Using Data & Information Systems in Partnered Research Cyberseminar Series

Using VA REDCap for the Intensive Dysphagia Treatment Program

Bonnie Paris, PhD

Data Knowledge Analyst and Manager of VA Research Electronic Data Capture (REDCap), VA Information Resource Center (VIReC)

Nicole Rogus-Pulia, PhD, CCC-SLP

Director of the Swallowing and Salivary Bioscience Research Program in the Geriatric Research Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital, Director of the Multi-site Veteran Health Administration's (VHA) Intensive Dysphagia Treatment (IDT) Program, Assistant Professor, Departments of Medicine and Surgery, University of Wisconsin-Madison.



June 16, 2020



The objectives of this cyberseminar are to:

- Understand the purpose and structure of the Intensive Dysphagia Treatment program.
- Discuss the rationale for using VA REDCap to support multisite outcomes tracking and reporting.
- Describe how VA REDCap can facilitate collection of data across multiple arms of a study as well as longitudinal data.
- Provide information and resources on the VA REDCap system





Session roadmap

- Introduction to VA REDCap
- Intensive Dysphagia Treatment program
 - Overview
 - Rationale for use of VA REDCap for this project
 - Outcomes collection across sites with REDCap
 - Patient-reported outcomes
 - Swallowing biomechanical data as well as functional measures
 - Qualitative data
 - Data reporting
- Additional Resources

Poll #1: Your role as a data user

- What is your role in research and/or quality improvement?
 - Investigator, PI, Co-I
 - Data manager, analyst, or programmer
 - Project coordinator
 - Other please describe via the Q&A function



Poll #2: Your experience with VA data

How many years of experience do you have working with VA data?

- One year or less
- More than 1, less than 3 years
- At least 3, less than 7 years
- At least 7, less than 10 years
- 10 years or more



Session roadmap

- Introduction to VA REDCap
- Intensive Dysphagia Treatment program
 - Overview
 - Rationale for use of VA REDCap for this project
 - Outcomes collection across sites with REDCap
 - Patient-reported outcomes
 - Swallowing biomechanical data as well as functional measures
 - Qualitative data
 - Data reporting
- Additional Resources

What can VA REDCap do?

- Build online surveys and databases quickly
 - Multiple templates to get you started
 - Ability to copy your projects.
 - Save your data collection instruments as a PDF to print
- Share your project with your team
 - Control permission to data by user and project
 - Track changes to your project instruments and data
- Export data to common data analysis packages
 - Includes: Microsoft Excel, SAS, Stata, R, and SPSS





VA REDCap Benefits

- Available for free to all VA employees (including WOC appointments)
 - Centrally managed by VIReC
 - Hosted by VINCI
- Provides researchers with a flexible primary data collection tool
 - Easy to get started
 - No programming experience required
 - Many advanced features available





Some more advanced REDCap Features

- Longitudinal data collection
- Automated survey invitations
- Randomization
- Auto-validation
- Branching/skip logic
- "Piping" in data to customize question labels, survey invitation emails, etc.
- & Much More!....





VA REDCap Limitations

VA Intranet Only

- Survey respondents must be logged into an active VA network account to respond to a VA REDCap survey
- Not approved for storage of Personally Identifiable Information (PII) or Protected Health Information (PHI).







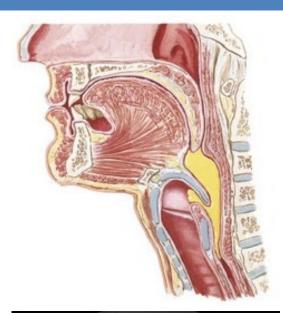
Session roadmap

- Introduction to VA REDCap
- Intensive Dysphagia Treatment program
 - Overview
 - Rationale for use of VA REDCap for this project
 - Outcomes collection across sites with REDCap
 - Patient-reported outcomes
 - Swallowing biomechanical data as well as functional measures
 - Qualitative data
 - Data reporting
- Additional Resources



What is Dysphagia?

- Dysphagia, or swallowing disorders, is characterized by impairments to the safety or efficiency of swallowing function
 - Safety
 - Efficiency
- Known to impact patients with a history of:
 - Stroke, progressive neurologic disorders (Parkinson's disease, dementia, ALS), head and neck cancer, as well as other patient populations





Consequences of Dysphagia



Speech Pathology Services and Dysphagia

- Speech-language pathologists regularly evaluate and treat dysphagia
- FY2018:
 - 103,883 dysphagia evaluation procedures
 - 81,212 dysphagia treatment procedures
 - Average treatment visits per Veteran with dysphagia ≈ 3
- These numbers highlight the incidence of suspected dysphagia within the Veteran population

Evidence Based Literature + Quality Improvement

Part of the continuum of change in healthcare

Clinical Practice

- Adaptation, innovation
- At the individual patient level

Quality Improvement

- Systematic experiential learning
- Operational context
- Rapid feedback of trends that shape changes

Clinical Research

- Distinct from clinical care
- Designed to contribute to scientific knowledge

Intensive Dysphagia Treatment (IDT) Program

• 2012-2013

• Funding received from Office of Geriatrics and Extended Care (GEC) for clinical demonstration project (PI: JoAnne Robbins, PhD, CCC-SLP)



• 2016

- Study results published in Journal of the American Geriatrics Society <u>http://dx.doi.org/10.1111/jgs.13933</u>
- "Findings suggest that the Swallow STRONG multidisciplinary oropharyngeal strengthening program may be an effective treatment for older adults with dysphagia." (Rogus-Pulia et al)

Cost-Effectivenessss

Timepoint	Bed Days	Cost
Pre- Enrollment	965	\$3,479,181
Post- Enrollment	418	\$1,277,492
Savings	547 Bed Days	\$1,137,528

- Data were obtained for inpatient hospital admissions for 81 patients across 3 sites enrolled in FY 2012 and 2013
 - Data were obtained for 1 year prior to enrollment and 1 year following enrollment for each patient
 - Date of admission, primary admission diagnosis, total charge for the admission, and length of stay (# of bed days)
 - Data accessed using Decision Support System

Intensive Dysphagia Treatment (IDT) Program

- 2012-2013
 - Funding received from Office of Geriatrics and Extended Care (GEC) for clinical demonstration project (PI: JoAnne Robbins, PhD, CCC-SLP)



- 2016
 - Study results published in Journal of the American Geriatrics Society <u>http://dx.doi.org/10.1111/jgs.13933</u>
 - "Findings suggest that the Swallow STRONG multidisciplinary oropharyngeal strengthening program may be an effective treatment for older adults with dysphagia." (Rogus-Pulia et al)
- 2017
 - Nicole Rogus-Pulia, PhD, CCC-SLP assumed directorship and partnered with Nan Musson (VA National Service Lead for Speech-Language Pathology)
 - 4 study arms
 - Longitudinal data collection
 - VA REDCap used to support data collection

Patient Centered – Goal Aligned



IN-HOME THERAPY WITH BIOFEEDBACK OPTIONS

- Options for participation in monitored home exercise programs
- Reduced burden associated with travel and caregiver coordination

FLEXIBLE FOLLOW-UPS

- In-person, at clinic
- By telehealth
 - VA Video Connect
 - Hospital to Outpatient
 Clinic
 - By telephone

INTENSIVE FREATMENT

EVIDENCE-BASED THERAPY

- Frequency and intensity
- guided by literature
- Systematic increases to exercise targets
- Standardized and individualized

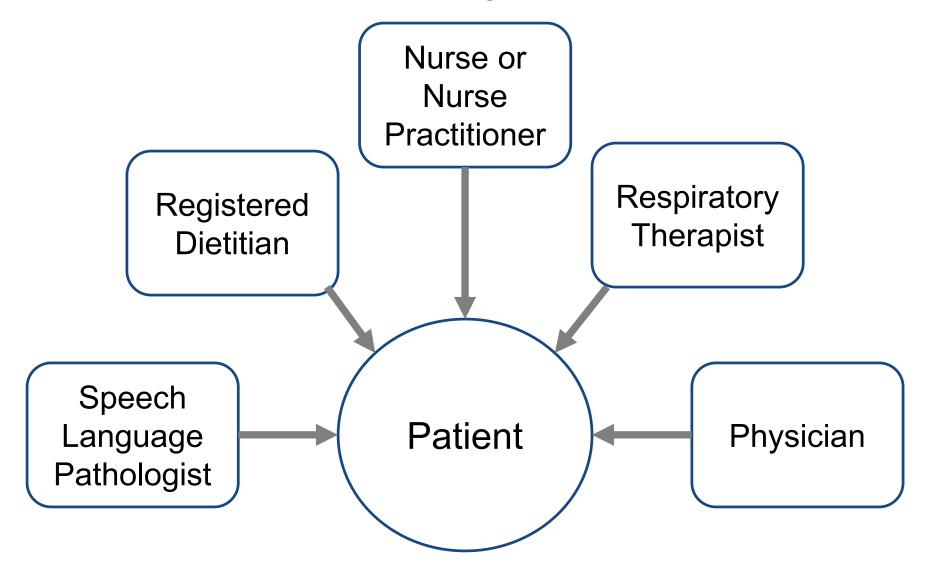
DUTCOMES TRACKING

PATIENT CHOICE

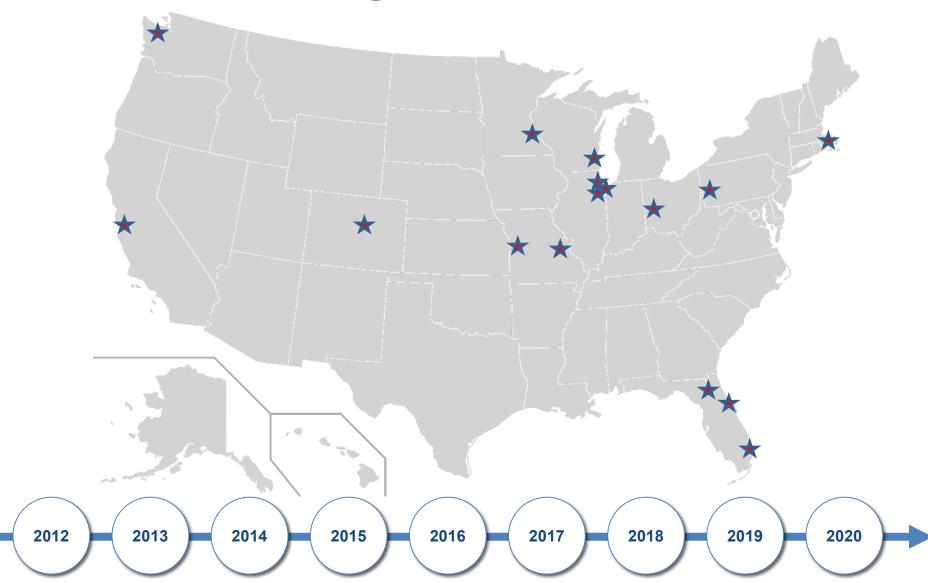
STANDARDIZED TOOLKIT

- Evaluation Tools (MBSImP)
- Patient Reported Outcome Measures
- Functional Outcomes Scales
- REDCap Clinical Database

Interdisciplinary Coordination

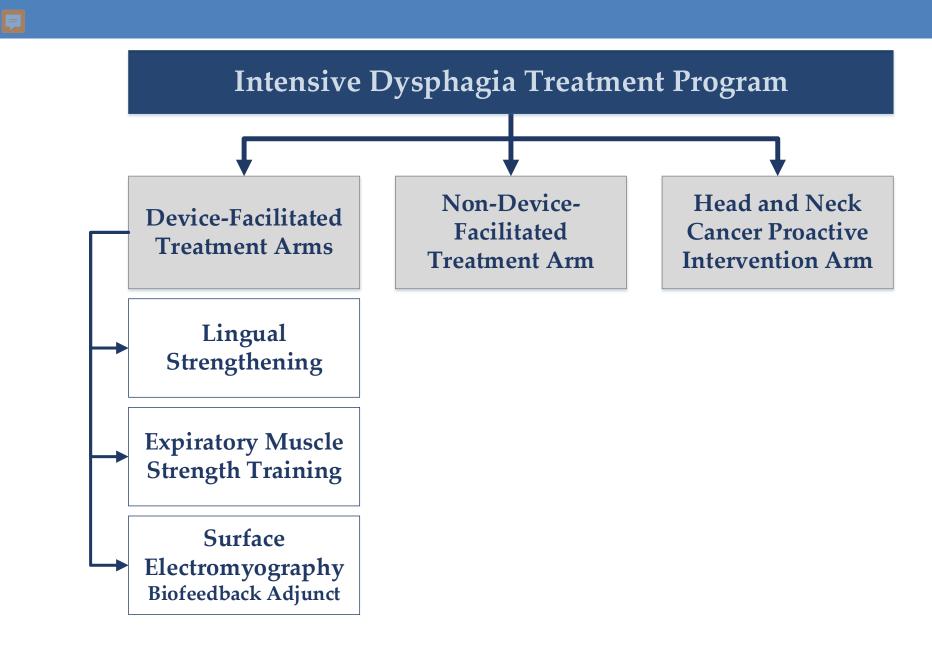


Program Expansion



Current IDT Program Sites

Site	Joined Program	VISN	Station	Facility	Enrollment To Date
Madison	2013	12	607	Madison, WI	175
Hines	2015	12	578	Hines, IL	117
St. Louis	2015	15	657	St. Louis, MO	47
Cincinnati	2016	10	539	Cincinnati, OH	64
Gainesville	2017	8	573	Gainesville, FL	47
Jesse Brown	2017	12	537	Chicago, IL	27
Minneapolis	2017	23	618	Minneapolis, MN	52
Seattle	2017	20	663	Seattle, WA	23
Tampa	2018	08	673	Tampa, FL	6
Pittsburgh	2018	04	646	Pittsburgh, PA	1
San Francisco	2018	21	662	San Francisco, CA	2
Boston	2019	01	523	Boston, MA	13
Miami	2019	08	546	Miami, FL	1
North Chicago	2019	12	556	North Chicago, IL	3
Kansas City	2020	15	589	Kansas City, MO	1
Denver	2020	19	554	Denver, CO	0
				Total Since FY2013	579



IDT Program Outcomes

- Age
- Sex
- Diagnosis
- Charlson Comorbidity Index
- Hospitalization status at the time of enrollment
- Pneumonia status at the time of enrollment
- Prior history of dysphagia or treatment for dysphagia
- Cognitive status screen:
 - Mini Mental State Exam
 - St. Louis Mental Status Examination

- Number of clinic visits per patient (Clinic, telehealth, or phone calls)
- Number of patients enrolled in the program per protocol
- Patient adherence to prescribed therapy approach (%age of number of visits recommended per treatment arm)
- Provider adherence to implementation of prescribed standardized treatment protocols

IDT Program Outcomes

Nutritional Status	 Functional Oral Intake Scale Patient-reported Dietary Questionnaire Body Mass Index 	Swallowing- Related Measures	 Modified Barium Swallowing Impairment Profile[™] (MBSImP) Overall Impairment Scores Dynamic Imaging Grade of Swallowing Toxicity Score Penetration-Aspiration Scale Scores
Respiratory Status	Respiratory Health Questionnaire	Lingual and	 Maximum isometric lingual pressures
ADL Measure	 Karnofsky Performance Status 	Cough Strength	 front and back positions) Maximum expiratory pressure
Patient-	 Swallowing Quality of Life Questionnaire Eating Assessment Tool Scores MD Anderson Dysphagia 	Functional Scales of Swallowing	 ASHA National Outcomes Measurement Systems (NOMS) Dysphagia Outcome and Severity Scale
Reported Outcomes	 Inventory Scores Frequency of difficulty chewing, swallowing, or taking pills Perceived swallow effort and mouth dryness 	Head and Neck Arm Specific Measures	 Jaw Range of Motion WHO Oral Mucositis Rating Scale Score Weight and Tube Feeding Status

Why VA REDCap for Multisite Project?

- Challenges with other methods of data sharing
 - All sites have access to same data
 - Version control of database
 - Inconsistent access

RESTRICTED ACCESS

- Data Access Groups
 - Single VA project but access by site
 - Preserves confidentiality of each site
 - Study coordinator can see all of the data
 - Real-time updates to database

User Rights

- User Rights Role for "Site Entry" allows data entry users to:
 - Create Records
 - Lock/Unlock Records
 - Use the Calendar
 - View the Logging record
- Study coordinator has full rights
 - Project design
 - Assigning project rights
 - Exporting data
 - Deleting records, etc.



Data Access Groups (DAGs)

• New clinicians first contact the project admin (IDT Program Coordinator) who submits a new user request form to VA REDCap on their behalf.

REDCap	A Project Home	i≣Project Setup	🚨 User Ri	ights 🛛 🍰 Data A	ccess Gro	ups	l	
 Logged in as vhamadyeej Log out My Projects Project Home Project Setup Project status: Production 	Create new groups: Add new data access groups to which Enter new group name Add Group Add Group is created. Assign user to a group: Users may be assigned to any data access group.							
Data Collection	🙎 Assign user 🛛 Se	lect User	▼ to [[No Assignment] 🔻 🛛	Assign			
Manage Survey Participants Scheduling Record Status Dashboard Add / Edit Records				s are assign ased on thei			S	
Applications	Data Access Groups	Users in group	Number of records in group	Unique group name 😡 (auto-generated)	Group ID number 😡	Delete group?		
User are added in User Rights.	Boston		3	boston	2766	×		
 Field Comment Log File Repository User Rights and A DAGs E-signature and Locking Ment 			Us	ers not assi	gned t			
🛃 Data Quality	[Not assigned to a group]	vhamadyeej (Joanne Yee) * Can view ALL records	DAC	G can view a	III reco	rds.		

Site Specific Access

- · Allows site points-of-contact to review records by treatment arm
- Project admin can see all records and follow-up with users for data quality

REDCap™ Log out My Projects Project Home Project Setup Project status: Production	_	Dashboard displayed: [Default dashboard] Create of Displaying Data Access Group ALL Displaying record Page 1 of 1: "B016" through "V170" of 67 records ALL (67) Arm 1: SwallowStrong Arm 2: Iowa Oral Performance Instrument Arm 3: Expiratory Mus Arm 4: Surface Electromyography As Biofeedback Adjunct Arm 5: Non-Device-Facilitated						Muscle Streng	per page	
Data Collection										
Manage Survey Participants Scheduling Record Status Dashboard Add / Edit Records		Record	History - Patient	History - Charlson Comorbidity	Screen - St Louis Mental Status	Swallow Eval - Modified Barium Swallow	Plan -		PRO - Dietary	
Applications		B016	Demographics	Index	Examination	Study	Recommendations	Assignment	Questionnaire	Tool
 Calendar Data Exports, Reports, and Stats Data Import Tool Data Comparison Tool Logging Field Comment Log File Repository User Rights and A DAGs E-signature and Locking Mgmt Data Quality 		BOS015 C051 C055 C060 C066 C079 C088 H097								

Why VA REDCap for Multisite Project?

- Can allow for multiple arms of the project
- Facilitates collection of outcomes specific to the project- in this case, swallowing-specific
- Real-time data entry by more than one user at once
- Instruments can be matched to REDCap user interface for ease with data entry (*our clinicians are BUSY*!)
 - Branching logic improves efficiency
- Longitudinal data collection option

Example Follow-up Timeline: Expiratory Muscle Strength Training

Baseline Visit

- Instrumental assessment (MBSS)
- Standardized outcome measures
- Meet with RD/RN/RT
- Measure expiratory PE_{max}
- Device training
- Treatment targets set to 75%* of PE_{max}

Weekly Follow Up

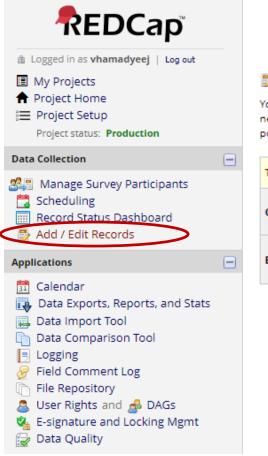
- Re-measure expiratory PE_{max}
- Set new treatment targets to 75% of max.
- 5 weeks of home program exercises completed

6-Week (Final) Visit

- Instrumental assessment (MBSS)
- Standardized
 outcome
 measures
- Determine PE_{max}
- Further treatment as indicated

Adding/Editing Records

- · Limits users to view only records assigned to their DAG
- Project admin can see all records and provide support as needed



📑 Add / Edit Records

You may view an existing record/response by selecting it from the drop-down lists below. To create a new record/response, type a new value in the text box below and hit Tab or Enter. To quickly find a record without using the drop-downs, the text box will autopopulate with existing record names as you begin to type in it, allowing you to select it.

Total records: 218	
	Arm 1: SwallowStrong
Choose an existing Record ID	Arm 1: SwallowStrong
	Arm 2: Iowa Oral Performance Instrument
	Arm 3: Expiratory Muscle Strength Training
inter a new or existing Record ID	Arm 4: Surface Electromyography As Biofeedback Adjunct
	Arm 5: Non-Device-Facilitated

Outcomes Specific to Swallowing

Ρ

Patient-reported outcomes

Eating Assessment Tool

REDCap Database Form: EAT-10

Date: _____ Baseline / Final

6.

8.

Please place a check (<) next to the numbered item which corresponds best to your symptoms.

- My swallowing problem has caused me to lose weight.
 - 0 = No problem.
 - o 1
 - o 2
 - o 3
 - 4 = Severe Problem
- My swallowing problem interferes with my ability to go out for meals.
 - 0 = No problem.
 1
 2
 3
 4 = Severe Problem
- 3. Swallowing liquids takes extra effort.
 - 0 = No problem.
 - o 1
 - o 2
 - o 3
 - 4 = Severe Problem

- 0 = No problem.
 1
 2
 3
 4 = Severe Problem

 7. The pleasure of eating is affected by my swallowing.

 0 = No problem.
 1
 - 2
 3
 4 = Severe Problem

 When I swallow food sticks in my
 - throat.
 - 0 = No problem.
 1

Swallowing is painful.

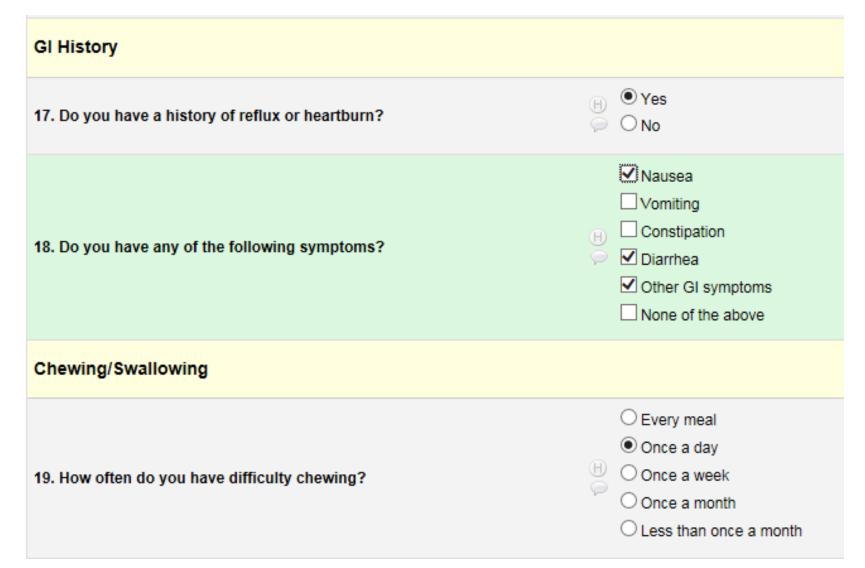
- o 2
- o 3
- 4 = Severe Problem

🚆 PRO - Eating Assessment Tool

Event Name	: Initial
Record ID	
My swallowing	problem has caused me to lose weight.
0 = No probl	em
0 1	
O 2	
O 3	
4 = Severe p	oblem
My swallowing	problem interferes with my ability to go out for meals.
0 = No probl	em
0 1	
O 2	
0 3	
0 4 = Severe p	oblem

Calculated Fields automatically sums EAT-10 total score.

From Dietary Questionnaire Instrument



Outcomes Specific to Swallowing

- Videofluoroscopic Swallowing Study Data
 - Very challenging to share images between sites- allows for standardized data collection from these recordings
 - Modified Barium Impairment Profile (MBSImP)



COMPONENT

- Lip Closure (0 4)
- 2. Tongue Control during Bolus Hold (0 3)
- 3. Bolus Prep/Mastication (0 3)
- 4. Bolus Transport/Lingual Motion (0 4)
- 5. Oral Residue (0 4)
- 6. Initiation of Pharyngeal Swallow (0 4)
- 7. Soft Palate Elevation (0 4)
- 8. Laryngeal Elevation (0-3)
- 9. Anterior Hyoid Movement (0 2)
- 10. Epiglottic Movement (0-2)
- 11. Laryngeal Vestibular Closure (0 2)
- 12. Pharyngeal Stripping Wave (0-2)
- 13. Pharyngeal Contraction (0 3)
- 14. PES Opening (0 3)
- 15. Tongue Base Retraction (0 4)
- 16. Pharyngeal Residue (0 4)
- 17. Esophageal Clearance Upright Position (0 4)

A Penetration-Aspiration Scale

(Rosenbek, Robbins, Roecker, Coyle, & Woods, 1996)

Score	Description
L.	Material does not enter the airway
2	Material enters the airway, remains above the vocal folds & is ejected from the airway
3	Material enters the airway, remains above the vocal folds & is NOT ejected from the airway
4	Material enters the airway, contacts the vocal folds & is ejected from the airway
5	Material enters the airway, contacts the vocal folds & is NOT ejected from the airway
6	Material enters the airway, passes below the vocal folds & is ejected into the larynx or out of the airway
7	Martilla and a standard balance in the second state of the state of the second state o

- 7 Material enters the airway, passes below the vocal folds & is NOT ejected from the trachea despite effort
- 8 Material enters the airway, passes below the vocal folds & No effort is made to eject

Branching Logic

Honey Thick Boluses					
Did you administer honey consistency trials? * must provide value	⊖ O Yes ♡ I€No reset				
Additional Boluses					
Please indicate any other bolus types that were trialed during the swallow study. Indicate the PA Scale rating and any maneuvers that were used.	B \$				

Show/Hide Questions based on response to a prior question

Hone	y Thick Bo	luses
------	------------	-------

Did you administer honey consistency trials? *must provide value		● Yes ○ No		reset
Teaspoon Honey (#1)				
PAS Score	Q			
Posture or maneuver used?	H	OYes	○ No	reset
If yes, list posture/maneuver used.	H			
Was this posture/maneuver/strategy effective?	Ð	OYes	O No	reset
Teaspoon Honey (#2)				
PAS Score	Ð			
Posture or maneuver used?	H	OYes	○ No	reset
If yes, list posture/maneuver used.	Đ			
Was this posture/maneuver/strategy effective?	H	OYes	ONO	reset
Sip Honey (#1)				
PAS Score	H			
Posture or maneuver used?	H	Oyes	ONO	reset
If yes, list posture/maneuver used.	H			
Was this posture/maneuver/strategy effective?	H	OYes	ONO	reset
Sip Honey (#2)				
PAS Score	H			
Posture or maneuver used?	H	OYes	ONO	reset
If yes, list posture/maneuver used.	H			
Was this posture/maneuver/strategy effective?	H	OYes	ONO	reset
Sequential Swallows Honey				
PAS Score	Ð			
Posture or maneuver used?	H	OYes	⊖ No	reset
If yes, list posture/maneuver used.	H			
Was this posture/maneuver/strategy effective?		OYes	ONO	reset

Additional Boluses

Outcomes Specific to Swallowing

• Lingual Pressures

Maximum Isometric Lingual Pressures (IOPI) At least 3 trials should be taken. Maximum value is the highest value of these trials. Anterior Position Maximum Isometric Lingual Pressure				
Target Trial #1	H 9 34			
Target Trial #2	H 22			
Target Trial #3	H P 37			
Anterior Position Maximum Pressure	H) 💬 39			

Outcomes Specific to Swallowing

• Expiratory Muscle Strength

Maximum Expiratory Pressure Measurements	
Values should fall between +/- 10% to calculate the maximum valu	e.
Would you like to view instructions on how to measure maximum expiratory pressure using the microRPM pressure meter?	🗎 🗖 Yes
Maximum Expiratory Pressure Measurements	
Target Trial #1	80
Target Trial #2	H P 87
Target Trial #3	H 92
Maximum Expiratory Pressure	⊕ © 92

Outcomes Specific to Swallowing

Qualitative data specific to SLP decisionmaking

Treatment Rationale and Barriers

Physiologic Treatment Objectives

Describe why you selected this treatment approach for this patient (e.g., mental status, decreased lingual range of motion). Responses may be brief.

Patient demonstrates decreased lingual strength (<40 kPa) and reduced base of tongue retraction to contact the posterior pharyngeal wall, contributing to moderate post-swallow pharyngeal residue. Strategies utilized during modified barium swallow study were met with limited success. Patient quality of life is significantly impacted due to swallowing function and they report commitment to an intensive regimen.

Lip closure

Tongue control during bolus hold
 Bolus preparation/mastication
 Bolus transport/lingual motion
 Oral residue
 Initiation of pharyngeal swallow

Soft palate elevation

Laryngeal elevation

Anterior hyoid excursion

Superior hyoid excursion

Duration of hyoid excursion

Epiglottic inversion

Closure of laryngeal vestibule

Pharyngeal stripping wave

Pharyngeal contraction (medially)

UES/PES opening

Tongue base retraction

Pharyngeal residue

Expand

Longitudinal Data Collection

	n Project Hom	ie 💈 Pro	ject Setup	Other Functionality	Project Revision History	Edit project se
Pr	oject status: 📀 P	roduction				
		Main projec	t settings			
		Disable 📀	Use longitudir	nal data collection with repe	ating forms? ?	
	Complete!	Enable 🥥	Use surveys i	in this project? ?	VIDEO: How to create and m	anage a survey
	Not complete?	Modify project	t title, purpose	e, etc.		
	L E	Enable opti	onal module	es and customizations		
		Enable 🥥	Auto-numberin	g for records ?		
	Complete!	Disable 🖉 🕄	Scheduling mo	dule (longitudinal only) ?		
		Enable 🥥	Randomization	n module ?		
	Not complete?	Enable 🥥	Designate an e	email field to use for invitation	s to survey participants ?	
		Additional cu	stomizations			

Example: Follow-Up Visit/Call

Event	1: Swallow STRONG Protocol	2: IOPI Protocol	3: EMST Protocol	4: sEMG Protocol
Week 1	Х	Х	Х	
Week 2	Х	Х	Х	Х
Week 3	Х	Х	Х	
Week 4	Х	Х	Х	Х
Week 5	Х	Х	Х	
Week 6	Х	Х		Х
Week 7	Х	Х		



Arm 1: Swallow STRONG Protocol Arm 2: IOPI Protocol Arm 3: EMST Protocol Arm 4: sEMG Protocol

Arm name: Swallow STRONG Protocol

Begin Editing

Save

Data Collection Instrument	Baseline Visit (1)	Week 1 (2)	Week 2 (3)	Week 3 (4)	Week 4 (5)	Week 5 (6)	Week 6 (7)	Week 7 (8)	Week 8 (9)	Final Visit (10)
Patient Demographics	v									
MBS Study Overall Impairment Score	~									~
Penetration-Aspiration Scale Rating Form	~									~
Treatment Assignment	~									
St. Louis Mental Status Examination	v									
Respiratory Health Questionnaire	v									~
Dietary Questionnaire	v									~
Swallowing Visual Analog Scale	v									~
Swallowing Quality of Life Assessment	v									~
EAT-10	v									~
Outcome Scale Measures	v									~
Device Measurements (Baseline/Final for SwallowSTRONG)	v									~
Device Measurements (Followup Targets SwallowSTRONG)		~	v		~		v			
Device Measurements (Baseline/Final for IOPI(R))										
Device Measurements (Followup Targets IOPI)										
Device Measurements (EMST)										
Follow-Up Visit/Call		~								

Record Status Dashboard

The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event. If you wish, you may modify the events below by navigating to the <u>Define My Events</u> page.

Legend for status icons:
Incomplete Incomplete (no data saved) ?
 Unverified
Complete

Data Collection Instrument	Baseline Visit	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Final Visit
Patient Demographics										
MBS Study Overall Impairment Score										
Penetration-Aspiration Scale Rating Form										
Treatment Assignment										
St. Louis Mental Status Examination										
Respiratory Health Questionnaire										
Dietary Questionnaire										
Swallowing Visual Analog Scale										
Swallowing Quality of Life Assessment										
EAT-10										
Outcome Scale Measures										
SwallowSTRONG: Device Measurements (Baseline/Final)										
SwallowSTRONG: Device Measurements (Follow-up Targets)										
Follow-Up Visit/Call										
Clinician Reported Adherence Data (SwallowSTRONG)										
Final Visit Clinician Questionnaire										

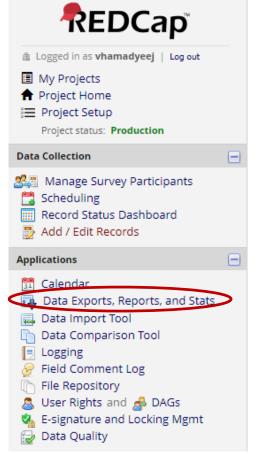
NEW Record ID 1 (Arm 1: Swallow STRONG Protocol)

Ę

From the Follow-Up Visit/Call instrument

Questions for the Patient				
1. Are you completing your exercises as they are scheduled?	H P	⊖Yes	● No	
2. If you are following your exercise schedule, are you completing them after every meal?	H	⊖Yes	ONO	
3. If you are not following your exercise schedule, why not?	Ð	I try, bu	t sometimes I forget	or I'm asleep.
4. Do you continue to experience difficulty with your swallowing?	H	● Yes	⊖ No	1
If yes, how frequently?	Ð	Every r Once a		
		Once a Once a Less th		

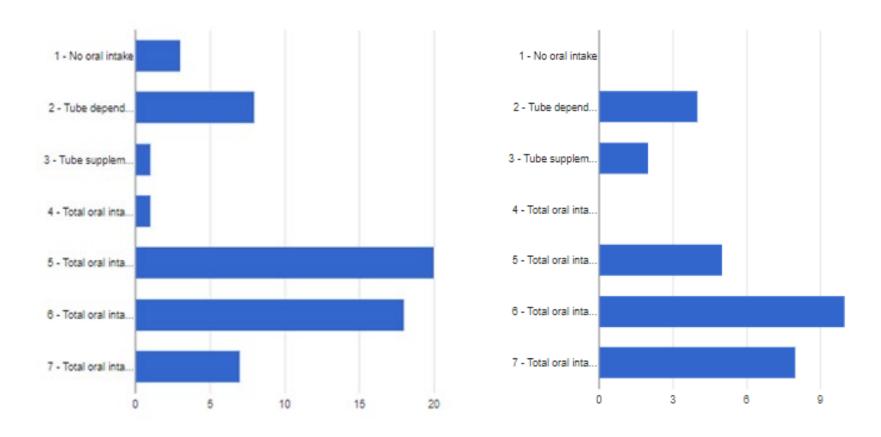
Data Reporting



- Project admin can query database in real time
- Customizable by user based on variables of interest
- Organized in table format for quick review
 - Columns Variables
 - Row Individual records for events specified by user
- Produces graphs for numerical and categorical variables
- Exports into report format for further analysis (CSV, R, SPSS, etc.)
- Access can be restricted

Functional Oral Intake Score

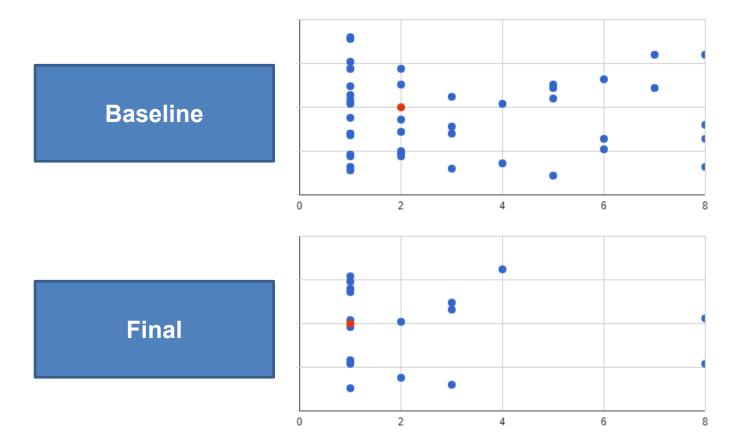
Did restrictiveness of oral diets improve post-treatment for patients who completed lingual strengthening using the IOPI?



12

Penetration-Aspiration Scale Score –

Did the level of airway invasion or aspiration improve following a lingual strengthening intervention?



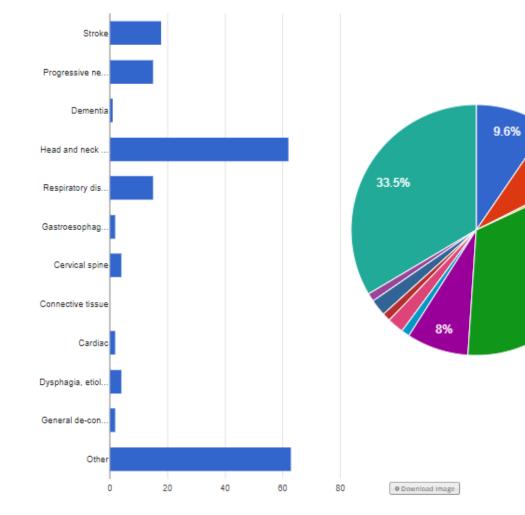
Data Reports | Clinical Data Review

What is the distribution of diagnoses for patients enrolled in the IDT Program?

Graphs

- Show stats, plots, or both
- Produces descriptive statistics
- View bar or pie chart for categorical data
- Images are downloadable for presentations or reports

Counts/frequency: Stroke (18, 9.6%), Progressive neurological disorder (15, 8.0%), Dementia (1, 0.5%), Head and neck cancer (62, 33.0%), Respiratory disorder (15, 8.0%), Gastroesophageal (2, 1.1%), Cervical spine (4, 2.1%), Connective tissue (0, 0.0%), Cardiac (2, 1.1%), Dysphagia, etiology not specified (4, 2.1%), General de-conditioning, weakness (2, 1.1%), Other (63, 33.5%)



8%

33%

Session roadmap

- Introduction to VA REDCap
- Intensive Dysphagia Treatment program
 - Overview
 - Rationale for use of VA REDCap for this project
 - Outcomes collection across sites with REDCap
 - Patient-reported outcomes
 - Swallowing biomechanical data as well as functional measures
 - Qualitative data
 - Data reporting
- Additional Resources

VAREDCap About VA REDCap

 Information about VA REDCap available at <u>http://vaww.virec.research.va.gov/REDCap/Overview.ht</u> <u>m</u> (VA Intranet only)

VIRe	C INTRANET	Search All VA Web Pages V Search > Open Advanced Search
VA INFORMATION R	esource Center (VIReC)	
VIReC Home	VA Research Electronic Data Capture (REDCap)	
About Us VA/CMS Data for Research	Launch VA REDCap Application	
VHA Data Portal	Overview	VA REDCap
New Users of VA Data	REDCap was created in 2004 at Vanderbilt University to support data collection for research.	Overview
FAQs	VA REDCap is the free, secure VA Intranet version of this application.	FAQs
Acronym Lookup	Benefits & Features	User Guidelines
HelpDesk	REDCap allows for easy creation of online databases and surveys without requiring	Did you know?
Report Broken Link	knowledge of programming language. VA REDCap users are able to develop data collection instruments and control how the project may be shared with other users. When survey	VIReC's VA REDCap
How are we doing?	capability is enabled on an instrument, anyone with access to the VA Intranet may respond to the survey link. Other benefits include data quality control, secure storage, maintenance and sharing of data on the REDCap server, and consistent formatting across all sites with validation and branching/skipping logic.	Learning Resources include links to self-paced learning materials and information on upcoming training events.
	View VA REDCap Features	General Resources
	Limitations	🗄 Data Access
		Data Sources

VA REDCap Resources

• Log In page:

https://vhacdwweb05.vha.med.va.gov/



Log In			
Ask for Help	Learning Resources	FAQs	About VA REDCap

You are invited to join us Thursdays from 3-4pm ET for the VA REDCap Hour

VA REDCap Hour is an open question and answer time with members of the VA REDCap support team. We meet every Thursday from 3-4pm Eastern Time. Attendees can use their computer's speakers and microphone or dial into our VANTS line at 1-800-767-1750 Code 89026# for audio access. Join us online at http://va-eerc-ees.adobeconnect.com/redcap/

Please log in with your user name and password. If you are having trouble logging in, please contact VIReC REDCap Helpdesk.

Username:		
Password:		
Lo	g In	Forgot your password?

VA REDCap HelpDesk Ticket System

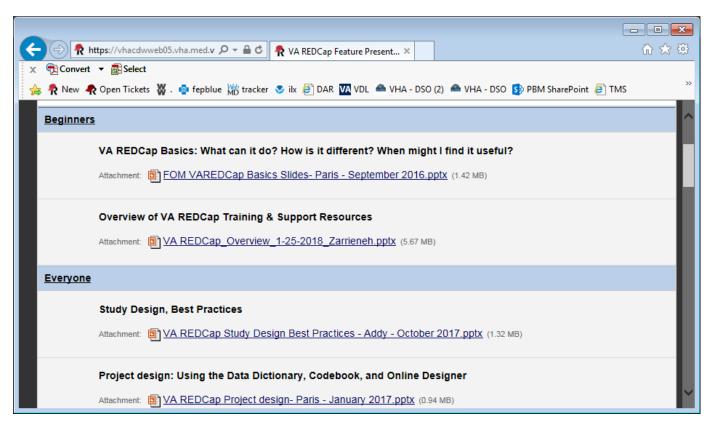
• Complete the VA REDCap Intake Form at:

https://vhacdwweb05.vha.med.va.gov/surveys/?s=W7Y9ACRKKX (VA Intranet only)

VIREC VAREDCap	Resize font: I 📑
Please include any details about your request in the comment box at the end. After y and a member of the VIReC VA REDCap Support Team will contact you within 1 bu	
What is your VA e-mail address?	
What can we help you with? Select all that apply.	Creating new VA REDCap account(s) Resetting my password Making changes to a project in production Enable functions for my project "How To" Questions Troubleshoot problems with a particular project Appropriate use of VA REDCap (PHI, TRM) VA REDCap Hour or Feature Presentation information I need help with something else
Please provide any additional information about your request or the best way to contact you.	Expand
Submit	

VAREDCap Learning Resources

 Feature Presentation Archive available at <u>https://vhacdwweb05.vha.med.va.gov/surveys/?s=83JA</u> <u>XH9P8P</u> (VA Intranet only)





• FAQs available at

http://vaww.virec.research.va.gov/REDCap/FAQs.htm (VA Intranet only)

VIRe	C INTRANET	Search All VA Web Pages V Search » Open Advanced Search
VA INFORMATION R	esource Center (VIReC)	
/IReC Home	VA REDCap Frequently Asked Questions (FAQs)	
About Us /A/CMS Data for Research	Overview	
HA Data Portal	VIReC develops frequently asked questions (FAQs) about VA REDCap to provide quick answers to common questions.	VA REDCap
ew Users of VA Data		Overview
AQs	+ Expand All	FAQs
cronym Lookup		User Guidelines
elpDesk	General Questions	General Resources
eport Broken Link	Is VA REDCap accessible on the Internet?	🗄 Data Access
ow are we doing?		🗄 Data Sources
	• Can I use VA REDCap for a quality improvement or operations project?	🗄 Data Tools
	Is VA REDCap right for my study?	🗄 Data Topics
	■ Why is VA REDCap not approved for storage of PII or PHI?	E Products & Services
	Why should I talk to my Privacy Officer (PO) about my data collection plans?	🗄 Special Projects
	What responsibilities come with the use of VA REDCap?	

Need help with VAREDCap?

- Submit a HelpDesk Ticket
 - <u>https://vhacdwweb05.vha.med.va.gov/surveys/?s=W7Y</u>
 <u>9ACRKKX</u> (VA Intranet only)
- Contact VA REDCap Support HelpDesk
 - <u>VIReCREDCapSupport@va.gov</u>
 - (708) 202-2413



- Weekly Q&A with VA REDCap support team
 - Thursdays from 3-4pm Eastern Time
 - Attendees can use their computer's speakers and microphone or dial into our VANTS line at 1-800-767-1750 Code 89026# for audio access.
 - Join us online at <u>http://va-eerc-</u> <u>ees.adobeconnect.com/redcap/</u>

VIReC Options for Specific Questions

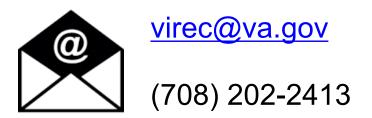
HSRData Listserv

- Community knowledge sharing
- ~1,400 VA data users
- Researchers, operations, data stewards, managers
- Subscribe by visiting
 <u>http://vaww.virec.research.va.gov/Support/</u>
 <u>HSRData-L.htm</u> (VA Intranet)



HelpDesk

Individualized support





Quick Guide: Resources for Using VA Data: http://vaww.virec.research.va.gov/Toolkit/QG-Resources-for-Using-VA-Data.pdf (VA Intranet)

VIReC: <u>http://vaww.virec.research.va.gov/Index.htm</u> (VA Intranet)

Archived cyberseminar: *Meet VIReC: The Researcher's Guide to VA Data* <u>https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=3696&Seriesid=22</u>

VIReC Cyberseminars (overview of series and link to archive): http://www.virec.research.va.gov/Resources/Cyberseminars.asp

VHA Data Portal (data source and access information): http://www.vhadataportal.med.va.gov/Home.aspx (VA Intranet)

Quality Enhancement Research Initiative (QUERI): https://www.queri.research.va.gov

QUERI Implementation Network Archived Cyberseminars: https://www.hsrd.research.va.gov/cyberseminars/catalog-archive.cfm?SeriesSortParam=y&SeriesIDz=83

Implementation Research Group (IRG) Archived Cyberseminars: https://www.gotostage.com/channel/implementresearchgrpchristinekowalski

Center for Evaluation and Implementation Resources (CEIR): https://www.queri.research.va.gov/ceir/default.cfm

Increasing Access to Medication-Assisted Treatment in VISN 22: Using VA Data to Guide Implementation



Next session: July 21st at 12 pm Eastern

Evelyn Chang, Rebecca Oberman, Shawn Toy, Adam Resnick

Register at https://www.hsrd.research.va.gov/cyberseminars/ registration.cfm?SessionID=3808

