Biospecimen Shipment Tracker – REDCap Data Collection Forms

**Document Version History**

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| **Date** | **Author** | **Revision Notes** |
| 03-11-2020 | Karen Lapthorn | Original |
| 06-17-2020 | Karen Lapthorn | Updates to Sample Ready to Ship values and new Shipped But Can Ship Again state |
| 09-23-2020 | Karen Lapthorn | New Variable sampleinheritdt |

## Summary

REDCap forms are used to collect data around samples that will be tracked by the Biospecimen Shipment Tracker application using a predefined but flexible REDCap variable naming convention. Variable details are documented below.

Sample data is ingested by the Biospecimen Shipment Tracker which allows users to view select sample details and create shipments.

Biospecimen Shipment Tracker feeds shipment updates back into REDCap forms.

## REDCap Sample Data Collection Forms

**Purpose:** Collect relevant data tied to one or more samples that need to be shipped. Each sample is associated with a Subject ID and visit / date / instance. Define variable name conventions that absolutely need to be followed. Can support forms with multiple samples per form as well as one sample per form. Labels can be chosen freely by form builders – variable naming must follow the below guidelines in order to be read by the tracking application.

**Example REDCap forms:**

Example Sample collection forms have been created in REDCap:

<https://rc.rarediseasesnetwork.org/redcap_v9.5.18/DataEntry/record_status_dashboard.php?pid=160>

Email support@rdcrn.atlassian.net for access if you do not have access to the Sample Biospecimen Collection Forms REDCap project. Please use these for guidance when building new forms.

**Data collected by tracker:**

| Suggested Label | Variable Name | Required/ Optional | Field Type | Comments  |
| --- | --- | --- | --- | --- |
| SubjectID & Visit |  |  | (automatic) | Automatically generated and available through API |
| Sample ID | sampleid\_xxxx | REQUIRED | text | * The suffix xxxx can be chosen arbitrarily but must be consistently attached to all variables pertaining to that sample.
* If multiple aliquots are listed on a single form identify each aliquot as sampleid\_xxxx\_a1, sampleid\_xxxx\_a2. Shipment Tracker will use the “a1” and “a2” to automatically identify that a sample is an aliquot of sampleid\_xxxx.
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| Sample Collection Date | sampledate\_xxxx | optional | Date | xxxx is same suffix as above |
| Sample Collection Time | sampletime\_xxxx | optional | Time |  |
| Does the parent sample date and time apply to its aliquots? | sampleinheritdt\_xxxx | optional | Checkbox | If true, Tracker will populate an aliquot’s sampledate and sampletime values with the values of the aliquot’s parent sample. Implemented to save data entry time when a parent sample has many aliquots with the same sampledate and sampletime value as the parent. If set to true and a sampledate or sampletime value is set on an aliquot, the aliquot value will be used in place of the parent value for that aliquot.  |
| Sample Type | sampletype\_xxxx | optional | Text | Values can be chosen arbitrarily |
| Sample Tags | sampletag\_xxxx\_yyy | optional | Text | * Allows form creator to have flexibility to create various types of fields that can be searchable in the shipment tracker tool.
* Shipment Tracker will ingest and display the *labels* for Sample Tag fields so it doesn’t matter to the Tracker what the field *values* are
* Example, for tag ‘capcolor’

Field label = “red”, value = 1Field label = “green”, value = 2* Shipment tracker can support a user selecting multiple values for a single Tag, ie, checkboxes
* Tag Examples: sampletag\_xxxx\_capcolor, sampletag\_xxxx\_customdate would be ingested into the Shipment Tracker and a user could search on the fields “capcolor” and “customdate” to easily locate specific sample records.
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| Parent Sample ID | parentsampleid\_xxxx | optional | Text | * Allows the user to locate all aliquots of a sample when searching in the Shipment Tracker
* Can be populated if sample is an aliquot/part of a “parent” sample. Needed if aliquots are on different forms and the user needs to be able to easily find all aliquots in the shipment tracker.
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| Sample Description | sampledesc\_xxxx | optional | Text |  |
| Sample Ready to Ship | sampleready\_xxxx or sampleready\_xxxx\_a1 | REQUIRED | Integer | * Each sample/aliquot on the form needs this field
* Set to value of **97** if sample is **Ready to Ship**. Sample will be available in the Shipment Tracker to include in a shipment.
* A value of **98** should be available to be set by the Shipment Tracker. This value indicates the Sample has been **Shipped But Can Ship Again**. Sample will be available in the Shipment Tracker to include in an additional shipment. An example would be a sample that is shipped to an intermediate location and then shipped again to the final destination.
* A value of **99** should be available to be set by the Shipment Tracker. This value indicates the Sample has been **Shipped** and is set when a manifest is generated in the shipment tracker for a shipment containing the sample. Sample will no longer be available in the Shipment Tracker to include in a shipment.
* If value of **Ready to Ship** must be calculated value rather than a value that is manually set, this may be accomplished through programming with the REDCap API by a BMI programmer.
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| Sample Log | samplelog\_xxxx | REQUIRED | Read-only text | * Houses all updates fed back into the REDCap form by Shipment Tracker
* Log will include information such as tracking details, receipt confirmation, shipment notes, etc.
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**Any additional data fields can be collected on the forms; however, they will be ignored by the Shipment Tracker application.**

**Additional details:**

* + Sample origin site will be set in the Shipment Tracker App, not in REDCap.
	+ Sample destination will be set in the Shipment Tracker App, not in REDCap.
	+ Additional Protocol-level settings and details, such as shipping routes and contact email addresses, will be stored in a single REDCap Configuration form
		- Configuration form will be built and provided to all REDCap form builders
		- Data within the Configuration form will be ingested into the Shipment Tracker