

Tufts Clinical and Translational Science Institute



Version LTS 10.6

Upgrade Date: 2/06/2021

Tufts | CTSI

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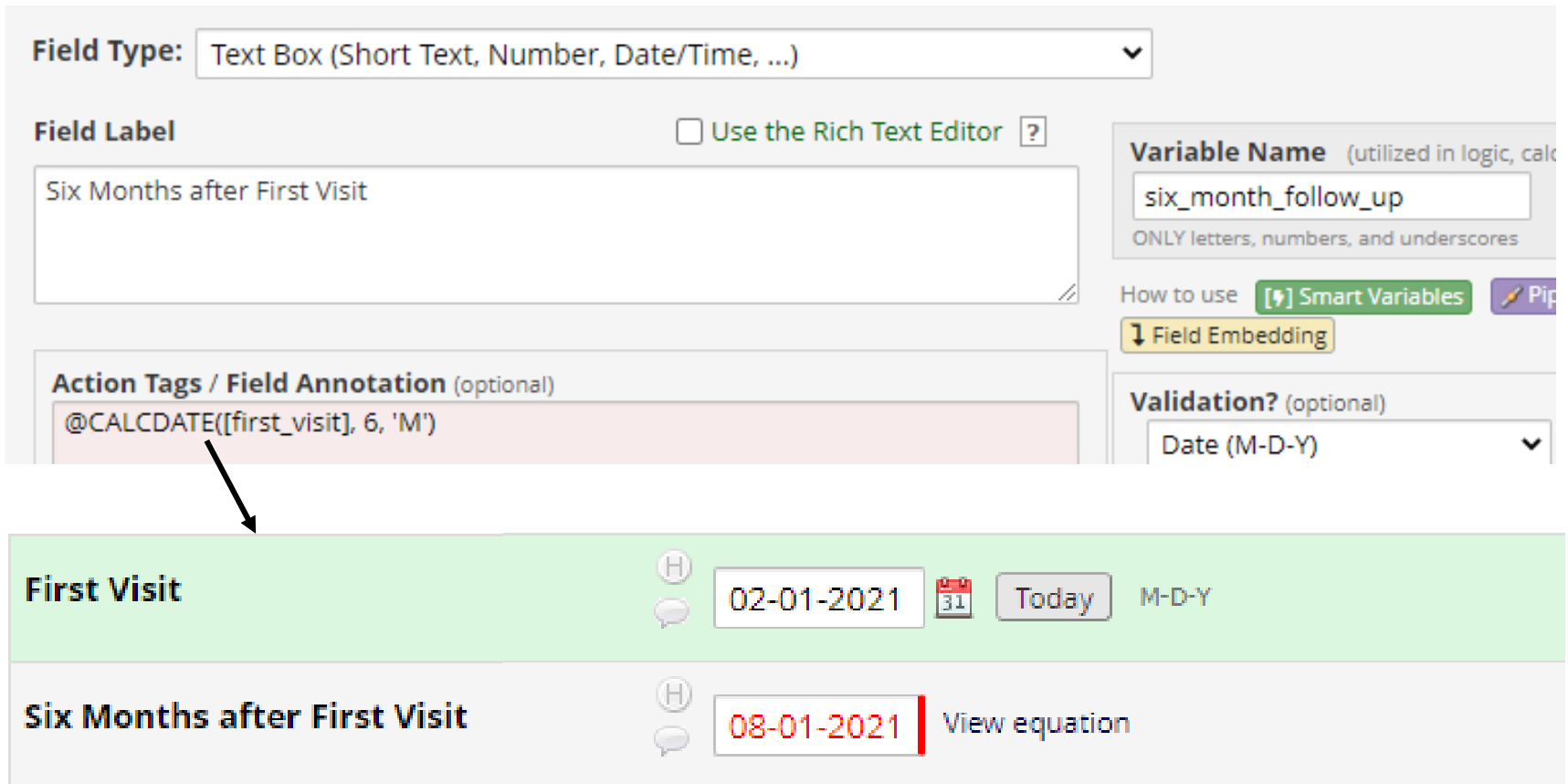
Overview

Tufts CTSI recently upgraded REDCap to version 10.6. The new REDCap features are summarized below. If you have questions about these features, please email informatics@tuftsctsi.org:

- [Date Calculations](#)
- [@PREFILL action tag](#)
- [Import / Export Options](#)
- [Text Calculation / Functions](#)
- [Improved Online Designer](#)
- [...and many more!](#)

Date Calculations

The new **@CALCDATE** action tag can be used on text fields to turn them into calculated fields that return dates:



The screenshot shows a form configuration interface. At the top, the 'Field Type' is set to 'Text Box (Short Text, Number, Date/Time, ...)'. The 'Field Label' is 'Six Months after First Visit'. The 'Action Tags / Field Annotation' section contains the tag '@CALCDATE([first_visit], 6, 'M')'. An arrow points from this tag to the 'First Visit' field in the form preview below. The 'First Visit' field is a date picker showing '02-01-2021' and 'Today'. The 'Six Months after First Visit' field is a calculated date field showing '08-01-2021' and a 'View equation' link.

Field Type: Text Box (Short Text, Number, Date/Time, ...)

Field Label: Six Months after First Visit

Use the Rich Text Editor

Action Tags / Field Annotation (optional): @CALCDATE([first_visit], 6, 'M')

Variable Name: six_month_follow_up

ONLY letters, numbers, and underscores

How to use: [Smart Variables](#) [Pipe](#)

[Field Embedding](#)

Validation? (optional): Date (M-D-Y)

First Visit: 02-01-2021 Today M-D-Y

Six Months after First Visit: 08-01-2021 View equation

Date Calculations

The format for **@CALCTEXT** is

@CALCTEXT([variable], offset, units)

- **[variable]** is the base variable (both fields must have a validation)
- **offset** is the amount to add (use negative numbers to subtract)
- **units** is the unit to add or subtract, which can be:
 - 'y' (years)
 - 'M' (months)
 - 'd' (days)
 - 'h' (hours)
 - 'm' (minutes)
 - 's' (seconds)

Text Calculations / Functions

The new **@CALCTEXT** action tag can be used on text fields to get text values from calculations:

Action Tags / Field Annotation (optional)

```
@CALCTEXT(if(datediff([dob], 'now', 'y')>18, 'Adult', 'Minor'))
```



Date of Birth



09-23-2003



Today

M-D-Y

Adult or Minor?



Minor

[View equation](#)

Text Calculations / Functions

REDCap also now features several **text manipulation functions**, which can be used with **@CALCTEXT**:

Initial Text

REDCap is Great!

- **left(text, number of characters)** - Returns the leftmost characters

Action Tags / Field Annotation

```
@CALCTEXT(left([text], 6))
```

Leftmost six characters: REDCap

- **right(text, number of characters)** - Returns the rightmost characters

Action Tags / Field Annotation

```
@CALCTEXT(right([text], 6))
```

Rightmost six characters: Great!

Text Calculations / Functions

- **length(text)** - Returns the number of characters

Action Tags / Field Annotation

```
@CALCTEXT(length([text]))
```

Length



16

- **find(needle, haystack)** - Finds one text value within another

Action Tags / Field Annotation (optional)

```
@CALCTEXT(find([search], [text]))
```

Text to look for



Great

Position of search text:



11

find() is **not case sensitive**, and returns **blank** if the value is not found

Text to look for



Bad



Position of search text:



[View equation](#)





Text Calculations / Functions

- **mid(text, start position, number of characters)** - Returns a number of characters from a text string starting at the position you specify

Action Tags / Field Annotation @CALCTEXT([text], 8, 2)	Middle two characters, starting at 8	  REDCap is Great!
------------------------------------------------------------------	--------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- **concat (text,text,...)** – Combines the text from multiple strings:

Action Tags / Field Annotation (optional) @CALCTEXT(concat([text], [add_text]))

Additional Text	  ..or is it?
Concatenated Text	  .ap is Great!..or is it? View equation

Text Calculations / Functions

- **upper(text)** and **lower(text)** – Converts text to upper/lowercase:

```
@CALCTEXT(upper([text]))
```

Uppercase Text



REDCAP IS GREAT!

```
@CALCTEXT(lower([text]))
```

Lowercase Text



redcap is great!

- **trim(text)** – Removes spaces from around text:

Action Tags / Field Annotation (optional)

```
@CALCTEXT(trim([untrimmed]))
```

Untrimmed Text



<-space-> |

Trimmed Text



<-space->

Text Calculations / Functions

Try using the functions in combination with each other!

Action Tags / Field Annotation (optional)

```
@CALCTEXT(mid([email], find('@', [email])+1, length([email])-find('@', [email])))
```

Email



informatics@tuftsctsi.org

Email Domain



tuftsctsi.org

[View equation](#)

@PREFILL Action Tag







The @PREFILL action tag allows you to set a field to a certain value every time the page loads:

The screenshot displays a form editor interface with three input fields. Each field has a header bar with icons (pencil, green arrow, blue document, plus sign, red X) and a variable name. Below each field are two buttons: 'Add Field' and 'Add Matrix of Fields'. An arrow points from the 'Study ID' field to a text area containing the following code:

```
Action Tags / Field Annotation (optional)  
@PREFILL="STUDY_[study_abbr]_[patient_number]"
```

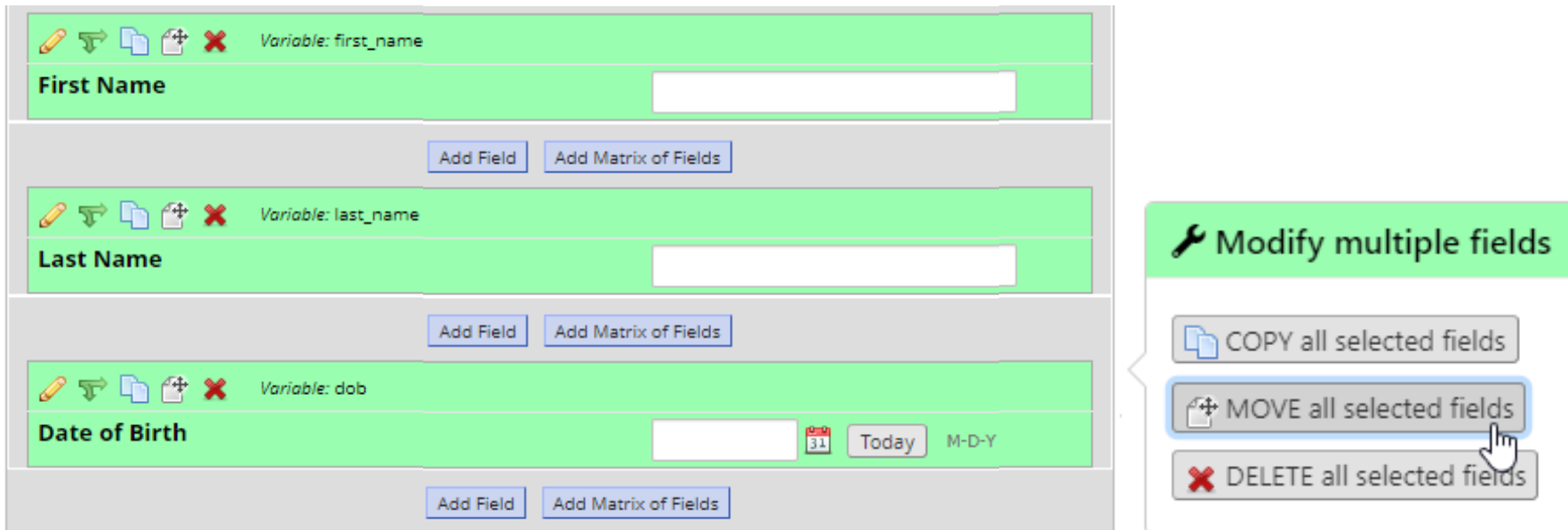
@PREFILL Action Tag

This effectively makes the field read-only, and can be used to combine fields into a single variable:

Study Abbreviation	  <input type="text" value="COV"/>
Patient Number	  <input type="text" value="123"/>
Study ID	  <input type="text" value="STUDY_COV_123"/>

Online Designer Improvements

You can now select multiple fields together to move, copy or delete them:



The screenshot displays the Online Designer interface with three form fields: "First Name" (Variable: first_name), "Last Name" (Variable: last_name), and "Date of Birth" (Variable: dob). Each field has a toolbar with icons for edit, move, copy, add, and delete, and buttons for "Add Field" and "Add Matrix of Fields".

A callout box titled "Modify multiple fields" is shown on the right, containing three options:

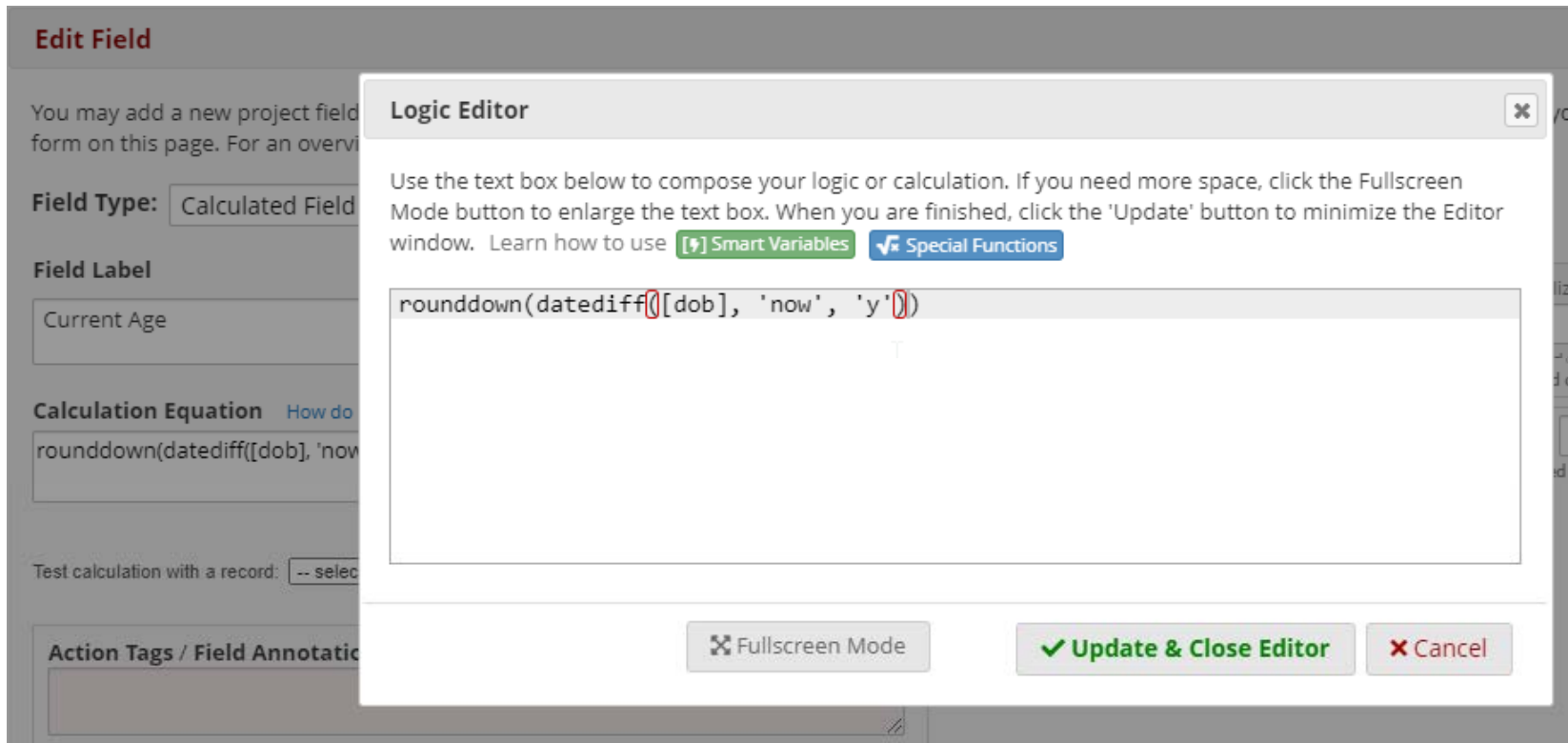
- COPY all selected fields
- MOVE all selected fields
- DELETE all selected fields

The "MOVE all selected fields" option is highlighted with a mouse cursor.

To select multiple fields, simply hold down Ctrl or Shift on Windows, or Cmd on MAC when you click on them!

Online Designer Improvements

There is a new logic editor when setting up calculated fields, branching logic, and other equations:



The screenshot shows a 'Logic Editor' window overlaid on a 'Field Editor' interface. The 'Field Editor' has a title 'Edit Field' and contains the following sections:

- You may add a new project field form on this page. For an overview**
- Field Type:** Calculated Field
- Field Label:** Current Age
- Calculation Equation:** `rounddown(datediff([dob], 'now', 'y'))` (with a link 'How do...')
- Test calculation with a record:** -- select
- Action Tags / Field Annotations:**

The 'Logic Editor' window has a title bar with a close button. The main text reads: 'Use the text box below to compose your logic or calculation. If you need more space, click the Fullscreen Mode button to enlarge the text box. When you are finished, click the 'Update' button to minimize the Editor window. Learn how to use [Smart Variables](#) [Special Functions](#)'.

The text box contains the code: `rounddown(datediff([dob], 'now', 'y'))`. The opening and closing parentheses are highlighted in red, indicating a matching feature.

At the bottom of the Logic Editor window are three buttons: 'Fullscreen Mode' (with a window icon), 'Update & Close Editor' (with a green checkmark), and 'Cancel' (with a red X).

It features **parentheses matching** and **autocomplete!**

Online Designer Improvements

Field Embedding can now be used on descriptive fields:

The screenshot displays the Online Designer interface with four panels, each representing a different field configuration:

- Panel 1:** Variable: `dob_layout`. It shows two columns: "Enter Date of Birth" with the placeholder `{dob}` and "Current Age" with the placeholder `{current_age}`. A yellow warning box `{warning}` is centered below the placeholders. Below the panel are "Add Field" and "Add Matrix of Fields" buttons.
- Panel 2:** Variable: `dob`. It shows a "Date of Birth" field with an input box, a calendar icon, a "Today" button, and "M-D-Y" text. A green banner at the top right states "Field is embedded elsewhere on page" with an upward arrow. Below the panel are "Add Field" and "Add Matrix of Fields" buttons.
- Panel 3:** Variable: `current_age`. It shows a "Current Age" field with an input box and a "View equation" button. A green banner at the top right states "Field is embedded elsewhere on page" with an upward arrow. Below the panel are "Add Field" and "Add Matrix of Fields" buttons.
- Panel 4:** Variable: `warning`. It shows a red warning message: "Warning: Patients Under 18 are Not Eligible to Enroll". The branching logic is `[current_age]<18`. A green banner at the top right states "Field is embedded elsewhere on page" with an upward arrow. Below the panel are "Add Field" and "Add Matrix of Fields" buttons.

Online Designer Improvements

Which allows you to add text that appears conditionally to complex layouts by using branching logic:

The diagram illustrates how branching logic is used to conditionally display text based on user input. It shows two states of a form:

- Top State:** The "Enter Date of Birth" field contains "09-23-1993" with a calendar icon and a "Today" button. The "Current Age" field displays "27" and a "View equation" link.
- Bottom State:** The "Enter Date of Birth" field contains "09-23-2003" with a calendar icon and a "Today" button. The "Current Age" field displays "17" and a "View equation" link. A red warning message is displayed below the age field: "Warning: Patients Under 18 are Not Eligible to Enroll".

A downward arrow indicates the transition from the top state to the bottom state, demonstrating how the system dynamically updates the age and displays a warning based on the branching logic.

New Import / Export Options

Several areas of REDCap now allow you to import and export their settings using .csv (Excel) files. These include **Automated Survey Invitations:**

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey-related options
Intake Survey	11			Choose action ▾	Survey settings + Automated Invitations
Follow-Up Survey	7			Choose action ▾	Survey settings Automated Invitations

↓

A	B	C	D	E	F	G
form_name	event_name	condition_surveycomplete_form_name	condition_surveycomplete_event_name	instance	active	email_subject
followup_survey	baseline_arm_1	intake_survey	baseline_arm_1	FIRST	1	Please Take this Survey
followup_survey	6month_followup_arm_1	followup_survey	baseline_arm_1	FIRST	1	Please Take this Follow-Up

New Import / Export Options

Data Access Groups (DAG's) – groups and assignments:

+ Create new groups: Add new data access groups to which users may be assigned.

+ Add Group

Assign user to a group: Users may be assigned to any data access group. To assign us

Assign user

to

Assign

- Upload or download DAGs/User-DAG assignments
- Upload DAGs (CSV)
- Download DAGs (CSV)
- Upload User-DAG assignments (CSV)
- Download User-DAG assignments (CSV)

Data Access Groups	Users in group	Number of records in group	Unique group name (auto-generated)	Group ID number	Delete group?
Baystate Health		1	baystate_health	3167	✗
MaineHealth		0	mainehealth	3168	✗
Tufts Medical Center		3	tufts_medical_cent	3165	✗
Tufts University		1	tufts_university	3166	✗

New Import / Export Options

This can be used to make user management easier when you have a large number of users in several DAG's:

Setting up DAG's:

A	B
data_access_group_name	unique_group_name
Baystate Health	baystate_health
MaineHealth	mainehealth
Tufts Medical Center	tufts_medical_cent
Tufts University	tufts_university

Setting DAG Assignments:

A	B
username	redcap_data_access_group
	tufts_medical_cent
	tufts_university
	baystate_health
	tufts_medical_cent

New Import / Export Options

And Data Quality Rules:

Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Real-time execution <input type="checkbox"/>	Total Discrepancies
1	Participants <18 Years Old	rounddown(datediff([dob], 'now', 'y')) <18	<input type="radio"/>	<input type="button" value="Execute"/>
2	Name Changes	(([baseline_arm_1][first_name] <> [6month_followup_arm_1][first_name]) or ([baseline_arm_1][last_name] <> [6month_followup_arm_1][last_name]))	<input type="radio"/>	<input type="button" value="Execute"/>



A	B	C
rule_name	rule_logic	real_time_execution
Participants <18 Years Old	rounddown(datediff([dob], 'now', 'y'))<18	n
Name Changes	(([baseline_arm_1][first_name] <> [6month_followup_arm_1][first_name]) or ([baseline_arm_1][last_name] <> [6month_followup_arm_1][last_name]))	n

...And Many More Features!

- Auto-numbering of repeating instances in data imports
- Ability to save the PDF of a completed survey to a File Upload field
- File Upload and Signature fields may now be used in piping.
- Piping now works in the "src" attribute of HTML image tags
- “Re-evaluate Auto Invitations” and “Re-evaluate Alerts” buttons
- Setting to “Keep the Survey Queue hidden from participants?”
- New options to filter and export logs by specific date ranges
- Descriptive fields can now be embedded with field embedding
- New notification options in the Data Resolution Workflow

To see the full release notes, please look at our website at tuftsctsi.org/research-services/informatics/redcap-research-electronic-data-capture/

Request a REDCap Account

To request a REDCap user account or receive other REDCap support, please follow the Request Services link located on our website at www.tuftsctsi.org and we will contact you within 48 hours.

Thank you!