the last <u>two dots</u> you see"). There are 5 trials for each condition, presented in random order without replacement, such that each subject receives all the same trials across the full testing period, but in differing orders. Partial credit is given for each dot location correctly identified.

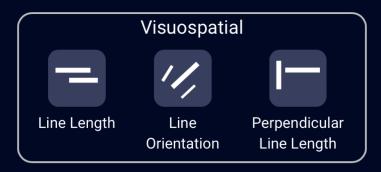
• **Test Time Duration:** 8 – 10 minutes





Task and Testing Battery Descriptions

Click on a Task to view Description



Line Orientation

Visuospatial: Line Orientation

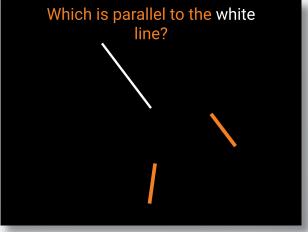
- **Summary:** This task measures visuospatial skills and is modeled after the Benton Judgement of Line Orientation task.
- Description:
 - Patients are shown three lines on a black background: one white line between and shifted vertically above two shorter orange lines. One orange line is parallel to the white line, and one orange line was at a different angle, and patients are asked to tap the orange line that is parallel to the target white line.
 - Once a response is made, a new trial appears. Over each trial, the white line is randomly positioned at any angle between -60 and +60 degrees from vertical. Trial difficulty is manipulated by varying the "angle difference" between the nonmatch orange line and the white line, and difficulty is staircased based on the response accuracy.

Line Orientation (continued)

- Description (continued):
 - With each correct response, angle difference decreases, and with each error, angle difference increases, using varying methods that reduce ceiling effects and enhance precision in estimating spatial abilities among high performers.
 - Performance is summarized by the average of the angle differences at the difficulty direction reversal points. High scores represent worse performance.
 - Ten very easy "catch trials" are interspersed on which an orange line is 25 degrees from parallel to the white line and on which performance does not impact the staircasing. Patients who do not respond accurately on catch trials are likely not on task (e.g., they may be engaging in a random or perseverative response pattern) and therefore their poor scores may not represent spatial impairment.

Line Orientation (continued)

- Examiner Notes:
 - If the patient rotates or picks up the tablet in any way examiners must tell the patient that this is not permissible, unless there is a glare from the lighting in the room.
 - If the patient is amnestic the examiner may remind participants of the test instructions throughout the trial, or remind patients that using their hands or other tools to tell which line is parallel is not permissible.
 - If the patient does not understand "parallel", the examiner should explain the meaning of parallel by using words and phrases like "matching", "same direction", "never touching if extended", etc.
- Test Time Duration: 2 5 minutes



Line Length

Visuospatial: Line Length

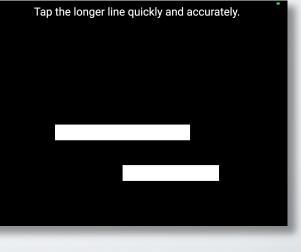
• **Summary:** This task measures visuospatial skills and is may be a more accessible alternative to "Line Orientation" for patients with language difficulties.

• Description:

- Patients are shown two parallel white lines of differing length on a black background. Patients are asked to tap the longer line of the two.
- Once a response is made, a new trial appears. Trial difficulty is manipulated by varying the "length difference" between the two lines, and difficulty is staircased based on the response accuracy.
- With each correct response, line difference decreases, and with each error, line difference increases, using varying methods that reduce ceiling effects and enhance precision in estimating spatial abilities among high performers.
- Performance is summarized by the average of the length differences at the difficulty direction reversal points. High scores represent worse performance.

Line Length (continued)

- Description (continued):
 - Ten very easy "catch trials" are interspersed on which performance does not impact the staircasing. Patients who do not respond accurately on catch trials are likely not on task (e.g., they may be engaging in a random or perseverative response pattern) and therefore their poor scores may not represent spatial impairment.
- Examiner Notes:
 - If the patient rotates or picks up the tablet in any way examiners must tell the participant that this is not permissible, unless there is a glare from the lighting in the room.
 - If the patient is amnestic the examiner may remind patients of the test instructions throughout the trial, or remind patients that using their hands or other tools to tell which line is parallel is not permissible.



Test Time Duration: 2 – 5 minutes

Perpendicular Line Length

Visuospatial: Perpendicular Line Length

• **Summary:** This task measures visuospatial skills and is may be a more accessible alternative to "Line Orientation" for patients with language difficulties.

• Description:

- Patients are shown two perpendicular white lines of differing length on a black background. Patients are asked to tap the longer line of the two.
- Once a response is made, a new trial appears. Trial difficulty is manipulated by varying the "length difference" between the two lines, and difficulty is staircased based on the response accuracy.
- With each correct response, line difference decreases, and with each error, line difference increases, using varying methods that reduce ceiling effects and enhance precision in estimating spatial abilities among high performers.
- Performance is summarized by the average of the length differences at the difficulty direction reversal points. High scores represent worse performance.

Perpendicular Line Length (continued)

- Description (continued)
 - Ten very easy "catch trials" are interspersed on which performance does not impact the staircasing. Patients who do not respond accurately on catch trials are likely not on task (e.g., they may be engaging in a random or perseverative response pattern) and therefore their poor scores may not represent spatial impairment.
- Examiner Notes:
 - If the patient rotates or picks up the tablet in any way examiners must tell the participant that this is not permissible, unless there is a glare from the lighting in the room.
 - If the patient is amnestic the examiner may remind patients of the test instructions throughout the trial, or remind patients that using their hands or other tools to tell which line is parallel is not permissible.

Tap the longer line quickly and accurately.

Test Time Duration: 2 – 5 minutes



Task and Testing Battery Descriptions

Click on a Task to View Description



Dynamic Affect Recognition Test (DART)

Socioemotional: DART

- **Summary:** This task measures emotion naming skills. Patients are asked to name realistic emotional expressions from video-based, ecologically valid stimuli.
- Description: Patients are shown twelve 15 20 second videos of social interactions with semantically neutral scripts. Characters express the emotions with concurrent facial expression, voice prosody, and body gestures. Patients are then asked to choose the emotion the character in the video displayed out of 6 options (happy, surprised, angry, frightened, disgusted, sad).
- Testing Time Duration: 5 minutes
- Format: Video; Audio is required





Emotional Theory of Mind (eToM)

Socioemotional: eToM

• **Summary:** This task measures theory of mind skills. Patients are asked to identify first and second order emotion knowledge of characters from video interactions.

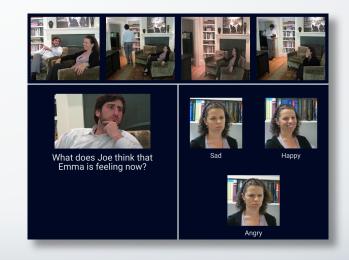
• Description:

- The task measures emotional theory of mind (i.e., the ability to perform perspective taking in order to explain what a person sees and what they know, specifically about an emotional state). Patients watch 8 videos of 2 people interacting, with a voice-over describing the scene. <u>No direct emotion reading is required for accurate performance of this test, because the emotions are named by the narrator.</u>
- After the scenario, participants are asked a control question ("what is Jane feeling"), a first-order emotional ToM question ("what does Matt think Jane is feeling?"), and a second-order emotional ToM question ("what does Jane think Matt thinks she is feeling?"). Half of the scenarios involve a "cheat" condition, in which one of the participants is unwittingly observed by the other.

Emotional Theory of Mind (eToM) (continued)

- **Testing Time Duration:** 10 minutes
- Format: Video; Audio is required





Cognitive Theory of Mind (cToM)

Socioemotional: cToM

• **Summary:** This task measures theory of mind skills. Patients are asked to identify first and second order object knowledge of characters from video interactions.

• Description:

- This task measures cognitive theory of mind (i.e., the ability to perform perspective taking to describe what another person has seen and what they know, with no emotional content). Patients watch 8 videos of 2 people interacting in a non-emotional scene involving an object changing location, with a voice-over describing the scene.
- After the scenario, they are asked a control question ("where is the bag?"), a first-order cognitive ToM question ("where does Matt think the bag is?"), and a second-order cognitive ToM question ("where does Jane think Matt thinks the bag is?"). Half of the scenarios involve a "cheat" condition, in which one of the participants is unwittingly observed by the other.

Cognitive Theory of Mind (cToM) (continued)

- **Testing Time Duration:** 10 minutes
- Format: Video; Audio is required







Social Interaction Vocabulary Task (SIVT)

Socioemotional: SIVT

- **Summary:** This task measures socioemotional semantic knowledge. It is formatted as a multiple-choice picture/word socioemotional vocabulary matching task.
- **Description:** Patients are given a word describing a specific socioemotional interaction (e.g. "consoling"), and then are asked to choose among 4 pictures to identify the image that best represents the meaning of the word. There are 22

total items. Subscale scores are available for easy, medium, and difficult socioemotional words.

• **Testing Time Duration:** 2 – 3 minutes



Social Display Rules (SDR)

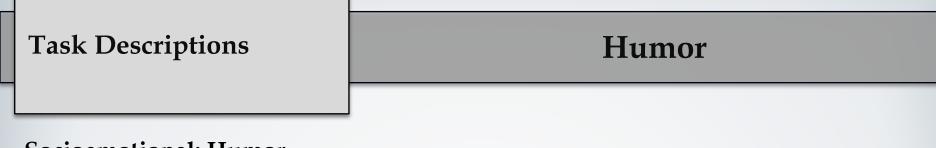
Socioemotional: SDR

• **Summary:** This task measures knowledge of social norms around emotional displays. The patient is asked to match written scenarios to pictures of emotional faces.

<section-header>How should you look when... You and everyone else in your class scored high on a test $very Sad \quad integration for a test \quad integration for a te$

• Description:

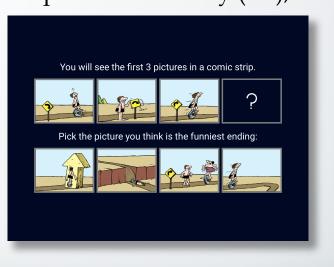
- Various social scenarios are described to patients, who are asked to imagine what a socially appropriate emotional response might be. In each of the scenarios, the socially appropriate response involves altering the immediate emotional reaction (e.g., when opening a disappointing present in front of the giver, one "should" smile anyway.) Patients are asked to select the picture of an emotional face reflecting how they "should" look during the scenario. There are 20 total scenarios. Subscale scores are obtained for minimization, intensification, and substitution of an emotion, and a control subscale score is obtained for selecting the correct emotion when no alteration is socially required.
- **Testing Time Duration:** 3 5 minutes



- Socioemotional: Humor
- **Summary:** This task measures humor comprehension. Patients are asked to select the funniest ending to an incomplete comic strip.
- **Description:** Humor comprehension involves detecting that an event or statement is surprising, yet coheres with what precedes it. For this task, patients read 8 predominantly non-verbal cartoon strips that are missing the last frame, and then select one of four optional endings that depict correct funny (CF),

straightforward (SF), humorous nonsequitur (HNS) and unrelated nonsequitur (UNS) conclusions. Final scores describe whether the participant is insensitive to either the "logic" or "surprise" elements of humor, or both.

• **Testing Time Duration:** 3 – 5 minutes



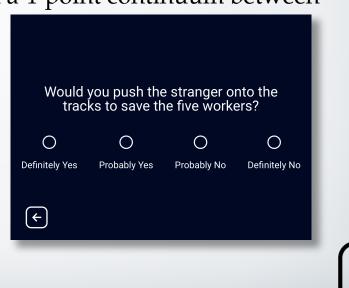
Moral Reasoning

Socioemotional: Moral Reasoning

- **Summary:** This task measures moral reasoning skills. Patients select multiplechoice responses to written moral scenarios.
- **Description:** This is a structured interview task that examines the patient's ability to reason about scenarios that require making a moral choice, such as harming one person to benefit oneself or a group of people. Seven scenarios are described, and after each, the patient makes a response on a 4-point continuum between

utilitarian and non-utilitarian choices. They are also asked to describe their reasoning for their choice, and the complexity and clarity of their reasoning is evaluated by the examiner, who scores the number of elaborations they had to request for a "complete" explanation.

• **Testing Time Duration:** 5 – 7 minutes





Task and Testing Battery Descriptions

Click on a Task to View Description



Animal Fluency

Language: Animal Fluency

- **Summary:** This task measures categorical verbal fluency. Patients are asked to name as many animals as they can in 1 minute.
- Examiner Notes:
 - Record all of the patient's responses for 60 seconds.
 - If the patient pauses for approximately 10-15 seconds, prompt them only once by saying, "What other animals can you think of?"
 - If the patient makes 2 errors of the same type, remind them of the instructions only once for each error type. Repetitions are <u>verbatim</u> repetitions of a given word. Rule violations are non-animal responses.
 - Both supraordinate (e.g., bird) and subordinate (e.g., eagle) responses are counted as correct responses. Similarly, animals of different gender (e.g., ewe, ram) and age (e.g., filly, horse) are correct. Mythical (e.g., unicorn) or extinct (e.g., dinosaur) animals are also correct.
- Test Time Duration: 1 minute

		For	Examiner Use	e On	ly	
Say: "	Now I want you to tell m	e all the	e animals you can thir	nk of,	as quickly as you can. G	io ahead."
		Admir	nistration and Scoring	j Note	s:	
	Record	all of th	ne patient's responses	s for 6	0 seconds.	
If the patier you think	nt pauses for approx. 10 of?" If the patient make)-15 sec s 2 erro	conds, prompt them o ors of the same type, r type.	nly on emino	ice by saying, "What oth I the patient only once f	er animals can or each error
Both supr Similarly,	aordinate (e.g., bird) and animals of different gen unicorn) or	d subore der (e.g extinct	dinate (e.g., eagle) res a., ewe, ram) and age i (e.g., dinosaur) anim	spons (e.g., f als ar	es are counted as corre illy, horse) are correct. I e also correct.	ct responses. Mythical (e.g.,
Repetition	ns are verbatim repetitio total c		given word. Rule viola repetitions, and rule v			ses. Enter the
	# Correct		# Repetitions		# Rule Violations	
					æ	Complete

_	_



Task and Testing Battery Descriptions

Click on a Task to View Description





Big Five Inventory (BFI)

Questionnaires: BFI

- **Summary:** This is an informant-facing questionnaire that measures socioemotional traits via a multidimensional personality inventory based on the Big 5.
- **Description:** Questions on this 44-item multidimensional personality inventory are to be completed by an informant who knows the patient well. The survey consists of short phrases with relatively accessible vocabulary and measures the Big Five personality traits: Agreeableness,

Openness, Conscientiousness, Extroversion, and Neuroticism. It is scored on a 5-point Likert scale.

• **Testing Time Duration:** 5 – 10 minutes

I see the patient as so	omeor	ne who)		
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Is talkative	0	0	0	0	0
Tends to find fault with others	0	0	0	0	0
Does a thorough job	0	0	0	0	0
Is depressed, blue	0	0	0	0	0
Is original, comes up with new ideas	0	0	0	0	0
Is reserved	0	0	0	0	0
					Cu

Brain Health Survey (BHS)

Questionnaires: BHS

- **Summary:** This is an informant-facing questionnaire that evaluates neurocognitive symptoms.
- Description:
 - Questions on this self-administered survey are to be completed by an informant who knows the patient well. On each question, the informant is asked to evaluate change in the patient's functional level or emergence of new neurocognitive symptoms over the
 - past 5 years.
 - Twelve questions, from the ECog-12, are validated for the detection of MCI and dementia in a predominantly AD sample.
 - To enhance the detection of less typical presentations, nine additional yes/no questions were added to the BHS to inquire about early neurocognitive or neurobehavioral symptoms typical of a non-AD disorder or an atypical presentation of AD.
- Test Time Duration: 5 minutes

	Compared to 5 years ago, how much trouble do patient have:			
	Better or no change	Questionable, occasionally worse	Consistently a little worse	Consistently much worse
Anticipating weather changes and planning accordingly	•	0	0	0
Thinking ahead	•	0	0	0
Keeping living and work space organized	•	0	0	0
Balancing the checkbook or bank account without error	•	0	0	0
Doing two things at once	\bullet	0	0	0
Cooking or working, and talking at the same time	•	0	0	0
				>

Social Norms Questionnaire (SNQ)

Questionnaires: SNQ

- **Summary:** This is a patient-facing questionnaire that measures socioemotional functioning via semantic knowledge of mainstream US social norms.
- **Description:** This 22-item questionnaire measures the ability to identify socially appropriate and inappropriate behaviors according to mainstream US social norms. The "Break" subscale score represents items where the participant must identify that a behavior breaks a social norms (e.g., is it OK to spit on the floor).

The control item subscale ("Overadhere" score) represents items where the behavior is socially appropriate (e.g., is it OK to tell someone your age).

• Testing Time Duration: 2 minutes

No Yes Tell a stranger you don't like their hairstyle? O Spit on the floor? O Blow your nose in public? O Ask a coworker their age? O Cry during a movie at the theater? O Cut in line if you are in a hurry? O Laugh when you yourself trip and fall? O Eat pasta with your fingers? O	Would it be socially accept	able to:	
Spit on the floor? O Blow your nose in public? O Ask a coworker their age? O Cry during a movie at the theater? O Cut in line if you are in a hurry? O Laugh when you yourself trip and fall? O		~	
Blow your nose in public? O O Ask a coworker their age? O O Cry during a movie at the theater? O O Cut in line if you are in a hurry? O O Laugh when you yourself trip and fall? O O	Tell a stranger you don't like their hairstyle?	0	0
Ask a coworker their age? O O Cry during a movie at the theater? O O Cut in line if you are in a hurry? O O Laugh when you yourself trip and fall? O O	Spit on the floor?	0	0
Cry during a movie at the theater? O O Cut In line if you are in a hurry? O O Laugh when you yourself trip and fall? O O	Blow your nose in public?	0	0
Cut in line if you are in a hurry? O O Laugh when you yourself trip and fall? O O	Ask a coworker their age?	0	0
Laugh when you yourself trip and fall?	Cry during a movie at the theater?	0	0
	Cut in line if you are in a hurry?	0	0
Eat pasta with your fingers? O O	Laugh when you yourself trip and fall?	0	0
	Eat pasta with your fingers?	0	0

Revised Self Monitoring Scale (RSMS)

Questionnaires: RSMS

- **Summary:** This is an informant-facing questionnaire that measures socioemotional functioning via trait sensitivity and responsiveness to others' subtle emotional expressions (i.e. online social intuition in face-to-face interactions).
- Description: Questions on this 13-item self-administered survey are to be completed by an informant who knows the patient well. The "Expressive Behavior" subscale score assesses sensitivity to others' emotional state or beliefs on the basis of immediate interpersonal cues. The "Self Presentation" subscale score measures the
 - tendency of the patient to alter their self-presentation on the basis of immediate interpersonal cues. The survey is scored on a 6-point Likert scale.
- **Testing Time Duration:** 2 minutes

		Always False	Generally False	Somewhat False	Somewhat True	Generally True	Always True
In social situations, the patier ability to alter their behavior if something else is called for.	t has the they feel that	0	0	0	0	0	0
The patient is often able to co people's true emotions throug	rrectly read h their eyes.	0	0	0	0	0	0
The patient has the ability to o they come across to people, o the impression they want to g	control the way lepending on ive them.	0	0	0	0	0	0
In conversations, the patient i even the slightest change in t expression of the person they conversing with.	ne facial	0	0	0	0	0	0



Social Behavior Observer Checklist (SBOCL)

Questionnaires: SBOCL

- **Summary:** This is a clinician or examiner-facing questionnaire that measures socioemotional behavior via observed, spontaneous social behaviors enacted by the participant during the course of an evaluation (e.g., cognitive testing session, interview, or exam).
- **Description:** After completion of a face to face evaluation with the patient, this questionnaire is completed by the clinician or examiner to identify and quantify

the behaviors or behavior traits they observed in the participant during the evaluation. These behaviors are specifically selected because they show distinct patterns of elevation in specific neurodegenerative disease syndromes like bvFTD, svPPA, LBD, and AD. There are 14 main descriptors, each with frequencies of specific behaviors.

• **Testing Time Duration:** 3 minutes

	Not at all	A little bit	Mod	erately	Severely
Was overly self-conscious / embarrassed for self:	0	0	(С	0
How many times did the patient do the following					
Spontaneously mentioned that they were performing ba	idly	0	0	0	0
Made other self-depreciatory comments		0	0	0	0
Showed emotional distress over their performance / co abilities	gnitive	0	0	0	0

Behavioral Inhibition / Behavioral Activation System (BIS/BAS)

Questionnaires: BIS/BAS

- **Summary:** This is an informant-facing questionnaire that measures socioemotional functioning. It is formatted as a multiple choice measure of approach/avoidant traits and reward/punishment sensitivity and anxiety.
- Description: Questions on this 20-item survey are to be completed by an informant who knows the patient well. There are 4 subscales relating to approach/avoidant traits and behavioral motivation: Behavioral Inhibition (BIS),

Reward Responsiveness (RR), Drive towards appetitive goals (D), Fun Seeking (FS). **BIS** measures behaviors associated with anxiety, specifically trait response avoidance and sensitivity to threat; **BAS** measures behaviors associated with approach motivation.

• Testing Time Duration: 2 minutes

Please consider the patient's beh each statement is, and mark th				2
	Strongly Disagree	Disagree	Agree	Strongly Agree
If the patient thinks something unpleasant is going to happen, they usually get pretty "worked up."	0	0	0	0
The patient worries about making mistakes.	0	0	0	0
Criticism or scolding hurts the patient quite a bit.	0	0	0	0
The patient feels pretty worried or upset when they think somebody is angry at them.	0	0	0	0
Even if something bad is about to happen to the patient, they rarely experience fear or nervousness.	0	0	0	0

Interpersonal Reactivity Index (IRI)

Questionnaires: IRI

- **Summary:** This is an informant-facing questionnaire that measures socioemotional functioning via observed trait cognitive and emotional empathy.
- **Description:** Questions on this 28-item survey are to be completed by an informant who knows the patient well. There are four subscales: Perspective Taking (PT) measures the tendency to spontaneously imagine the cognitive perspective of the other person, Fantasy (FS) measures the tendency to project

oneself into the experiences of fictional characters, Personal Distress (PD) measures general anxiety and self-oriented emotional reactivity, and Empathic Concern (EC) measures the other-centered emotional response resulting from the perception of another's emotional state. The survey is scored on a 5-point Likert scale.

Please consider the patie each statement desc corresp		em, anc			
	Does NOT describe well	←			Describes VERY well
The patient is likely to daydream and fantasize, with some regularity, about things that might happen to them	0	0	0	0	0
The patient shows tender, concerned feelings for people less fortunate than them	0	0	0	0	0
The patient sometimes finds it difficult to see things from the "other guy's" point of view	0	0	0	0	0
Sometimes the patient does NOT feel very sorry for other people when they are having problems	0	0	0	0	0
The patient gets really involved with the feelings of the characters in a novel	0	0	0	0	0

• **Testing Time Duration:** 1 – 3 minutes

Personal Competency Rating Scale (PCRS)

Questionnaires: PCRS

- **Summary:** This is an informant-facing questionnaire that may additionally be administered to the patient if a measure of insight is desired. The survey measures functional impairment, as the informant is asked to judge the patient's ability to perform a variety of practical skills.
- **Description:** This 30-item measure asks an informant familiar with the patient's daily functioning to evaluate how well they can function in 4 domains. This can

also be used as a measure of insight; it can be administered to both the informant and patient, and the discrepancy score between informant and patient is used as a measure of insight. It is scored on a 5-point Likert scale, with result subscales: Activities of Daily Living, Emotional, Social, Cognitive.

• Test Time Duration: 3 minutes

Describe	e the Pa	tient			
	Can't do	Very difficult to do	Can do with some difficulty	Fairly easy to do	Can do with ease
How much of a problem do they have in preparing their own meals?	0	0	0	0	0
How much of a problem do they have in dressing themselves?	0	0	0	0	0
How much of a problem do they have in taking care of their personal hygiene?	0	0	0	0	0
How much of a problem do they have in washing the dishes?	0	0	0	0	0
How much of a problem do they have in doing the laundry?	Ο	0	Ο	0	0

Everyday Cognition 12 Item (ECog-12)

Questionnaires: ECog-12

- **Summary:** This is a 12-item informant-facing questionnaire that measures cognitive and functional change in the patient over the last 5 years.
- **Description:** Questions on this 12-item survey are to be completed by an informant who knows the patient well. The ECog-12 asks the informant to evaluate the patient's cognitive and functional change over the last 5 years. The survey is validated for the detection of mild cognitive impairment and dementia in a predominantly Alzheimer's Disease sample.
- Test Time Duration: 3 minutes

Compared to 5 years ago, ho patient h		trouble o	does the	
	Better or no change	Questionable, occasionally worse	Consistently a little worse	Consistently much worse
Remembering where s/he has placed objects	Õ	0	0	0
Remembering the current date or day of the week	0	0	0	0
Communicating thoughts in a conversation	0	0	0	0
Understanding spoken directions or instructions	0	0	0	0
Reading a map and helping with directions when someone else is driving	0	0	0	0
Finding his/her way around a house or building that s/he has visited many times	0	0	0	0

Generalized Anxiety Disorder Assessment 7 Item (GAD-7)

Questionnaires: GAD-7

- **Summary:** This is a 7-item patient-facing questionnaire that may detect and measure severity of generalized anxiety disorder.
- **Description:** Questions on this questionnaire should be completed by the patient. The GAD-7 asks the patient to evaluate their anxiety levels over the past 2 weeks. It is sensitive to generalized anxiety disorder as indicated by a total score that is a summation of the scaled responses for all seven items.
- Test Time Duration: 1 2 minutes

	Not at all	Several days	More than half the days	Nearly every day	
Feeling nervous, anxious, or on edge	0	0	0	0	
Not being able to stop or control worrying	0	0	0	0	
Worrying too much about different things	0	0	0	0	
Trouble relaxing	0	0	0	0	



Patient Health Questionnaire 9 Item (PHQ-9)

Questionnaires: PHQ-9

- **Summary:** This is a 9-item patient-facing questionnaire that may detect and measure severity of depression.
- Description: Questions on this questionnaire should be completed by the patient. The PHQ-9 asks the patient to evaluate their depression levels over the past 2 weeks. It is sensitive depression as indicated by a total score that is a summation of the scaled responses for all nine items, and covers the DSM-IV criteria for major depressive disorder.
- **Test Time Duration:** 1 2 minutes

Over the last 2 weeks, how often have you been bothered by any of the following problems?					
Little interest or pleasure in doing things	Not at all	Several days	More than half the days	Nearl) every day O	
Feeling down, depressed, or hopeless Trouble falling or staying asleep, or sleeping too much	0 0	0 0	0 0	0 0	
Feeling tired or having little energy	0	0	0	0	
Poor appetite or overeating	0	0	0	0	

Testing Battery Descriptions

Brain Health Assessment

- The Brain Health Assessment (BHA) is a brief 10-minute cognitive assessment designed to be sensitive to mild cognitive impairment and to provide valid subscores to support differential diagnosis in primary care.
- Separate efficient tests evaluate memory (Favorites), executive functioning (Match), visuospatial skills (Line Orientation), and language (Animal Fluency).
- An informant questionnaire evaluates for symptoms of neurocognitive disorders. It includes Brain Health Survey, comprised of the ECog-12 (Farias) as well as 9 additional questions to target less typical presentations.
- The BHA will soon include automated reports and EPIC integration.

	Error	Fix
Downloading TabCAT	When I attempt to download the TabCAT application onto the iPad, an Apple dialogue box appears that says "The application 'TabCAT' cannot be downloaded at this time".	 If there is an older version of TabCAT already installed: Sync all data on the old version of TabCAT. Delete the old TabCAT application from the iPad completely. Attempt to download the new version of TabCAT again. If there is no version of TabCAT already installed: Shut down and restart the iPad completely. Ensure strong connection to a wifi network on the iPad. Attempt to download the new version of TabCAT again.
	I downloaded TabCAT onto my iPad successfully. When I try to open TabCAT, an Apple dialogue box appears that says "Untrusted Network Developer".	 Navigate to the Settings app on the iPad. Navigate to the "General" tab, then to "Profiles and Device Management" (may be titled only "Device Management"). Tap on "University of California, San Francisco". Tap "Trust".

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	Error	Fix	
Logging in to TabCAT	When I try to log in to TabCAT, a TabCAT error says "Cannot Connect to TabCAT Server". When I try to log in to TabCAT, a	 Ensure strong connection to a wifi network on the iPad. Ensure that the realm, email address, and password are all being entered correctly. Ensure that the realm, email address, and 	
	TabCAT error says "Incorrect Realm, Email Address, or Password".	 Ensure that the realit, entail address, and password are being entered correctly. Check if the login works on the Admin Panel website. If the login does not work on the Admin Panel website, Reset the password using the Admin Panel website. Attempt to log in on both the iPad and the Admin Panel again. If the login does work on the Admin Panel website, Attempt to log in on both the iPad and the Admin Panel again. If the login does work on the Admin Panel website, Ensure strong connection to a wifi network on the iPad. Ensure that the realm, email address, ar password are being entered into the tablet correctly. If still having trouble, Ensure that the most up-to-date version of TabCAT (production) is being used. Delete and re-download the TabCAT application. 	nd

	Error	Fix
Creating an Encounter	On the "Select an Examiner" page, my name does not appear on the drop-down list.	 EPAD usernames contain a prefix representing their site before their name. Ensure that the user is entering the site abbreviation into the search bar first. If the user account was recently created, log out of the TabCAT application and log back in.
	On the "Select Study" page, no studies appear on the drop-down list.	 Ensure user is added to the "EPAD LCS" study via the Admin Panel. If the user account was recently created, log out of the TabCAT application and log back in.
Admin Panel Website	The Admin Panel Website will not load correctly.	 Log in an out of the Admin Panel If still unsuccessful, try clearing your Internet browser's history, including cookies and cache.

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	Error	Fix
Syncing Data	After attempting to sync data, there is a delay where the screen appears to freeze.	 Ensure strong connection to a wifi network on the iPad and attempt to sync again by tapping the sidebar menu icon in the upper right-hand corner of the screen and selecting "Sync Data". Syncing can sometimes take up to 1 minute. If there is still a delay, ask a user with Study Admin credentials to attempt to sync data. If still unsuccessful, Log out of TabCAT, and log in again. Create a fake patient encounter, complete a task, and close the encounter (be sure to select NOT good for research when closing the encounter). Attempt to sync again.
	After syncing data, some encounter data appears in red print, indicating that the sync was wholly or partially unsuccessful.	 Ensure strong connection to a wifi network on the iPad and attempt to sync again by tapping the sidebar menu icon in the upper right-hand corner of the screen and selecting "Sync Data". Ask a user with Study Admin credentials to attempt to sync data. Ask a user with Study Admin credentials to check the data reports on the Admin Panel. If the failed data is missing, please report to UCSF.

- If you have other issues with TabCAT or the Admin Panel, or encounter bugs while testing on TabCAT, please contact **tabcat@ucsf.edu** for additional assistance.
- Pay careful attention to bugs or other malfunctions that you encounter while using TabCAT. Document as much as you can about the bug to help the various levels of troubleshooting support solve the issue as quickly and efficiently as possible. Helpful documentation includes:
 - Written accounts of the circumstances during which the bug occurred (e.g., Was the iPad connected to wifi? Had any tasks been completed yet? Which task were you using when the bug occurred? Were you able to close the encounter successfully?). The written accounts will vary based on the situation, but should be as detailed as possible.
 - Screenshots of the iPad if the bug or error message can be seen.
 Screenshots of the iPad can be taken by simultaneously pressing the Home button and the Sleep/Wake button on the iPad. The screenshot can be found in the Photos app of the iPad; from there they can be emailed to troubleshooting support.