

Arcus Research Data Management
Best Practices for REDCap Data Collection Instrument
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Keep Analysis In Mind: when setting up your instrument, remember that the ultimate goal of data collection is data analysis. The recommendations below will help achieve this goal.

Naming Variables: give variables meaningful names. Remember that you will need to use these names later in the course of your analysis and consider easy the names will be to understand in that context. Avoid opaque abbreviations or names like var_6.

Include Units of Measure: make clear from the start what units of measure you expect to collect data in. This will help avoid confusion or conversion errors during the analysis process.

Pick the correct field type for your data: consider what you are trying to collect and pick an appropriate field type. For example, if the collected data should include only ONE selection from a set of options, use a radio button selector rather than a check box.

- **Consider Ontologies:** utilizing an ontology such as HPO, OMIM, or SNOMED makes your data more interoperable with other datasets that use the same terms. It also help avoid ambiguity later on, as ontology terms are pre-defined.
- **Avoid free text fields:** Free text fields can be tempting from the perspective of information gathering, but keep in mind free text is extremely difficult to use for analysis and often requires extensive manual coding to be usable.

Utilize field labels: Field label can be used to provide descriptive information and additional details to the user. This is a good place to note requirements, instructions, and more.

Think Critically about Instrument Flow & Order: consider that data will be collected over the course of a visit or session, and order the fields and form(s) in such a way that the user can easily collect information without jumping around the instrument.

Required Fields: Consider which fields are absolutely necessary to your analysis, but also think critically about whether the information you want will always be available to record. Note that required fields behave differently in forms vs. surveys. You can skip past required fields in a form, although you'll be notified with a popup message that the field is required, whereas a survey participant is unable to proceed past a blank required field.

Identifiers & PHI: Mark any fields where you expect to collect data considered PHI. If these are marked, they can be excluded when data is exported and/or managed in other ways. See [this list](#) of the 18 HIPAA Identifiers for reference.

Always collect data in production: Development mode is meant only for initial build and testing of your project. In Development, changes to fields & instruments occur in realtime and **will change/delete existing data**. Once you are ready to collect real data, then you must move the project into Production mode. You can still make changes to your project in Production, but there are mechanisms to ensure your data stays intact.