



## Using REDCap for Systematic Reviews

<b>Purpose</b>	This tool provides tips for using REDCap to manage data for a systematic review.
<b>Format</b>	The tool contains examples of how MSKTC uses REDCap to manage a systematic review, complete with screenshots from REDCap and a sample coding form.
<b>Audience</b>	This tool is designed primarily for researchers from the Model Systems that are funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). The tool can be adapted by other NIDILRR-funded grantees and the general public.

The contents of this tool were developed under a grant (number 90DP0082) from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). NIDILRR is a part of the Administration for Community Living within the U.S. Department of Health and Human Services. However, those contents do not necessarily represent the policy of the U.S. Department of Health and Human Services, and you should not assume endorsement by the federal government.

### What Is REDCap?

REDCap (**R**esearch **E**lectronic **D**ata **C**apture) is an online tool built by Vanderbilt University that was designed to collect and manage data. MSKTC uses REDCap to manage systematic review data. The REDCap database creates questions based on the needs researchers outline in the protocol. The protocol helps define what researchers need to answer for their systematic review and how the information will be gathered in the REDCap database. The protocol influences the design and programming of questions, such as which questions are multiple choice, single choice, or open-ended, and which questions or responses need a “follow-up”. A sample protocol is included (see Appendix A). REDCap can be used for a longitudinal study, clinical studies, or for an online survey. A consortium of research institutions uses REDCap.

For more information about REDCap, please review this video:

[https://redcap.vanderbilt.edu/consortium/videoplayer.php?video=redcap\\_overview\\_brief01&title=Brief Overview of REDCap&referer=redcap.airprojects.org](https://redcap.vanderbilt.edu/consortium/videoplayer.php?video=redcap_overview_brief01&title=Brief%20Overview%20of%20REDCap&referer=redcap.airprojects.org)

### What Are the Benefits of Using REDCap?

REDCap

- Protects data with secure web authentication, data logging, and Secure Sockets Layer (SSL) encryption
- Enables users to customize the data collection tool for their systematic reviews
- Offers advanced programming of questions like auto-validation, branching logic, and stop actions
- Offers key features to analyze double data entry/blinded data entry data
- Exports data into formats for analysis with Excel, SPSS, R, SAS, or STATA

### What Are Tips for Using REDCap?

We have included visuals with tips and best practices for using REDCap for a systematic review. To use REDCap to manage your systematic review, it is important to

- Create a clear protocol to make the REDCap coding as easy as possible.
- Create conditional questions based on the protocol.
- Manage project progress with the Record Status Dashboard.
- Make assignments to communicate with researchers about the articles that they must review.
- Export data and selected questions in a readable format.

### Create a Clear Protocol

A **protocol** outlines the questions that the systematic review should answer. A protocol is important for building a REDCap database because it reflects the reviewers' process. This is important in determining which articles meet the inclusion criteria. The following is a sample of inclusion criteria used by reviewers for a systematic review in a Word document. The full protocol can be found in Appendix A.

- This protocol seeks to include articles that meet either of the first two criteria (i.e., that the article contains information about the consequences of TBI, or that the article contains information about self-management training) and also only wants to include articles that are intended for a specific audience (people with TBI or caregivers/family).

<p><b>INCLUSION:</b> Article includes information about: <input type="checkbox"/> education on consequences of TBI <b>OR</b> <input type="checkbox"/> self-management training on how to manage consequences of TBI <b>AND</b> <input type="checkbox"/> education (or training) is intended for people with TBI or caregivers/ family <i>Both of the above must be checked for article to be reviewed</i></p> <hr/> <p><b>EXCLUSION (if any checked, STOP REVIEW):</b> <input type="checkbox"/> education or training concerns a specific deficit or problem associated with TBI (physical, cognitive or emotional function; substance abuse)(note: comprehensive "packages" or education programs with modules on various specific topics are OK) <b>OR</b> <input type="checkbox"/> education is intended for disability/ disease other than TBI/ ABI <b>OR</b> <input type="checkbox"/> training concerns goal management, problem-solving, executive function, managing schedules, etc. <b>OR</b> <input type="checkbox"/> education or training is focused on <u>prevention</u> of TBI / ABI <b>OR</b> <input type="checkbox"/> target audience is professionals (medical professionals, teachers, coaches, athletic trainers, etc.) <b>OR</b> <input type="checkbox"/> target audience is general public (e.g., public awareness campaigns) <b>OR</b> <input type="checkbox"/> there is no education or training discussed in the article <b>OR</b> <input type="checkbox"/> other reason (specify): _____</p>
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## Create Conditional Questions Based on Protocol

REDCap’s Online Designer allows systematic review managers to create conditional questions with the branching tool.

- Step one is to create a question in REDCap. This question will contain the message that you want to pop up when the inclusion criterion is not met (the screenshot below shows an example of the backend to create a question in REDCap). You will notice that the question text in both the Field Label and Choices boxes was formatted using basic HTML.

**Edit Field** ✕

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(4 min\)](#).

**Field Type:** Multiple Choice - Radio Buttons (Single Answer)

**Question Number** (optional)   
Displayed only on the survey page

**Field Label** [How to use Piping](#)  

<b>Article is not relevant for review</b>

**Choices (one choice per line)** [Copy existing choices](#)  

1, <strong><font color=red>If the article is not relevant for the review, please check here and provide the reason that you do not feel that this article is not appropriate to include in the review.</font></strong>

[How do I manually code the choices?](#)

**Variable Name** (utilized during data export)  
  
ONLY letters, numbers, and underscores

Enable auto naming of variable based upon its Field Label?

**Required?\***  No  Yes  
\* Prompt if field is blank

**Identifier?**  No  Yes  
Does the field contain identifying information (e.g., name, SSN, address)?

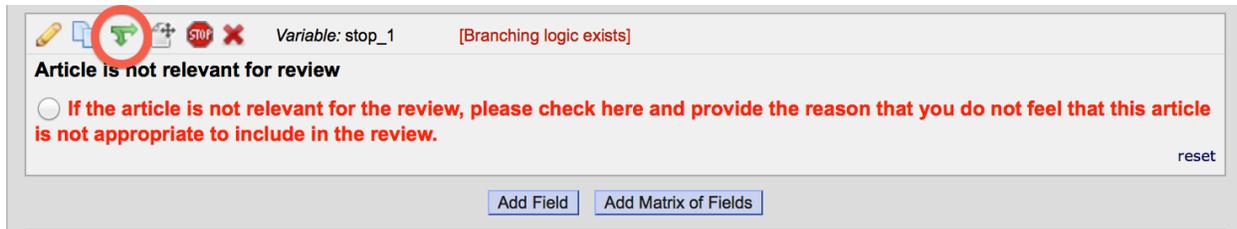
**Custom Alignment** Left / Horizontal (LH)  
Align the position of the field on the page

**Field Note** (optional)   
Small reminder text displayed underneath field

**Field Annotation** Explanatory notes - not displayed on any page

Save
Cancel

- Once the question is created, then the logic can be developed. First you must select the branching logic button (green arrows, circled) to indicate that you want this question to show up only under certain conditions (shown below).



Variable: stop\_1 [Branching logic exists]

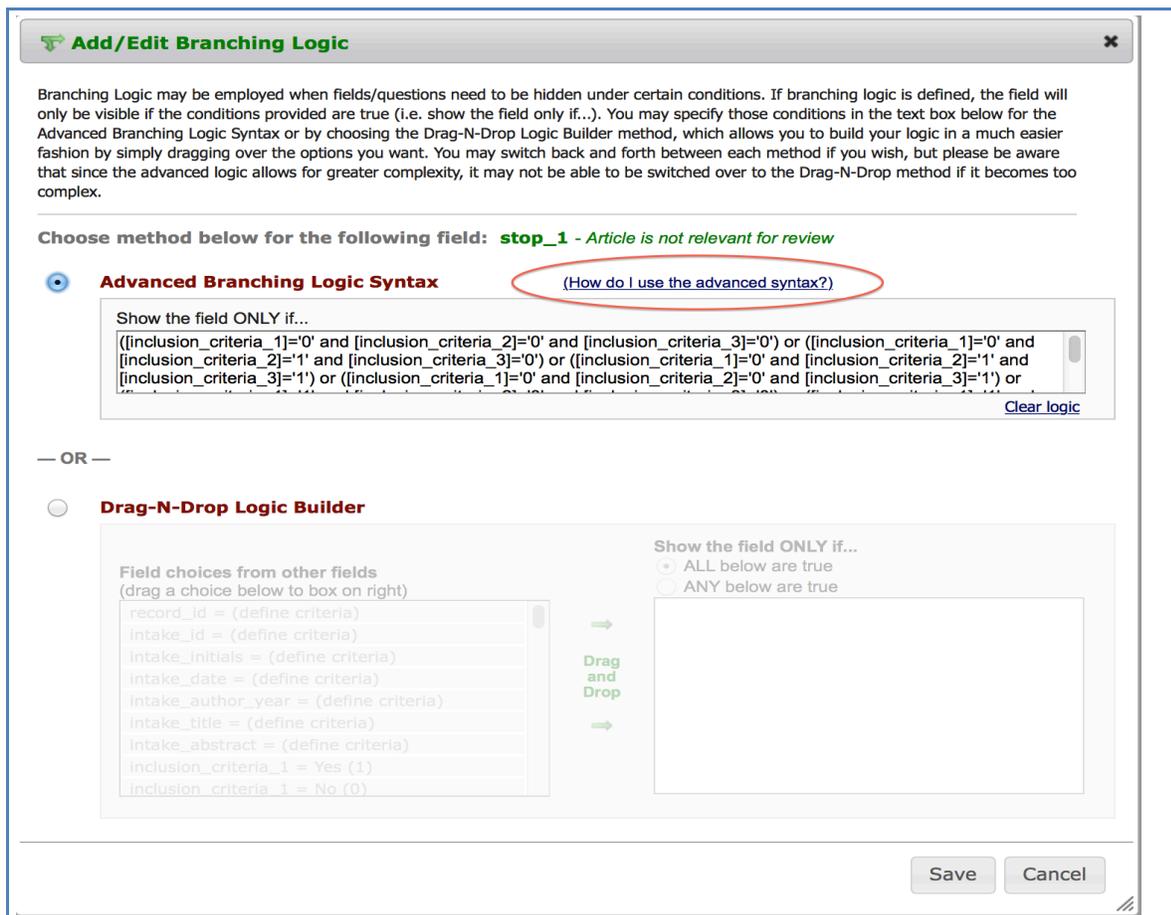
**Article is not relevant for review**

If the article is not relevant for the review, please check here and provide the reason that you do not feel that this article is not appropriate to include in the review.

reset

Add Field Add Matrix of Fields

- In this case, MSKTC used the **Advanced Branching Logic Syntax**. The protocol is clear in what is to be included or excluded, so it is easy to code all possible scenarios into the syntax box. REDCap provides tips within the tool for programming the logic into the survey (circled).



**Add/Edit Branching Logic**

Branching Logic may be employed when fields/questions need to be hidden under certain conditions. If branching logic is defined, the field will only be visible if the conditions provided are true (i.e. show the field only if...). You may specify those conditions in the text box below for the Advanced Branching Logic Syntax or by choosing the Drag-N-Drop Logic Builder method, which allows you to build your logic in a much easier fashion by simply dragging over the options you want. You may switch back and forth between each method if you wish, but please be aware that since the advanced logic allows for greater complexity, it may not be able to be switched over to the Drag-N-Drop method if it becomes too complex.

Choose method below for the following field: **stop\_1 - Article is not relevant for review**

**Advanced Branching Logic Syntax** (How do I use the advanced syntax?)

Show the field ONLY if...

`[(inclusion_criteria_1)=0' and [inclusion_criteria_2]=0' and [inclusion_criteria_3]=0' or [(inclusion_criteria_1)=0' and [inclusion_criteria_2]=1' and [inclusion_criteria_3]=0' or [(inclusion_criteria_1)=0' and [inclusion_criteria_2]=1' and [inclusion_criteria_3]=1' or`

Clear logic

— OR —

**Drag-N-Drop Logic Builder**

Field choices from other fields (drag a choice below to box on right)

- record\_id = (define criteria)
- intake\_id = (define criteria)
- intake\_initials = (define criteria)
- intake\_date = (define criteria)
- intake\_author\_year = (define criteria)
- intake\_title = (define criteria)
- intake\_abstract = (define criteria)
- inclusion\_criteria\_1 = Yes (1)
- inclusion\_criteria\_1 = No (0)

Drag and Drop

Show the field ONLY if...

- ALL below are true
- ANY below are true

Save Cancel

- If the branching logic is not complicated, the **Drag-N-Drop Logic Builder** is a helpful point and click tool to use. An example, using the same question, is shown below. This has the termination question display if any of the inclusion criteria questions were coded as “No.” Simply highlight the response on the left and drag it to the box on the left. To delete a response on the right, click the red X.

**Add/Edit Branching Logic**
✕

Branching Logic may be employed when fields/questions need to be hidden under certain conditions. If branching logic is defined, the field will only be visible if the conditions provided are true (i.e. show the field only if...). You may specify those conditions in the text box below for the Advanced Branching Logic Syntax or by choosing the Drag-N-Drop Logic Builder method, which allows you to build your logic in a much easier fashion by simply dragging over the options you want. You may switch back and forth between each method if you wish, but please be aware that since the advanced logic allows for greater complexity, it may not be able to be switched over to the Drag-N-Drop method if it becomes too complex.

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**Choose method below for the following field:** stop\_1 - Article is not relevant for review

**Advanced Branching Logic Syntax** (How do I use the advanced syntax?)

Show the field ONLY if...

[inclusion\_criteria\_1] = '0' or [inclusion\_criteria\_2] = '0' or [inclusion\_criteria\_3] = '0'

— OR —

**Drag-N-Drop Logic Builder**

**Field choices from other fields**  
(drag a choice below to box on right)

intake\_abstract = (define criteria)

inclusion\_criteria\_1 = Yes (1)

inclusion\_criteria\_1 = No (0)

inclusion\_criteria\_2 = Yes (1)

inclusion\_criteria\_2 = No (0)

inclusion\_criteria\_3 = Yes (1)

inclusion\_criteria\_3 = No (0)

inclusion\_criteria\_4 = Yes (1)

inclusion\_criteria\_4 = No (2)

→

Drag and Drop

→

**Show the field ONLY if...**

ALL below are true

ANY below are true

inclusion\_criteria\_1 = No (0) ✕

inclusion\_criteria\_2 = No (0) ✕

inclusion\_criteria\_3 = No (0) ✕

[Clear logic](#)

Save

Cancel

Here are examples of how this branching logic appears to reviewers.

- If the article does meet the inclusion criteria, then the question for termination does not appear and reviewers can continue to the next section.

Inclusion Criteria	
<p>1. Education or information or training given to patients or family about consequences of brain injury</p> <p>a. Include self-management training. This is a specific training model that has been applied to chronic health conditions such as diabetes, asthma, arthritis, heart disease, and stroke. SMT typically includes teaching patients how to set goals and solve problems related to chronic symptom management, how to fit disease management into one's lifestyle and preferences, and how to interface effectively with the healthcare system. In its focus on patients taking active control over symptom management, it may be contrasted with more traditional passive patient education programs that consist mostly of provision of information and recommendations for lifestyle change.</p> <p>b. Include comprehensive education programs made up of separate topics</p> <p>c. Include even if contents of education are not detailed</p> <p>d. Include information on general cognitive and/ or behavioral issues or consequences</p> <p><b>Exclude training for specific deficit (e.g. walking, memory anger, executive functioning, goal management training, advocacy skills training, problem solving training for depression) unless different topics are combined into comprehensive package OR multiple cognitive/ behavioral issues are addressed (as in inclusion 1d) OR training or education focused on prevention (e.g., shaken baby prevention programs)</b></p> <p><i>* must provide value</i></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p style="text-align: right;">reset</p>
<p>2. Target population: People with TBI, family, caregivers (including hired caregivers or anyone providing fee-based caregiving service) for traumatic brain injury</p> <p>a. Include ABI, if mixed population includes TBI</p> <p>b. Include if general trauma, as long as TBI included</p> <p><b>Exclude public (e.g., public awareness campaigns), personnel not involved in direct long-term caregiving (teachers, coaches, medical personnel), ABI if no TBI included in sample</b></p> <p><i>* must provide value</i></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p style="text-align: right;">reset</p>
<p>3. Type of article: Any, except as excluded below</p> <p>a. Include education presented as control for an active intervention, as long as it meets other criteria</p> <p>b. Include surveys on education practices/ materials given out by professionals (even if education not detailed)</p> <p>c. Include program descriptions that mention education component, even if not detailed (unless it only says education was include without any further information)</p> <p><b>Exclude letters, editorials, conference abstracts, fact sheets, pamphlets, or books geared to persons with TBI</b></p> <p><i>* must provide value</i></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p style="text-align: right;">reset</p>
<p>Article contains information about a needs assesment?</p> <p><i>* must provide value</i></p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p style="text-align: right;">reset</p>
<p>Uncertain if the article should be included (please explain)</p> <p><i>* must provide value</i></p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p style="text-align: right;">reset</p>
Demographic Information	
<p>Is the education described in the article targeted to (check all that apply):</p>	<p><input type="checkbox"/> People with TBI</p> <p><input type="checkbox"/> Family members/ caregivers of people with TBI</p> <p><input type="checkbox"/> Other (describe):</p>

- If the article does not meet the inclusion criteria, then the question for termination pops up at the end.

Inclusion Criteria		
<p><b>1. Education or information or training given to patients or family about consequences of brain injury</b></p> <p><b>a. Include self-management training. This is a specific training model that has been applied to chronic health conditions such as diabetes, asthma, arthritis, heart disease, and stroke. SMT typically includes teaching patients how to set goals and solve problems related to chronic symptom management, how to fit disease management into one's lifestyle and preferences, and how to interface effectively with the healthcare system. In its focus on patients taking active control over symptom management, it may be contrasted with more traditional passive patient education programs that consist mostly of provision of information and recommendations for lifestyle change.</b></p> <p><b>b. Include comprehensive education programs made up of separate topics</b></p> <p><b>c. Include even if contents of education are not detailed</b></p> <p><b>d. Include information on general cognitive and/ or behavioral issues or consequences</b></p> <p><b>Exclude training for specific deficit (e.g. walking, memory anger, executive functioning, goal management training, advocacy skills training, problem solving training for depression) unless different topics are combined into comprehensive package OR multiple cognitive/ behavioral issues are addressed (as in inclusion 1d) OR training or education focused on prevention (e.g., shaken baby prevention programs)</b></p> <p><i>* must provide value</i></p>	<p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p>	reset
<p><b>2. Target population: People with TBI, family, caregivers (including hired caregivers or anyone providing fee-based caregiving service) for traumatic brain injury</b></p> <p><b>a. Include ABI, if mixed population includes TBI</b></p> <p><b>b. Include if general trauma, as long as TBI included</b></p> <p><b>Exclude public (e.g., public awareness campaigns), personnel not involved in direct long-term caregiving (teachers, coaches, medical personnel), ABI if no TBI included in sample</b></p> <p><i>* must provide value</i></p>	<p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p>	reset
<p><b>3. Type of article: Any, except as excluded below</b></p> <p><b>a. Include education presented as control for an active intervention, as long as it meets other criteria</b></p> <p><b>b. Include surveys on education practices/ materials given out by professionals (even if education not detailed)</b></p> <p><b>c. Include program descriptions that mention education component, even if not detailed (unless it only says education was include without any further information)</b></p> <p><b>Exclude letters, editorials, conference abstracts, fact sheets, pamphlets, or books geared to persons with TBI</b></p> <p><i>* must provide value</i></p>	<p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p>	reset
<p><b>Article contains information about a needs assesment?</b></p> <p><i>* must provide value</i></p>	<p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	reset
<p><b>Uncertain if the article should be included (please explain)</b></p> <p><i>* must provide value</i></p>	<p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	reset
<p><b>Article is not relevant for review</b></p> <p><input type="radio"/> <b>If the article is not relevant for the review, please check here and provide the reason that you do not feel that this article is not appropriate to include in the review.</b></p>		reset

## Use the Record Status Dashboard to Manage Progress

The **Record Status Dashboard** allows MKSTC to manage the response rate for reviewers in the systematic review. The Dashboard key indicates if reviewers completed their assignments, started their assignments, or did not start their assignments. Below is the Record Status Dashboard from an MSKTC systematic review.

 **Record Status Dashboard (all records)**

Displayed below is a table listing all existing records/responses and their status for every data collection instrument (and if longitudinal, for every event). You may click any of the colored buttons in the table to open a new tab/window in your browser to view that record on that particular data collection instrument. Please note that if your form-level user privileges are restricted for certain data collection instruments, you will only be able to view those instruments, and if you belong to a Data Access Group, you will only be able to view records that belong to your group.

**Legend for status icons:**

- Incomplete  Incomplete (no data saved) ?
- Unverified  Partial Survey Response
- Complete  Completed Survey Response

Displaying record "1020" through "2274" of **248** records

**Displaying:** [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID:	TBI and Education T (Arm 1: T)	TBI and Education K (Arm 2: K)	TBI and Education Ma (Arm 3: M)	TBI and Education S (Arm 4: S)	TBI and Education E (Arm 5: E)	TBI and Education Me (Arm 6: M)	TBI and Education A (Arm 7: A)	TBI and Education Mo (Arm 8: M)	TBI and Education Ci (Arm 9: C)	TBI and Education Cl (Arm 10: C)
<a href="#">1020</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<a href="#">1021</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<a href="#">1033</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<a href="#">1034</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
<a href="#">1038</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

- Going into each record allows the REDCap manager to share the survey with reviewers (click here to jump to Communicating with Researchers).

- Clicking on records marked as completed (i.e., by clicking on the green check mark next to the study ID) lets the REDCap manager access the reviewer’s responses (example below, next page).

## TBI and Education

 Survey response is read-only

 Survey options

 **Response is only partial and is not complete. Response was added on 01/21/2016 7:51pm.** You have not been given permission to edit survey responses. However, your permissions may be changed on the User Rights page in order to allow editing of survey responses. **1 person (the survey respondent)** has contributed to this partial survey response.

Return Code for participant to edit the completed response:

Record ID: **9999** – Ci (Arm 9: C)

Record ID: 9999

The purpose of this scoping review is to address the following questions:

1. What types of general education have been provided to patients and family members about the consequences of TBI?
2. What are the gaps in the literature specific to:
  - a. Education regarding the consequences of TBI along the continuum of severity from mild to severe?
  - b. The comprehensiveness of education about TBI in terms of amount and scope provided?
  - c. The degree of active learning (e.g., self-management or general symptom management training) vs. passive learning (e.g., traditional didactic patient education)?
3. What is known about the outcomes and outcome measures for educational interventions for people with TBI or their family members?

Article ID:

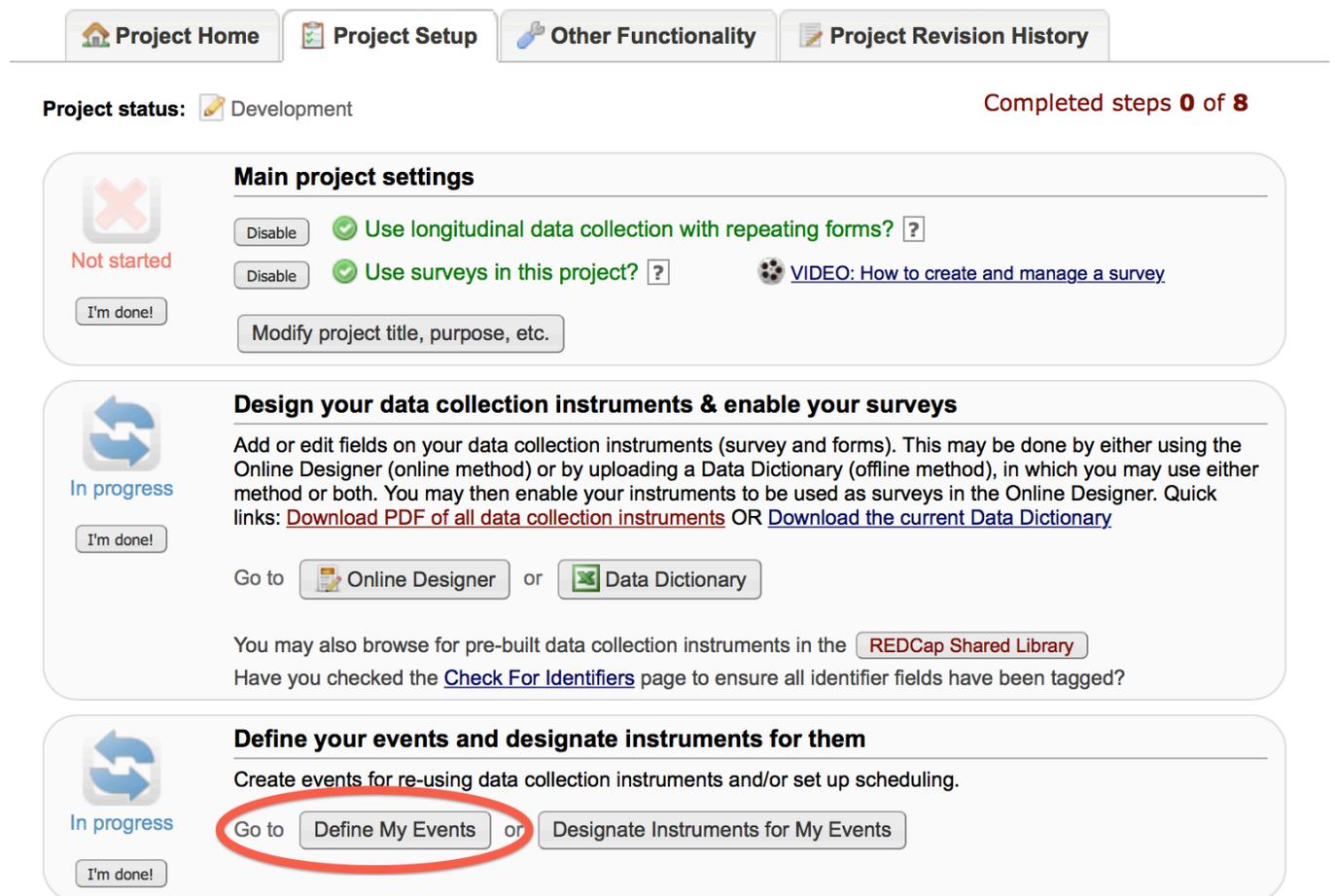


9999

## Setting up the Record Status Dashboard

MSKTC set up the Record Status Dashboard with the Events feature in REDCap. This allows MSKTC to collect multiple data entry points for the same form. For example, if we wanted researchers to review the same article at a different time, we would not have to overwrite the previously entered data. To do this, MSKTC gives each time we want to review the data a different event name. The arms feature allows MSKTC to group the events into distinct categories. We named our arms after the reviewers to track all the data that specific reviewers entered. This gave us the separate columns labeled for each reviewer.

- To do this, click on the “Define My Events” button (circled) in the Project Setup tab.



The screenshot shows the REDCap Project Setup interface. At the top, there are four navigation tabs: "Project Home", "Project Setup" (which is active), "Other Functionality", and "Project Revision History". Below the tabs, the project status is "Development" and "Completed steps 0 of 8".

The first section, "Main project settings", is marked "Not started". It contains several options: "Use longitudinal data collection with repeating forms?" (checked), "Use surveys in this project?" (checked), and a video link "VIDEO: How to create and manage a survey". There is also a button "Modify project title, purpose, etc." and an "I'm done!" button.

The second section, "Design your data collection instruments & enable your surveys", is marked "In progress". It provides instructions on using the Online Designer or Data Dictionary. It includes buttons for "Online Designer" and "Data Dictionary", and a link to "REDCap Shared Library". It also asks if the user has checked the "Check For Identifiers" page. There is an "I'm done!" button.

The third section, "Define your events and designate instruments for them", is marked "In progress". It instructs the user to "Create events for re-using data collection instruments and/or set up scheduling." Below this, there are two buttons: "Define My Events" (which is circled in red) and "Designate Instruments for My Events". There is an "I'm done!" button.

- Next, add an arm for each reviewer and give that arm an event name (in our case, we gave the arm and the event the same name). See the example on the next page.

### STEP #1:

To add new events below, provide an **Event Name** and the **Days Offset** for that event, and then click the *Add new event* button. If your events are temporal (e.g., visits, tasks), you may use the Days Offset to provide a timeframe of all your events relative to the time of the first event defined. If your events are not temporal but are ordered, you may still use the Days Offset simply as a means of ordering your events.

### STEP #2:

If you will be performing formal data collection in this project, then once you have defined your events on this page, you may navigate to the [Designate Instruments for My Events](#) page, where you may select which data collection instruments that you wish to utilize for each event you defined.

Arm 1: T Arm 2: K Arm 3: M Arm 4: S Arm 5: E Arm 6: M Arm 7: A Arm 8: M Arm 9: C

Arm 10: C +Add New Arm

[Rename Arm 1](#) | [Delete Arm 1](#)

Arm name: T

	Event #	Days Offset	Offset Range Min / Max	Event Name	Unique event name (auto-generated)
✏️ ✖️	1	0	-0/+0	T	t_arm_1
Add new event		<input type="text"/> Days <a href="#">Convert from other units</a>	<input type="text"/> - <input type="text"/> + <input type="text"/>	<input type="text"/> <small>Descriptive name for this event</small>	

- Then, go to the next tab, “Designate Instruments for My Events,” to add the data entry form that you want to be associated with each arm. Click “Begin Editing” to add the form.

Arm 1: T Arm 2: K Arm 3: M Arm 4: S Arm 5: E Arm 6: M Arm 7: A Arm 8: M Arm 9: C Arm 10: C

Arm name: T

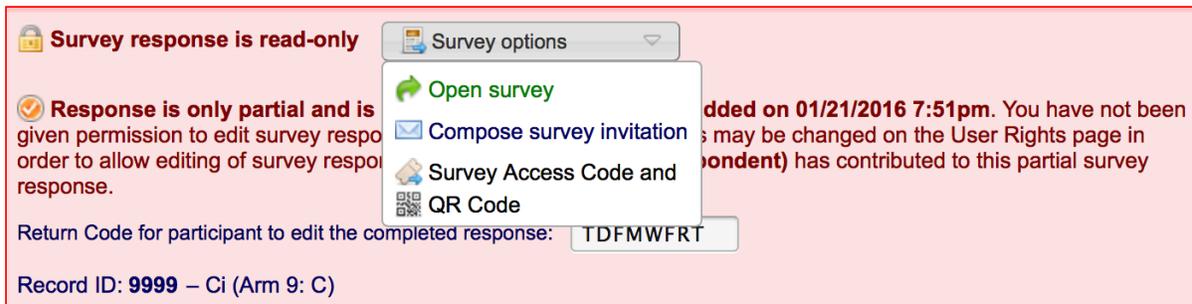
Begin Editing Save

Data Collection Instrument	
TBI and Education (survey)	<span style="color: red;">T</span> <span style="color: red;">(1)</span> <span style="color: green;">✔️</span>

## Communicating with Researchers

Data imported into the REDCap database can be shared with reviewers in two ways: by e-mail or by access codes. Both methods are secure and send an individual link to each reviewer.

To send a survey to a reviewer, go into the survey that you want to share (from the Record Status Dashboard) and select Survey Options. Clicking “Survey Options” brings up a drop-down menu with two ways to send the survey.



**Survey response is read-only**

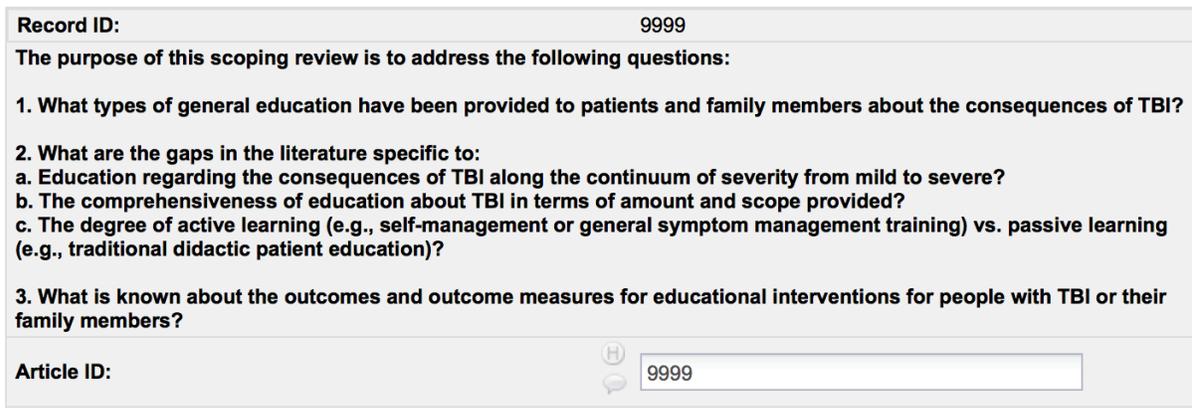
**Response is only partial and is** **added on 01/21/2016 7:51pm.** You have not been given permission to edit survey responses. Responses may be changed on the User Rights page in order to allow editing of survey responses. **(dependent)** has contributed to this partial survey response.

Return Code for participant to edit the completed response: TDFMWFRT

Record ID: 9999 – Ci (Arm 9: C)

Survey options

- Open survey
- Compose survey invitation
- Survey Access Code and QR Code



Record ID: 9999

The purpose of this scoping review is to address the following questions:

1. What types of general education have been provided to patients and family members about the consequences of TBI?
2. What are the gaps in the literature specific to:
  - a. Education regarding the consequences of TBI along the continuum of severity from mild to severe?
  - b. The comprehensiveness of education about TBI in terms of amount and scope provided?
  - c. The degree of active learning (e.g., self-management or general symptom management training) vs. passive learning (e.g., traditional didactic patient education)?
3. What is known about the outcomes and outcome measures for educational interventions for people with TBI or their family members?

Article ID:

- MSKTC uses **Survey Invitations**, or individual e-mails, to assign articles to each reviewer for review. An example is shown below. Invitations can be sent immediately or at a specified date and time.

**TBI and Education**
**Send Survey Invitation to Participant "9999"** ✕

**Info**

**Survey title:** TBI and Education  
**Event:** Ci (Arm 9: C)

**When should this email be sent?**

Immediately

At specified time:    M/D/Y H:M  
The time must be for the time zone UTC, in which the current time is 12/12/2016 14:15.

**Enable reminders**

Re-send invitation as a reminder if participant has not responded by a specified time?

**Compose message**

From:

To:

Or provide another email:

Subject:

**NOTE:** The survey link will be automatically included in the email message.

You may use HTML formatting in the email message: bold, underline, italic, etc.

- Reviewers can also be sent **Survey Access Codes** or a **QR code** to access surveys. Below is an example.

**Survey Access Code or QR Code**

**Survey title: "TBI and Education"**

A Survey Access Code and a QR Code both allow respondents to begin a survey on another computer or device without someone having to email them an invitation. This is especially useful if the respondent is currently nearby or if you will be sending the survey invitation to a physical mailing address (i.e. 'snail mail'). You may click the Print button at the bottom if you wish to print out the instructions for the respondent.

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**Enter the Survey Access Code**

To allow a respondent to begin this survey, have them navigate to the URL below and enter the survey access code. The code is permanent and will never change. (Note: The web address is the same for all projects and surveys, so you may bookmark the address on a computer or device to quickly return to it multiple times.)

1.) Go to this web address:

2.) Then enter this code:

OR

**Generate Short Code**

Alternatively, you may generate a shorter, temporary code that will expire after only one use or after one hour has passed.

**Scan the QR Code**

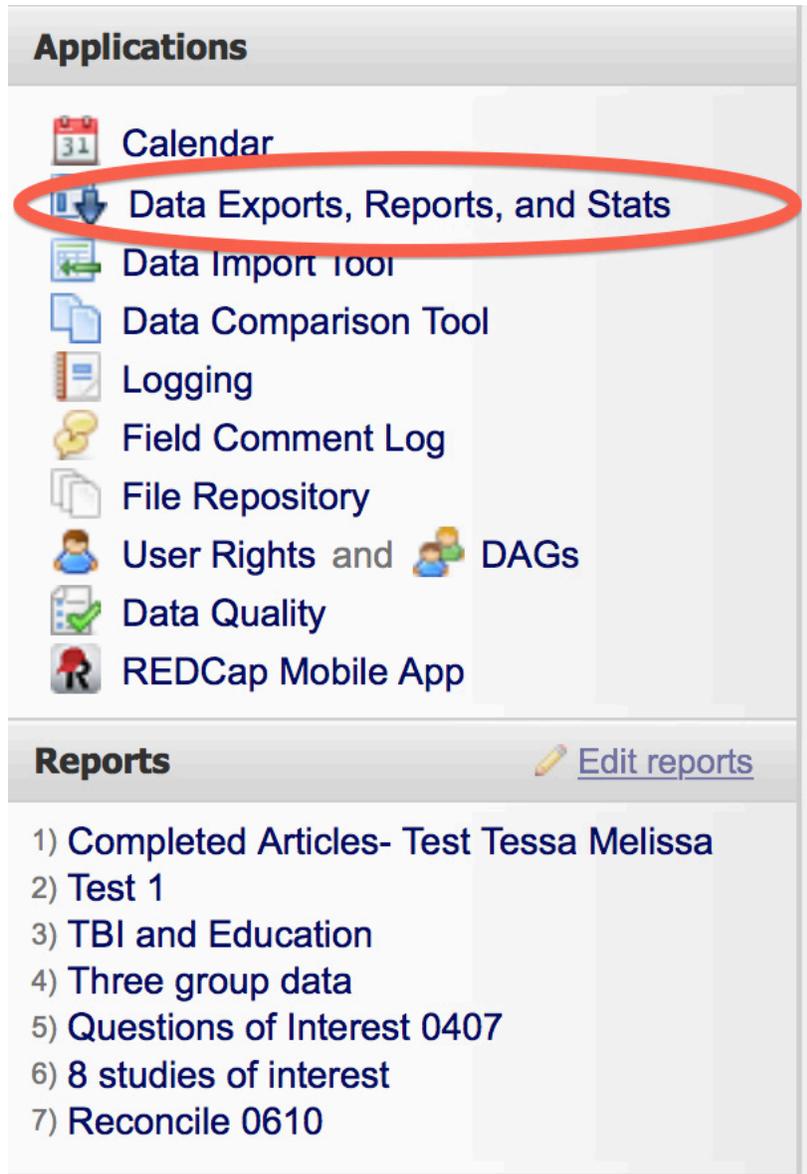
The survey link has been converted into a QR code, which can now be scanned by a device that has an app capable of reading QR codes. Once the QR code below is scanned, it should take the respondent directly to the survey in a web browser.



### Export Data for Review

Exporting reviewer responses from REDCap for analysis is simple. REDCap can format data so that it can be read by multiple programs.

- To export data, go to the Applications tab on the left and select “Data Exports, Reports, and Stats” (shown below, circled)



**Applications**

-  Calendar
-  **Data Exports, Reports, and Stats**
-  Data Import Tool
-  Data Comparison Tool
-  Logging
-  Field Comment Log
-  File Repository
-  User Rights and  DAGs
-  Data Quality
-  REDCap Mobile App

**Reports**  [Edit reports](#)

- 1) Completed Articles- Test Tessa Melissa
- 2) Test 1
- 3) TBI and Education
- 4) Three group data
- 5) Questions of Interest 0407
- 6) 8 studies of interest
- 7) Reconcile 0610

From there, all data can be exported or you can build a **report** to only select certain questions.

My Reports & Exports			
	Report name	View/Export Options	Management Options
A	<b>All data</b> (all records and fields)	<a href="#">View Report</a> <a href="#">Export Data</a> <a href="#">Stats &amp; Charts</a>	
B	<b>Selected instruments and/or events</b> (all records)	<a href="#">Make custom selections</a>	

An example report is shown below.

### Data Exports, Reports, and Stats VIDEO: [How to use Data Exports, Reports, and Stats](#)

[+ Create New Report](#)
[My Reports & Exports](#)
[PDF & Other Export Options](#)
[Edit Existing Report: TBI and Education](#)

You may create a new report by selecting the fields/variables below that you want to include in the report. You may add as many fields to your report as you wish, and you can choose which users may view this report. You will also need to provide a name for your report, which will then be displayed on the project's left-hand menu for anyone to whom you have given access. You can filter the results returned in the report in a variety of ways, including using complex AND/OR logic. When you are finished, click the Save Report button at the bottom. The new report will then be added to your list of reports, after which you may immediately begin viewing them or exporting them.

**Name of Report:**

**STEP 1**

**User Access:** Choose who sees this report on their left-hand project menu [?](#)

All users    - OR -   
  Custom user access (Choose specific users, roles, or data access groups who will have access)

**STEP 2**

**Fields to include in report** Add all fields from selected instrument: -- choose instrument --

Field	Field Label	Instrument	Action
Field 1	record_id "Record ID:"	Instrument: TBI and Education	✖
Field 2	intake_id "Article ID:"	Instrument: TBI and Education	✖
Field 3	intake_initials "Reviewer Initials:"	Instrument: TBI and Education	✖
Field 4	intake_date "Date of Review: "	Instrument: TBI and Education	✖
Field 5	intake_author_year "Article Authors /Year:"	Instrument: TBI and Education	✖
Field 6	intake_title "Article Title "	Instrument: TBI and Education	✖
Field 7	termination_1 "Please select for termination"	Instrument: TBI and Education	✖
Field 8	audience_education_topic "Is the educator	Instrument: TBI and Education	✖
Field 9	article_type "What type of article is this?"	Instrument: TBI and Education	✖
Field 10	article_experim "Please describe the experi	Instrument: TBI and Education	✖
Field 11	article_experim_other "If other, please desc	Instrument: TBI and Education	✖
Field 12	experim_control "If experimental design is ;	Instrument: TBI and Education	✖
Field 13	type_experim_control_other "If other, pleas	Instrument: TBI and Education	✖
Field 14	Type variable name or field label		

After you select which data you want to export, you can choose the export format you wish to use (shown below). REDCap can export data for use in Excel, SPSS, SAS, R, or STATA.

**Data Exports, Reports, and Stats** [VIDEO: How to use Data Exports, Reports, and Stats](#)

[+ Create New Report](#)
[My Reports & Exports](#)
[PDF & Other Export Options](#)

This module allows you to easily view reports of your data, inspect plots and descriptive statistics of your data, as well as export your data to Microsoft Excel, SAS, Stata, R, or SPSS for analysis (if you have such privileges). If you wish to export your "entire" data set or view it as a report, then Report A is the best and quickest way. However, if you want to view or export data from only specific instruments (or events) on the fly, then Report B is the best choice. You may also create your own custom reports below (if you have such privileges) in which you can filter the report to specific fields, records, or events using a vast array of filtering tools to make sure you get the exact data you want. Once you have created a report, you may view it as a webpage, export it out of REDCap in a specified format (Excel, SAS, Stata, SPSS, R), or view the plots and descriptive statistics for that report.

**My Reports & Exports**

	Report name
A	All data (all records a
B	Selected instrument (all records)
1	Completed Articles- Tes
2	Test 1
3	TBI and Education
4	Three group data
5	Questions of Interest 04
6	8 studies of interest
7	Reconcile 0610

[+ Create New Report](#)

**Exporting "All data (all records and fields)"**

Select your export settings, which includes the export format (Excel/CSV, SAS, SPSS, R, Stata) and whether or not to perform de-identification on the data set.

**Choose export format**

- CSV / Microsoft Excel (raw data)**
- CSV / Microsoft Excel (labels)**
- SPSS Statistical Software**
- SAS Statistical Software**
- R Statistical Software**
- Stata Statistical Software**

**De-identification options (optional)**

The options below allow you to limit the amount of sensitive information that you are exporting out of the project. Check all that apply.

**Known Identifiers:**

- Remove all tagged Identifier fields (tagged in Data Dictionary)
- Hash the Record ID field (converts record name to an unrecognizable value)

**Free-form text:**

- Remove unvalidated Text fields (i.e. Text fields other than dates, numbers, etc.)
- Remove Notes/Essay box fields

**Date and datetime fields:**

- Remove all date and datetime fields
- OR —
- Shift all dates by value between 0 and 364 days (shifted amount determined by algorithm for each record) [What is date shifting?](#)
- Also shift all survey completion timestamps by value between 0 and 364 days (shifted amount determined by algorithm for each record)

[Deselect all options](#)

**Additional export options**

- Export survey identifier field and survey timestamp field(s)?

[Export Data](#) [Cancel](#)

### Appendix A: Sample Protocol From a Systematic Review

#### Scoping Review on Education Post-TBI Charting Form

The purpose of this scoping review is to address the following questions:

1. What types of general education have been provided to patients and family members about the consequences of TBI?
2. What are the gaps in the literature specific to:
  - a. Education regarding the consequences of TBI along the continuum of severity from mild to severe?
  - b. The comprehensiveness of education about TBI in terms of amount and scope provided?
  - c. The degree of active learning (e.g., self-management or general symptom management training) versus passive learning (e.g., traditional didactic patient education)?
3. What is known about the outcomes and outcome measures for educational interventions for people with TBI or their family members?

## Using REDCap for a Systematic Review



Article ID: \_\_\_\_\_

Reviewer Initials: \_\_\_\_\_

Date of Review: \_\_\_\_\_

Article Authors /Year: \_\_\_\_\_

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**INCLUSION:** Article includes information about:

\_\_\_ education on consequences of TBI **OR** \_\_\_ self-management training on how to manage consequences of TBI **AND**

\_\_\_ education (or training) intended for people with TBI or caregivers, family, or other support system

*Both of the above must be checked for article to be reviewed.*

---

**EXCLUSION** (if any checked, STOP REVIEW):

\_\_\_ education or training concerns a specific deficit or problem associated with TBI (physical, cognitive, or emotional function; substance abuse) (note: comprehensive “packages” or education programs with modules on various specific topics are OK) **OR**

\_\_\_ education is intended for disability or disease other than TBI/ABI **OR**

\_\_\_ training concerns goal management, problem solving, executive function, managing schedules, etc. **OR**

\_\_\_ education or training is focused on prevention of TBI/ABI **OR**

\_\_\_ **target audience** is professionals (medical professionals, teachers, coaches, athletic trainers, etc.) **OR**

\_\_\_ target audience is general public (e.g., public awareness campaigns) **OR**

\_\_\_ there is no education or training discussed in the article **OR**

\_\_\_ other reason (specify): \_\_\_\_\_

---

\_\_\_ **UNCERTAIN AS TO WHETHER ARTICLE SHOULD BE INCLUDED.** Explain the uncertainty here and stop the review:

\_\_\_ Article includes information on **NEEDS ASSESSMENT** in people/family/support system affected by TBI. If article also meets inclusion criteria for education, continue review on education portion. If not, stop review.

---

(1) Is the education described in the article targeted to (check all that apply):

\_\_\_ People with TBI?

\_\_\_ Family members/caregivers of people with TBI?

\_\_\_ Other? Describe: \_\_\_\_\_

---

(2) Is the education on:

TBI specifically; if so, what severity or age group? Check all that apply:

mild TBI/concussion

adults

moderate/severe TBI

children/ adolescents

Other type/population; describe: \_\_\_\_\_

ABI including TBI:

adults

children/adolescents

% of sample with TBI (if relevant):

Describe ABI sample or population: \_\_\_\_\_

(3) Chronicity of population for whom education is intended (check all that apply):

Emergency care

Acute care

Inpatient rehab

Outpatient, community, or residential (e.g., post-acute)

Other; describe: \_\_\_\_\_

(4) What type of article is this?

Editorial or letter to the editor; describe: \_\_\_\_\_

Program description/program evaluation, no experimental design; describe: \_\_\_\_\_

Survey of education practices; describe: \_\_\_\_\_

Experimental design

Case study or case series (uncontrolled)

Single case/multiple single case design (controlled)

Pre-post without control

Pre-post with control:  RCT  other controlled design; describe:

Education was the main independent variable in the experiment.

Education was used as control condition for an active intervention.

Other experimental design; describe: \_\_\_\_\_

Secondary analysis; describe: \_\_\_\_\_

Other type of article; describe: \_\_\_\_\_

(5) Sample information

No sample included in article

Sample was included:

Sample size:

Acuity of TBI/ABI (e.g., mean/range for time post):

Notable inclusion/exclusions:

(6) Is the education described in the article:

The main topic/intervention described in the article?

One component of a broader topic or intervention? Briefly list the other components:

(7) Briefly list the topics covered in the education described in the article:

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---

(8) How is the education delivered (check all that apply)?

Article does not specify

Written information (e.g., pamphlet, book)

In person:  1:1       Dyad       Group or class

Telephone delivery       Web delivery

Dose/duration (e.g., six 30-minute sessions over 4 weeks): \_\_\_\_\_

---

---

Other comments on delivery: \_\_\_\_\_

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(9) Outcome measures and results:

Article did not use any outcome measures for the education described in the article (skip to next item).

Article used outcome measures but results of education alone cannot be discerned because it was part of a larger program of treatment.

Article used outcome measures specifically to evaluate effects of education.

Outcome measures and results were as follows:

Measure	Results of Education OR Broader Program

Other comments on results: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(10) What are the authors' main conclusions, if any, about the education described in the article?

\_\_\_\_\_  
\_\_\_\_\_