



REDCap™ Development to Production Checklist

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Version 1.0; May 19, 2017

Planning

- Ensure primary and secondary outcomes are captured in the appropriate format so that analyses are efficient/as planned.
 - Note: if analysis variable is categorical based on a threshold of a continuous variable, it is generally a good idea to capture the raw continuous value and program the categories after export.
- Ensure safety and exploratory data are also captured and can be easily summarized.
- Make note of primary predictors/covariates of interest. As above, ensure appropriate capture of these measures so that coding/analyses are as seamless as possible.

Project Design

- Confirm all forms are present and appear in the intended order.
- Assess the logical order/flow of fields within forms and forms across the project.
- Verify instructions, questions, and multiple choice options are spelled correctly and free of typos.
- Ensure numeric coding schemes are consistent throughout the project.
 - If you have a variable with the same labels (e.g., Yes/No), ensure the same numeric codes are applied to these labels (e.g., 'Yes' always = 1 and 'No' always = 0) throughout the project.
 - If you use a validated measure/form (e.g., PROMIS, IDS-SR, PHQ9) with published scoring methods and defined levels, ensure numeric coding consistent with those validated scoring methods (i.e., do not modify the numeric coding for the questions).

- Review all 'text' field types and ensure that validation rules are applied where possible. Use free text without validation sparingly.
 - If you are using dates, confirm all are validated using a consistent format (e.g., MDY vs. DMY).
 - Ensure units are consistent throughout (e.g., temperature [C vs. F], length measurements [inches vs. cm], weight measurements [lbs. vs. grams], etc.).
 - Add field notes to ensure units and data entry methods are consistent and clear (e.g., add 'Enter generic medication name using all CAPS' as a note for free text medication fields).
- Ensure all fields containing PHI are marked as identifiers.
- For longitudinal studies with repeating forms, verify that verbiage in instructions, questions, and multiple choice options are applicable across all study time points and treatment arms.
- For longitudinal studies, ensure forms correctly correspond to the appropriate study time point (Are there any forms under time point that should not be? Are there forms missing?).

Test Data Entry

- Clearly label your test data REDCap ID to easily distinguish from real data (e.g., test1, test2).
- Verify all branching logic works appropriately and is present in places where you would expect it to be present.
 - Be sure to select varying choices for multiple choice and checkbox-style questions.
- Enter test data in all calculated fields, and verify all equations yield the intended results in the appropriate format (e.g., check age calculations for accuracy and rounding).
- Try entering various 'types' of responses. For example, try entering words where we would expect to see only numbers (e.g., heart rate: enter '50 bpm' or 'not done'). Are you able to enter it? If so, extra validation may be required.

- Send surveys to yourself and put yourself in the shoes of the participant as you take it (Are instructions clear? How will the questionnaire look to a participant?).
 - Take it online.
 - Save and return later.
 - Pretend to take in person/on hard copy forms if that is an option.
 - Test out entire survey queue if one exists.
 - Test out survey alerts/emails if they exist.

- Test out randomization procedures, if applicable, by uploading a test allocation table and randomizing test entries. Consider back-up plans.

- Perform a test export of test data.

- If there are quality control procedures in place (e.g., Data Resolution Workflow, 1st/2nd pass systems, etc.), test these out with multiple study team members.
 - Generate queries and query reports (using the Field Comment Log if applicable).
 - Generate data summary reports using the reporting feature.
 - Generate sample data quality reports.

Project Launch

- Delete test data/fake data from the project.

- Update user rights and communicate user rights to the study team.

- Move to production and communicate this to the study team.